

Russellian Monism and Ignorance of Non-structural Properties

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Abstract: Russellian monists argue that non-structural properties, or a combination of structural and non-structural properties, necessitate phenomenal properties. Different Russellian monists offer varying accounts of the structural/non-structural distinction, leading to divergent forms of Russellian monism. In this paper, I criticise Derk Pereboom's characterisation of the structural/non-structural distinction proposed in his *Consciousness and the Prospects of Physicalism* and further work. I argue that from Pereboom's characterisation of structural and non-structural properties, one can formulate general metaphysical principles concerning what structural and non-structural properties necessitate. These principles undermine the claim that non-structural properties – either alone or in combination with structural properties – necessitate phenomenal properties. Moreover, these principles are not affected by our supposed inability to conceive of non-structural properties in a manner conducive to the success of conceivability arguments.

1. Introduction

Russellian monism is argued to provide an account of phenomenal consciousness that avoids the vices of physicalism (Stoljar 2001; Pereboom 2011; Alter 2016; Chalmers 2017; Goff 2017). On a physicalist account, phenomenal properties – properties that characterise *what it is like* to have an experience such as the feeling of pain and smell of roses – are necessitated by physical properties – the properties the physical sciences such as physics, chemistry and biology describe. However, this type of physicalism faces a major problem in the form of the conceivability argument. The conceivability argument threatens to demonstrate that physical properties do not necessitate phenomenal properties, thereby undermining physicalism.

Russellian monism promises to avoid the conceivability argument. The view is Russellian, as it draws a distinction between the structural and non-structural properties of physical objects inspired by Bertrand Russell's (1927) *Analysis of Matter*. The view avoids the conceivability argument by advancing three claims regarding structural and non-structural properties:

1. The physical sciences only describe structural properties of physical objects.
2. Non-structural properties are instantiated by physical objects.
3. The non-structural properties of physical objects, perhaps together with their structural properties, necessitate phenomenal properties (Alter and Nagasawa 2012).

According to (1), the properties the physical sciences describe are all of a certain type – namely, structural properties. If (1) is correct, standard forms of physicalism are committed to the view that structural properties necessitate phenomenal properties. Russellian monists contend that the conceivability argument against physicalism successfully establishes that structural properties fail to necessitate phenomenal properties.

According to (2), physical objects such as protons and electrons also instantiate non-structural properties. The conjunction of (1) and (2) entail that the non-structural properties of physical objects are not described by the physical sciences. Russellian monists argue that there are general reasons to suppose we lack epistemic access to non-structural properties. As such, we are ignorant of the non-structural properties instantiated in our world.¹ Due to our ignorance of non-structural properties, Russellian monists contend that the conceivability argument against physicalism does not establish that non-structural (perhaps together with structural) properties fail to necessitate phenomenal properties.

¹ The exact nature of our ignorance of non-structural properties varies between different Russellian monists. Some Russellian monists such as Pereboom 2011 and Chalmers 2017 advocate explicit ignorance about non-structural properties, whilst others such as Seager 2017, Goff 2017, Roelofs 2019 attempt to positively characterise non-structural properties. It is worth noting that once Russellian monists positively characterise non-structural properties, these non-structural properties are no longer immune from conceivability reasoning in the way described in this paper.

These findings lead to (3) which outlines the account of phenomenal properties offered by Russellian monists: non-structural properties, perhaps together with structural properties, necessitate phenomenal properties.

The plausibility and truth of (1)-(3) depend on an adequate definition of structural and non-structural properties. Different Russellian monists characterise the structural/non-structural distinction in different ways, leading to divergent forms of Russellian monism. In what follows, I will be concerned with evaluating the structural/non-structural distinction espoused in Derk Pereboom's (2011) *Consciousness and the Prospects of Physicalism* and further work. In particular, I will only be concerned with how Pereboom's characterisation of the distinction bears on the truth of (3).

I contend that (3) is false under Pereboom's formulation of Russellian monism. From the various definitions of structural and non-structural properties that Pereboom provides, I argue that one can formulate general metaphysical principles concerning what structural and non-structural properties necessitate. These principles collectively undermine the claim that non-structural properties – either alone or in combination with structural properties – necessitate phenomenal properties. Importantly, these principles are generated solely from Pereboom's definitions of structural and non-structural properties. Even though we cannot conceive of non-structural properties due to our ignorance of them, this does not undermine the conclusions of the arguments that follow. To the contrary, the arguments that follow defeat any motivation for (3) that is derived from our supposed ignorance of non-structural properties.²

The plan is as follows: In §2 I elucidate the paradigmatic conceivability argument against physicalism. In §3 I outline Pereboom's response to the conceivability argument against

² The arguments in this paper can be seen as an extension of the arguments formulated in Cutter 2019. Cutter 2019 argues that there appears to be an explanatory gap in the Russellian monist account of phenomenal consciousness that is *prima facie* just as large as the explanatory gap in the physicalist account. The arguments here claim that there is in fact a metaphysical gap in the Russellian monist account of phenomenal consciousness that not only holds *prima facie*, but at the ideal limit.

physicalism and motivate his particular version of Russellian monism. In §4 I argue that as a result of Pereboom defining non-structural properties as ‘absolutely intrinsic’ properties, a modal argument can be constructed to the conclusion that non-structural properties alone do not necessitate phenomenal properties. Finally in §5, I argue that the classification of non-structural properties as ‘absolutely intrinsic’ also allows for a further modal argument to the effect that Pereboom’s Russellian monism is false. I conclude by briefly raising the question of whether and how the arguments in this paper may apply to formulations of Russellian monism that differ from Pereboom’s.

2. The Conceivability Argument Against Physicalism

The conceivability argument against physicalism postulates that it is conceivable, and therefore metaphysically possible, that there is a world physically identical to our own but differing in some phenomenal respect. Perhaps the most well-known example of the relevant scenario, is the conceivability of Chalmers’s (1996) zombie worlds that are physically identical to our own but lack phenomenal consciousness all together. Conceiving of less extreme examples – such as a world physically identical to our own but with differing experiences from our own – also suffice for the purposes of the conceivability argument. The final step of the argument claims that such a possible world refutes standard physicalism. If the physical properties from our world can be instantiated in the absence of the phenomenal properties from our world, then these physical properties do not necessitate phenomenal properties. This refutes physicalism.

All Russellian monists contend the conceivability argument is successful in refuting standard physicalism. Standard physicalism is the view mentioned in the introduction, that phenomenal properties are necessitated by the sorts of properties the physical sciences such as physics, chemistry and biology describe. However, Russellian monists contend the conceivability argument against physicalism – or any analogous conceivability argument – is not successful in

refuting Russellian monism. This relates to the special epistemic status of non-structural properties under Russellian monism.

There is an extensive literature on the connection between conceivability and possibility that cannot be engaged with here. However, one specific point of this literature that Russellian monists engage with are the conditions under which conceivability is a reliable guide to metaphysical possibility. Many definitions of conceivability – such as imaginability, believability, ruling something out *a priori*, and so on – entail that not every act of conceiving is a reliable guide to metaphysical possibility. Not every act of imagining some scenario S is a reliable guide to S's metaphysical possibility. There are certain success conditions conceivability must meet to be a reliable guide to metaphysical possibility.

On at least one way of drawing this distinction, conceivability is only a reliable guide to metaphysical possibility if it is ideal conceivability (Chalmers 2002). Ideal conceivability is conceiving of some scenario S by an agent that is fully rational and fully informed about the relevant facts involved in S.

An irrational agent that is mathematically uneducated may conceive of the truth or falsity of a complex mathematical conjecture such as Goldbach's conjecture. However, there may be a variety of defects occurring in this agent's conceiving – the agent may not be conceiving of Goldbach's actual conjecture or may not have the appropriate skills to deduce the truth or falsity of the conjecture. In this case, the agent's conceiving of Goldbach's conjecture is not a reliable guide to metaphysical possibility. By contrast, if the agent is fully informed about Goldbach's conjecture and is fully rational, then we can take the agent's conceiving of the conjecture as a reliable guide to the conjecture's metaphysical possibility.

Recall that Russellian monists claim we lack epistemic access to non-structural properties. This entails that we are ignorant of the non-structural properties instantiated in our world and not fully informed about these properties. Hence, the conceivability argument against physicalism –

or any conceivability argument for that matter – does not demonstrate that non-structural properties fail to necessitate phenomenal properties. Nor does the conceivability argument demonstrate that a combination of structural and non-structural properties fail to necessitate phenomenal properties. We are not in a position to ideally conceive of any scenario involving non-structural properties.

Russellian monists contend matters are different for structural properties alone. The physical sciences describe structural properties and we have epistemic access to these properties.

Russellian monists argue that we can ideally conceive of structural properties alone instantiated in the absence of phenomenal properties. So the conceivability argument does demonstrate that the structural properties the physical sciences describe fail to necessitate phenomenal properties. This is why the conceivability argument is successful against standard physicalism, but not Russellian monism.

3. Derk Pereboom's Russellian Monism

The Russellian response to the conceivability argument requires elucidation. Russellian monists must provide definitions of structural and non-structural properties that motivate their claims in relation to the conceivability argument and the three core tenets of their view mentioned in the introduction. That is, they must characterise the structural/non-structural distinction in a way which makes it plausible that: (i) structural properties are ideally conceivable, (ii) non-structural properties are not ideally conceivable, (iii) the physical sciences only describe structural properties, (iv) non-structural properties are instantiated by physical objects and (v) non-structural properties either alone or in combination with structural properties necessitates phenomenal properties.

In this section, I will outline Derk Pereboom's characterisation of the structural/non-structural distinction with an eye towards evaluating the truth of (v). Whilst there will evidently be remaining questions over whether Pereboom's characterisation meets (i)-(iv), these questions will not be the focus of this paper.

Pereboom (2011; 2013; 2015; 2019) endeavours to formulate the structural/non-structural distinction in terms of a development of the extrinsic/intrinsic distinction. Extrinsic properties standardly characterise how an object or agent is related to various things external to it. The properties of being an uncle, being 3m away from the wall and being the largest object in the room are all intuitively extrinsic properties. By contrast, intrinsic properties characterise how an object or agent is 'in and of itself'. The properties of being a cube, being six-feet tall and being in pain do not characterise the world outside the object or agent, but rather characterise how the object or agent is internally. These sorts of properties are usually understood to be intrinsic properties.³

According to Pereboom, structural properties are 'purely extrinsic' and 'comparatively intrinsic' properties. He offers the following definition of such properties:

Purely Extrinsic *X* is purely extrinsic iff *X* is extrinsic and has no intrinsic components.

Comparatively Intrinsic *X* is comparatively intrinsic iff *X* is an intrinsic property and *X* is necessitated by purely extrinsic properties (Pereboom 2015: 305–306).⁴

Purely extrinsic properties are extrinsic in the sense mentioned previously, but do not have any intrinsic components. It is not completely clear what an intrinsic component of a property is.

³ Of course, it is hard to provide uncontroversial examples of intrinsic properties. One may challenge the idea that geometric properties or phenomenal properties are in fact intrinsic. See for example see Skow 2007 and Lewis 1980. These challenges will be set aside for the purpose of this paper.

⁴ In Pereboom 2011, 2013 and 2019 these notions are defined slightly differently in terms of either analysis, reduction or grounding as opposed to necessitation. These differing formulations do not have an impact on the arguments that follow. For the purposes of exposition the necessitation formulation of the structural/non-structural distinction will be utilised in this paper.

Plausibly Pereboom can be interpreted as saying that purely extrinsic properties do not involve the instantiation of any specific sort of intrinsic property. For example, if A instantiates the property of being the biggest sphere in the room then this is an extrinsic property of A.

However, the instantiation of this extrinsic property depends on A instantiating the intrinsic property of sphericity. As such, the extrinsic property of being the biggest sphere in the room is not a purely extrinsic property.

Contrastingly, if A instantiates the property of being 3 metres away from something this arguably does not depend on the specific intrinsic properties of A. A can be given a variety of intrinsic properties – that is, any shape, size, mass or other intrinsic property – and still instantiate the property of being 3 metres away from something. In this way, certain relational properties are arguably purely extrinsic properties in Pereboom's sense.

Pereboom also admits certain types of intrinsic properties under the heading of structural properties, however he claims that the intrinsic properties the sciences describe are merely comparatively intrinsic. That is, these intrinsic properties are necessitated by some set of purely extrinsic properties.

Considering the sphericity of a molecule, Pereboom grants that it is intrinsic. However, he claims that the intrinsic property of sphericity is necessitated by purely extrinsic properties – such as the property of all the proper parts of the circumference of the molecule being equidistant from the centre. Hence Pereboom is prepared to admit intrinsic properties under the heading of structural properties, on the caveat that these intrinsic properties are necessitated by purely extrinsic properties. As such, the first tenet of Russellian monism on Pereboom's account is:

(1P) The physical sciences only describe the purely extrinsic and comparatively intrinsic properties of physical objects.

The second tenet of Russellian monism for Pereboom is that physical objects instantiate more than just purely extrinsic and comparatively intrinsic properties. There are historically important lines of thought that our world cannot be ontologically exhausted by extrinsic properties or properties that are necessitated by extrinsic properties. In Leibniz's famous phrase quoted by Pereboom, 'there is no denomination so extrinsic that it does not have an intrinsic denomination as its basis' (Leibniz 1702: 526–527; Pereboom 2011: 100). This leads Pereboom to postulate that physical objects must also instantiate absolutely intrinsic properties. He offers the following definition of such properties:

Absolutely Intrinsic X is absolutely intrinsic iff X is intrinsic and not comparatively intrinsic (Pereboom 2015: 306).

Absolutely intrinsic properties, unlike comparatively intrinsic properties, are intrinsic and are not necessitated by purely extrinsic properties. The most straightforward example of an absolutely intrinsic property is a sphere with no proper parts. Sphericity is an intrinsic property.

Furthermore, if the sphere has no proper parts then sphericity in this case cannot be a comparatively intrinsic property. This is because there are no proper parts to bear various extrinsic relations to one another to necessitate the property of sphericity. Hence, a sphere with no proper parts instantiates an absolutely intrinsic property. The second tenet of Russellian monism on Pereboom's terms is then:

(2P) Absolutely intrinsic properties are instantiated.

Pereboom contends that we cannot ideally conceive of such absolutely intrinsic properties. Consequently, the conceivability argument against physicalism – and any conceivability argument whatsoever for that matter – does not establish that absolutely intrinsic properties, perhaps in combination with purely extrinsic and comparatively intrinsic properties, fail to necessitate phenomenal properties. This leads to the third tenet of Russellian monism under Pereboom's view:

(3P) Absolutely intrinsic properties, perhaps together with purely extrinsic and comparatively intrinsic properties, necessitate phenomenal properties.

At this point, it is important to flag that Pereboom is providing a very specific response to the conceivability argument. Pereboom is not merely claiming there is some property we cannot ideally conceive of that is responsible for generating phenomenal consciousness. Rather, Pereboom claims that there is some absolutely intrinsic property we cannot ideally conceive of that is responsible for generating consciousness. Given Pereboom is so specific about the property we are ignorant of, there may be certain scenarios involving these properties we can reason about even if we cannot ideally conceive of them.

It will be argued in §4 that Pereboom's definition of non-structural properties as absolutely intrinsic allows for the possibility of absolutely intrinsic properties instantiated in the absence of phenomenal properties. Moreover, I contend that Pereboom's characterisation of the structural/non-structural distinction entails that structural and non-structural properties necessitate very similar properties to one another. This finding, combined with Pereboom's prior commitments as a Russellian monist, will be argued to decisively undermine (3P) in §5.

4. A Modal Argument Against Russellian Monism

Russellian monists claim that the structural properties the physical sciences describe do not necessitate phenomenal properties. Russellian monists propose to posit non-structural properties in their ontology in order to account for phenomenal consciousness. This leaves Russellian monists with two options: claim that non-structural properties alone necessitate phenomenal properties or claim that a combination of structural and non-structural properties necessitate

phenomenal properties.⁵ In this section I will criticise the claim that non-structural properties alone necessitate phenomenal properties and in §5 I will turn to criticise the claim that a combination of structural and non-structural properties necessitate phenomenal properties.

Pereboom claims that non-structural properties are absolutely intrinsic. Previously, it was noted that intrinsic properties characterise how an object or agent is in and of itself. Drawing on the work of David Lewis and Rae Langton (1998), the following is plausibly a necessary condition for being an intrinsic property:

Intrinsic_{Nec} The instantiation of an intrinsic property *I* by an object *o* by itself does not necessitate the instantiation of properties distinct from those instantiated by *o* or *o*'s parts.⁶

Consider the intrinsic property of sphericity. When an object instantiates the property of sphericity, this does not entail the instantiation of any properties distinct from those instantiated by that object or its parts. If *x* is a sphere, this is compatible with *x* existing as a lonely object in a world by itself with no further properties instantiated in that world other than those that *x* or *x*'s parts instantiates.⁷ This captures the common platitude that intrinsic properties are properties objects have 'in and of themselves'.

Of course, when *x* instantiates an intrinsic property this is compatible with the instantiation of many other properties other than those instantiated by *x* and its parts. In the actual world, there are objects such as tennis balls that instantiate the intrinsic property of sphericity alongside a

⁵ Pereboom 2011 oscillates between claiming that non-structural properties alone necessitate phenomenal properties and claiming that a combination of structural and non-structural properties necessitate phenomenal properties.

⁶ This is a simplification of Langton and Lewis 1998 definition of intrinsic properties. Langton and Lewis provide a complex set of combinatorial principles to define intrinsic properties. Nevertheless, the basic idea remains the same: intrinsic properties are compatible with loneliness.

⁷ Strictly speaking, the claim should be that the instantiation of sphericity by *x* does not entail the existence of any distinct *contingent* properties other than those instantiated by *x*. For instance, if god necessarily exists, then even worlds with lonely spheres will contain god. This issue will not make any difference to the arguments that follow.

plethora of other properties and particulars. The point is that the instantiation of an intrinsic property by x does not by itself necessitate the instantiation of properties distinct from those instantiated by x or x 's parts. The instantiation of sphericity by tennis balls does not by itself entail the instantiation of all those other properties in the actual world that are distinct from those instantiated by the tennis ball or its parts.

So far then, it has been argued that it is possible for a single intrinsic property to be instantiated by some object o in the absence of any further properties that are not instantiated by o or o 's parts. There is also an analogous necessary condition that can be formulated relating to collections of intrinsic properties instantiated by collections of objects:

Intrinsic Collection_{Nec} The instantiation of a collection of intrinsic properties $I_1 \dots I_n$ by a collection of objects $o_1 \dots o_n$ alone does not necessitate the instantiation of properties distinct from those instantiated by $o_1 \dots o_n$ or $o_1 \dots o_n$'s parts.⁸

Consider 12 objects that all individually instantiate the property of sphericity. *Intrinsic Collection* claims that it is possible for these 12 objects to instantiate the property of sphericity and for no other properties to be instantiated that are distinct from those instantiated by these 12 objects or their parts. It is possible that these 12 spheres are the only objects that exist in a world and they are scattered millions of kilometres apart from one another. Likewise, it is also possible that these 12 spheres are tennis balls stacked up together into a pyramid on a tennis court in the actual world. The point is that the instantiation of 12 spheres does not by itself necessitate the

⁸ To be clear, *Intrinsic Collection* is not the principle that the instantiation of a collection of intrinsic properties does not entail the instantiation of any further properties at all. The instantiation of a collection of intrinsic properties by a collection of objects, may entail the instantiation of further properties by those same objects and their proper parts under *Intrinsic Collection* (for example, a collection of objects instantiating sphericity will also instantiate extension). What *Intrinsic Collection* prevents is the instantiation of a collection of intrinsic properties by a collection of objects, entailing the instantiation of properties *outside* of those very same objects and their proper parts.

instantiation of properties distinct from the properties instantiated by the bearers of those properties or their parts.

The possibility alluded to by *Intrinsic Collection* sits uncomfortably with Pereboom's version of Russellian monism. This is because the non-structural properties of physical objects are absolutely intrinsic. To claim that the non-structural properties of physical objects such as protons and electrons necessitate the phenomenal properties of human beings, is to effectively claim that a collection of intrinsic properties instantiated by a collection of protons and electrons necessitate the phenomenal properties instantiated by human beings.

However according to *Intrinsic Collection*, it is possible for the non-structural properties of protons and electrons to be instantiated in the absence of properties not instantiated by these protons and electrons. The phenomenal properties of human beings are of course not properties instantiated by protons and electrons – they are properties instantiated by human beings.⁹ As such, it will be possible for the non-structural properties of physical objects to be instantiated in the absence of the phenomenal properties of human beings. This undermines the claim that non-structural properties alone necessitate the phenomenal properties of human beings.

Notice that the Russellian monist's contention that we cannot ideally conceive of non-structural properties does not undermine the argument that has been presented here. The argument here does not require us to conceive of non-structural properties in the absence of phenomenal properties. Rather, the argument is generated solely by the fact that non-structural properties are intrinsic and from a general principle about what the instantiation of intrinsic properties necessitates. Even if there are many further features of non-structural properties that we are

⁹ This assumes the denial of a sort of panpsychism, where the phenomenal properties of human beings are identical with the phenomenal properties of protons and electrons. Such a view avoids the problems argued for in this paper. Setting aside the various further problems this radical form of panpsychism would face, this is certainly not a metaphysical view that Pereboom subscribes to. Pereboom's overall motive in *Consciousness and the Prospects of Physicalism* is to develop a form of Russellian monism that is as close to physicalism as possible (Pereboom 2011: 6-7). Pereboom (2011: 110) explicitly states panpsychism would not satisfy this desiderata.

unaware of, the fact that non-structural properties are intrinsic is sufficient to generate this problem. The only way non-structural properties can avoid this problem is by losing their intrinsic nature. However on Pereboom's account non-structural properties are by definition absolutely intrinsic, so this is not an option.

In one sense this conclusion is not surprising. Merely referring to the intrinsic properties of a collection of objects will not be sufficient to account for any further properties or particulars those objects may collectively necessitate. Plausibly we need to also include the various extrinsic relations that hold between the objects to provide a complete account of what further properties these intrinsic properties necessitate. Take the case of 12 objects instantiating the property of sphericity. Suppose we want to account for these 12 spheres forming some further object – say a pyramid that is constituted by all 12 spheres being stacked on top of one another. The instantiation of 12 spheres alone does not necessitate the instantiation of the pyramid. However, by positing various extrinsic relations between the 12 objects, such as the spatial relations, one can account for the existence of the pyramid. The instantiation of 12 spheres and the instantiation of certain spatial relations between the spheres does necessitate the instantiation of a pyramid. In this way, we plausibly need to include facts about the extrinsic properties of a collection of objects to account for any further properties or particulars those objects necessitate.

There are two possible lines of response for the Russellian monist. The first is to accept Intrinsic Collection_{Nec} and the conclusion which stems from it. That is, accept that the absolutely intrinsic properties of fundamental physical entities – their non-structural properties – alone do not necessitate phenomenal properties. To undermine Russellian monism, one also needs to demonstrate the possibility of structural and non-structural properties in our world being instantiated in the absence of phenomenal properties. Russellian monists may grant that non-structural properties alone do not necessitate phenomenal properties. However, they can claim that a combination of structural and non-structural properties necessitates phenomenal

properties. Structural properties on Pereboom's account include various types of extrinsic properties. Indeed, not only do the arguments of this section fail to target extrinsic properties, but they suggest that extrinsic properties will assist greatly in accounting for any new properties a set of intrinsic properties may generate. As such, the arguments presented in this section do not extend to combinations of structural and non-structural properties.

A second way forward is to insist that $\text{Intrinsic Collection}_{\text{Nec}}$ is false and reject the conclusion that stems from it concerning non-structural properties. Even though in the aforementioned example of the spheres and the pyramid, extrinsic properties are required to account for how the intrinsic properties of the spheres combine, we cannot generalise this to all intrinsic properties. Perhaps there are intrinsic properties with a nature unknown to us, and a collection of these intrinsic properties produces new properties not instantiated by members of the collection without the need for any distinct extrinsic properties. Pereboom may claim that fundamental physical entities instantiate these mysterious absolutely intrinsic properties, and that a collection of these mysterious intrinsic properties produces phenomenal properties without any further extrinsic properties.

In §5, these two responses will be carefully evaluated. First, the prospects for Pereboom's version of Russellian monism that claims a combination of structural and non-structural properties necessitates phenomenal properties will be examined. As will become evident, just as there is a modal argument that does not rely on conceivability to establish the possibility of non-structural properties instantiated in the absence of phenomenal properties – there is a further distinct modal argument that does not rely on conceivability to establish the possibility of structural and non-structural properties in our world instantiated in the absence of phenomenal properties. Second, the objection from mysterious absolutely intrinsic properties will be re-examined in light of this further modal argument. It will become apparent that even if mysterious absolutely intrinsic properties undermine $\text{Intrinsic Collection}_{\text{Nec}}$ this does not assist

Pereboom in maintaining that absolutely intrinsic properties alone necessitate phenomenal properties.

5. Structural and Non-structural Properties

Recall that Russellian monists claim the structural properties described by the physical sciences do not necessitate the phenomenal properties of human beings. Russellian monists also claim that the addition of non-structural properties makes a difference to the situation. The arguments in §4, if successful, push the Russellian monist to the view that it is some combination of structural and non-structural properties that necessitates phenomenal properties (rather than non-structural properties alone). In this section, I will argue that Pereboom's characterisation of the structural/non-structural distinction is not robust enough to support this further view that a combination of structural and non-structural properties necessitates phenomenal properties and that appealing to mysterious absolutely intrinsic properties is not sufficient to sustain Pereboom's Russellian monism.

To hold that structural properties alone fail to necessitate phenomenal properties, but that some combination of structural and non-structural properties necessitates phenomenal properties, structural and non-structural properties must necessitate different properties from one another. If structural and non-structural properties necessitate the exact same properties – or extremely similar sorts of properties – then whatever is necessitated by the instantiation of structural properties will also be necessitated by the instantiation of structural and non-structural properties. If structural properties do not necessitate phenomenal properties, then a combination of structural and non-structural properties also will not necessitate phenomenal properties.

The problem is on Pereboom's account, it appears that structural and non-structural properties are almost qualitatively and modally identical. This will be argued for by examining the contrast

between comparatively intrinsic properties – which are structural on Pereboom’s account – and absolutely intrinsic properties – which are non-structural on Pereboom’s account. Recall the definitions of both comparatively and absolutely intrinsic properties:

Comparatively Intrinsic X is comparatively intrinsic iff X is an intrinsic property and X is necessitated by purely extrinsic properties.

Absolutely Intrinsic X is absolutely intrinsic iff X is intrinsic and X is not comparatively intrinsic.

In §4 examples of these intrinsic properties were elucidated in terms of sphericity. If the sphericity of an object is necessitated by the relations between its proper parts, then sphericity in this instance is merely comparatively intrinsic. By contrast, if sphericity is instantiated in an object with no proper parts then sphericity in this instance is absolutely intrinsic.

However, note that one intrinsic property – sphericity – has renderings as both a comparatively intrinsic property and as an absolutely intrinsic property. Whether being a sphere is comparatively intrinsic or absolutely intrinsic depends solely on whether the object instantiating this property has proper parts or not. That is, whether sphericity is a structural or non-structural property depends on whether the object instantiating sphericity has proper parts or not.

The problem here is not only that a single intrinsic property can be realised in comparatively and absolutely intrinsic forms. Rather, the problem is that comparatively and absolutely intrinsic sphericity necessitate almost identical properties. Both comparatively and absolutely intrinsic sphericity necessitate the same sorts of geometric properties – all points on the circumference of both spheres will be equidistant from the centre. The entailment profile of both spheres will arguably be identical as well. On some accounts of dispositions for instance, instantiating the property of sphericity necessitates the disposition to roll. Whether a sphere has proper parts or not appears to make no difference as to whether these spheres will necessitate a disposition to

roll. As far as sphericity is concerned, the structural and non-structural versions of this property necessitate extremely similar sorts of properties.

Of course, comparatively and absolutely intrinsic sphericity do not necessitate exactly the same properties. An object instantiating comparatively intrinsic sphericity will necessarily have proper parts, whilst an object instantiating absolutely intrinsic sphericity does not necessarily have proper parts. However, this is merely a formal difference rather than a qualitative difference. As far as the qualitative features of sphericity are concerned – such as the dispositional qualities that sphericity entails – comparatively and absolutely intrinsic sphericity are identical.

This problem generalises to intrinsic properties other than geometric properties. Nor does the problem rely on the claim that absolutely intrinsic properties must be instantiated in an object with no proper parts. In various passages, Pereboom claims that an object can instantiate absolutely intrinsic properties in virtue of the properties of its proper parts:

Note also that a thing can be absolutely intrinsically perfectly solid even if it has parts. A perfectly solid composed entity will not be perfectly solid just by virtue of its parts standing in certain relations. The parts must also have perfect solidity, intuitively an intrinsic property of each of these parts (Pereboom 2011: 101).

Here the absolutely intrinsic property Pereboom is referring to is perfect solidity. Pereboom claims perfect solidity is in some sense similar to our folk conception of solidity as space that is completely filled in and impenetrable. Classical atomists conceived of atoms as perfectly spherical and solid with no proper parts. Given that classical atoms are solid with no proper parts, their solidity must be an absolutely intrinsic property.

In the passage quoted, Pereboom suggests that objects with proper parts can instantiate the property of absolutely intrinsic solidity by virtue of their proper parts instantiating absolutely intrinsic solidity. Consider a brick that is constituted by classical atoms. The absolutely intrinsic

solidity of this brick will be necessitated both by the extrinsic properties of the classical atoms (the relational properties of the atoms that entail that these atoms collectively compose a brick) and the absolutely intrinsic solidity instantiated by the atoms.

The first question is whether absolutely intrinsic solidity has a comparatively intrinsic counterpart. Indeed, it appears it does in the actual world. As far as modern physics is concerned, the actual world is not a classical atomist world that contains perfectly spherical and solid atoms with no parts. Nevertheless, actual macro-level objects such as bricks and tables still instantiate the intrinsic property of solidity. In the actual world, it is thought that the solidity of tables and bricks obtains in virtue of the relations between the various particles that constitute these tables and bricks. As it so happens, actual tables and bricks are mostly empty space – their solidity is necessitated solely by the relations between their parts. Hence, solidity in the actual world appears to be a comparatively intrinsic property.

So there is another single intrinsic property – solidity – that has comparatively and absolutely intrinsic renderings. Moreover, both absolutely and comparatively intrinsic solidity can be instantiated in virtue of an object's proper parts. In the case of solidity, unlike sphericity, there is no clear formal difference between the comparatively and intrinsic versions of this intrinsic property.

Absolutely and comparatively intrinsic solidity also appear to be qualitatively identical in an analogous way to comparatively and absolutely intrinsic sphericity. Solidity in both its absolutely intrinsic and comparatively intrinsic forms necessitates similar sorts of properties. For instance, solidity is often associated with a disposition to resist penetration. I cannot put my hand through a solid object, but I can put my hand through a liquid or gas. We know that solid objects in the actual world such as bricks instantiate this disposition. So comparatively intrinsic solidity necessitates the disposition to resist penetration. However, there is also reason to think the absolutely intrinsic solidity also necessitates this disposition. A brick that is constituted by

classical atoms will plausibly also have the disposition to resist penetration. In this way, both comparatively and absolutely intrinsic solidity necessitate the disposition to resist penetration.

The case of solidity is more striking than sphericity, because here we have a case where comparatively and absolutely intrinsic properties are both instantiated in virtue of an object's proper parts. Moreover, it appears that comparatively and absolutely intrinsic solidity are qualitatively identical too. So here there is neither a mereological difference nor any qualitative difference between absolutely and comparatively intrinsic solidity. The only difference is that absolutely intrinsic solidity is *absolutely* intrinsic – however it is extremely unclear what, if anything, this difference amounts to.

Pereboom must defend the claim that absolutely intrinsic properties have a qualitative nature that comparatively intrinsic properties lack. The examples of sphericity and solidity presented so far demonstrate it is hard to see that this is the case. In fact, the substantive qualitative differences are between sphericity and solidity – not the absolutely and comparatively intrinsic versions of these properties. However, there are at least three responses that can be made at this point.

First, one might argue that because absolutely intrinsic properties can be instantiated in an object with no proper parts – whereas comparatively intrinsic properties cannot be instantiated in an object with no proper parts – this entails a qualitative difference between the two types of intrinsic properties. Considering our two spheres again, perhaps the sphere with proper parts instantiates certain dispositions the sphere with no proper parts lacks. Perhaps the sphere with proper parts has a disposition to break into its parts, whereas the sphere with no proper parts lacks this disposition.

However, it is not clear that merely instantiating sphericity in virtue of having proper parts with certain properties confers this additional qualitative feature. A sphere with proper parts may not have a disposition to break into its parts because its parts are fixed together in such a way that

they cannot break. Moreover, perhaps a sphere with no proper parts at time t may have a disposition to break into parts at time $t+1$ even though at t it does not have proper parts. Simply instantiating an intrinsic property in virtue of the properties of an object's proper parts does not by itself confer any additional qualitative features onto the object, as opposed to instantiating that intrinsic property in an absolutely intrinsic way.

Second, Pereboom may resist the generalisation about the shared qualitative nature of absolutely and comparatively intrinsic properties by appealing to what he terms the 'Intrinsicness Principle'. He states the principle as follows:

Intrinsicness Principle Any mind-independent real entity must have at least one absolutely intrinsic property (Pereboom 2013: 52).

The Intrinsicness Principle imposes a necessary condition on mind-independence: any mind-independent object – such as a table or chair – will necessarily instantiate at least one absolutely intrinsic property. This entails that if there is some object which only instantiates comparatively intrinsic properties and no other properties, such as a ball instantiating only comparative solidity and sphericity, this object will not be mind-independent.

An exhaustive discussion of the truth and motivation of the Intrinsicness Principle is beyond the scope of the paper. However, there are two points worth noting that militate against utilising the principle to draw a qualitative distinction between comparatively and absolutely intrinsic properties. These points do not relate to whether the Intrinsicness Principle is true or well-motivated. Rather, they assume the principle is true and well-motivated but question its relevance in drawing a meaningful distinction between comparatively and absolutely intrinsic properties.

The first point relates to the principle in its current formulation. Why would the truth of this principle entail any qualitative difference between an absolutely and comparatively intrinsic property? The Intrinsicness Principle is only a necessary condition on mind-independence. It

doesn't tell us that the instantiation of an absolutely intrinsic property guarantees mind-independence. It also doesn't eliminate the possibility that comparatively intrinsic properties are necessary for mind-independence too.

If the Intrinsicness Principle is true, it can still be the case that both comparatively and absolutely intrinsic properties are individually necessary, and perhaps even jointly sufficient, for an object being mind-independent. Accepting the Intrinsicness Principle by itself entails no differences between absolutely and comparatively intrinsic properties; it is consistent with absolutely and comparatively intrinsic properties sharing identical qualities.

The second point relates to a slightly different formulation of the Intrinsicness Principle. Suppose that the Intrinsicness Principle is strengthened to claim that absolutely intrinsic properties are necessary and sufficient for mind-independence, and comparatively intrinsic properties are not necessary or sufficient for mind-independence. Now there is a robust connection between instantiating an absolutely intrinsic property and mind-independence, and no such connection between instantiating a comparatively intrinsic property and mind-independence.

This enriched principle does establish a difference in the modal profile of absolutely and comparatively intrinsic properties. The question is whether this difference sustains holding that purely extrinsic and comparatively intrinsic properties do not necessitate phenomenal properties – but that the combination of purely extrinsic, comparatively intrinsic and absolutely intrinsic properties do necessitate phenomenal properties. It cannot. Just because some property *P* entails that an object is mind-independent, does not provide grounds for inferring any claims about whether *P* also necessitates phenomenal properties (either alone or jointly with other properties). These are seemingly orthogonal questions, and any connection between necessitating mind-independence and necessitating phenomenal properties would require far more argument than provided by Pereboom.

Third, one may contend that the argument so far has not demonstrated that it is *impossible* for absolutely intrinsic properties to have a qualitative nature that comparatively intrinsic properties lack. So far, it has only been argued that two properties – sphericity and solidity – are absolutely intrinsic properties that have qualitatively identical comparatively intrinsic counterparts. The proponent of this third objection claims it is unwarranted to generalise from these two examples, to claim that every absolutely intrinsic property has a qualitatively identical comparatively intrinsic counterpart. Moreover, if it is not the case that every absolutely intrinsic has a qualitatively identical comparatively intrinsic counterpart, there is no inconsistency in Pereboom asserting that comparatively intrinsic properties do not necessitate phenomenal properties while absolutely intrinsic properties do. For all we know, there exists some absolutely intrinsic property with a qualitative nature comparatively intrinsic properties lack, and it is in virtue of this difference-making qualitative nature that absolutely intrinsic properties necessitate phenomenal properties.

It is correct that the argument provided so far is not exhaustive – it applies only to sphericity and solidity, not all absolutely intrinsic properties. Nevertheless, this is no help to Pereboom. For what the argument demonstrates as it currently stands, is that there is no necessary connection between a property being absolutely intrinsic and a property being qualitatively distinct from a comparatively intrinsic property. The mere fact that a property is absolutely intrinsic does not by itself entail that this property will be qualitatively distinct from a comparatively intrinsic property. Stipulating that a property is absolutely intrinsic is consistent with that property being absolutely intrinsic sphericity for example, which has a qualitatively identical comparatively intrinsic counterpart.

This reveals that if there are absolutely intrinsic properties qualitatively distinct from comparatively intrinsic properties, this qualitative distinctness is explained by some further fact ‘over and above’ the fact that these properties are absolutely intrinsic. They are qualitatively

distinct in virtue of some further feature F that these absolutely intrinsic properties instantiate. Moreover, if it is F that explains why these absolutely intrinsic properties are qualitatively distinct, then by extension it will also be F that explains why these absolutely intrinsic properties necessitate phenomenal properties. The mere fact that these properties are absolutely intrinsic does not explain why these properties are suited to necessitate phenomenal properties. Rather, feature F is doing the explanatory work here.

This undermines the dialectical relevance of positing absolute intrinsicity in the first place. What seems to be important now is that there are properties with feature F, and properties with feature F are qualitatively distinct from properties that do not necessitate phenomenal properties. Making the further claim that these properties are absolutely intrinsic does not add anything to the dialectic: it does not serve to explain why these properties necessitate phenomenal properties. This undermines the motivation for positing absolute intrinsicity in the first place, which is at the heart of Pereboom's Russellian monism.

Additionally, once we grant that absolutely intrinsic properties must instantiate some feature F in order to necessitate phenomenal properties, this raises the question of why F cannot attach to comparatively intrinsic properties too. After all, the instantiation of F is some further fact 'over and above' the fact that a property is absolutely intrinsic. Hence, we have no reason to assume that F bears some special connection to absolute intrinsicity that it could not bear to comparative intrinsicity as well.

But if we grant that F can attach to comparatively intrinsic properties, this renders Pereboom's view false. It is no longer the case that comparatively intrinsic properties cannot necessitate phenomenal properties. Rather, comparatively intrinsic properties with F will do so. Of course, comparatively intrinsic properties that lack F will not necessitate phenomenal properties, but this applies equally to absolutely intrinsic properties too.

The overall effect of this argument is that the fate of comparatively and absolutely intrinsic properties are intimately linked – there is little reason to think that absolutely intrinsic properties by themselves are capable of something that comparatively intrinsic properties are not. This not only undermines the dialectical relevance of the comparative/absolute distinction, but also directly refutes Pereboom’s contention that comparatively intrinsic properties cannot necessitate phenomenal properties whilst absolutely intrinsic properties can.

This deals with any residual concerns regarding Intrinsic Collection_{Nec} in §4. Even if we think that mysterious absolutely intrinsic properties pose a problem for defending Intrinsic Collection_{Nec}, this is irrelevant given the arguments of this section. The deep qualitative similarity between absolutely and comparatively intrinsic properties provides good reason to think that their capacity to generate phenomenal properties is identical, regardless of whether intrinsic properties in general can generate new sorts of properties as stipulated by Intrinsic Collection_{Nec}. This conclusion by itself is enough to refute Pereboom’s Russellian monism.

6. Conclusion

The criticisms of Pereboom’s Russellian monism in this paper suggest three general lessons for all formulations of Russellian monism. First, the structural/non-structural distinction must be defined so that there is a substantial qualitative difference between structural and non-structural properties. The Russellian monist is already committed to a robust difference between structural and non-structural properties – structural properties do not necessitate phenomenal properties, but a combination of structural and non-structural properties do necessitate phenomenal properties. Russellian monists must formulate the structural/non-structural distinction in a way that can support this robust difference between structural and non-structural properties.

As argued in the final section, Pereboom's formulation of the structural/non-structural distinction does not meet this requirement. Part of the problem is that intrinsic properties are both structural and non-structural on Pereboom's account. The remaining difference between structural and non-structural properties – viz., the comparative and absolute distinction – does not support a robust difference between structural and non-structural properties. However, this does suggest is that not all formulations of Russellian monism will be subject to this problem. Defining the structural/non-structural distinction in a different way should be sufficient to avoid this problem. For example, if structural properties could not be intrinsic in any sense then arguably this problem would not arise (although other problems would arise). As such, the arguments in this paper only apply to Pereboom's formulation of Russellian monism.

The second lesson of this paper relates only to non-structural properties. Earlier in the paper, it was argued that non-structural properties alone will not necessitate phenomenal properties. This argument is based solely on the fact that non-structural properties are intrinsic. This argument will be applicable to any version of Russellian monism that claims that non-structural properties are intrinsic. It is notable that many Russellian monists other than Pereboom claim that non-structural properties are intrinsic.¹⁰ This suggests that the argument will apply to many accounts of Russellian monism other than Pereboom's. Whilst the conclusion of this particular argument does not directly refute Russellian monism, it does suggest an important lesson: Russellian monists that maintain that non-structural properties are intrinsic must then be committed to the view that only a combination of structural and non-structural properties necessitate phenomenal properties. Non-structural properties alone will not be sufficient to necessitate phenomenal properties.

¹⁰ Claims about the intrinsic nature of non-structural properties are present in Stoljar 2001, Seager 2006, Alter 2016, Chalmers 2017, Goff 2017, Roelofs 2019.

The third and final lesson concerns the relationship between the conceivability argument and the arguments presented in this paper. What is perhaps most striking about the arguments presented against Russellian monism here is that they do not appeal to conceivability. Hence, the supposed immunity of non-structural properties from conceivability reasoning is not the silver bullet Russellian monists have hoped for. Conceivability is not the only route that we can use to establish conclusions concerning metaphysical possibility. Rather, we can reach conclusions about the modal profile of non-structural properties by looking at the definitions of non-structural properties offered by Russellian monists and contrasting their definitions of structural and non-structural properties. These conclusions may be enough to undermine the Russellian monist account of phenomenal consciousness – as is the case with Pereboom’s Russellian monism.

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