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Is Phosphorus Hesperus?

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Abstract:

It is argued that philosophers who adopt the perdurance theory of persistence and who subscribe to the principle of Unrestricted Mereological Composition (UMC) are in a position to regard “Phosphorus is Hesperus” as false.

Key Words: endurance; Hesperus; identity; perdurance; persistence; Phosphorus; unrestricted mereological composition

It is generally held that the identity-statement “Phosphorus is Hesperus” is true. The reason, I think, is that the endurance theory of persistence is presumed. It is thought that there is this enduring entity – Venus – which persists by being wholly present as numerically the same entity at distinct times. When Venus, the three-dimensional thing, is visible in the morning (around its greatest western elongation) we call it “Phosphorus”, and when the very same three-dimensional thing, several months later, is visible in the evening (around its greatest eastern elongation) we call it “Hesperus”. Since the two names in fact happen to attach to the very same enduring entity, “Phosphorus is Hesperus” is true – even necessarily true, because *actually* true, granted that the names are rigid designators (Kripke, 1980, pp. 102-105).

That Phosphorus is Hesperus is of course not claimed to be an *a priori* truth. The idea, rather, is that when we perform some elaborate astronomy and trace the space-time path of Venus, we discover *a posteriori* (presupposing the endurance metaphysics) that we have been speaking of one and the same entity all along, albeit at different times and by using different names.

But suppose now that we give up the metaphysical idea that Venus is a three-dimensional enduring thing and instead hold that Venus is a four-dimensional perduring entity – a space-time-worm composed of numerically distinct temporal parts (cf. Lewis, 1986, pp. 202–204). According to this metaphysical view, when we trace the space-time path of Venus we do not stumble upon a reappearing three-dimensional object multiply located in space-time; rather, what we encounter are new entities (temporal parts) constantly succeeding each other. Now, given the thesis of Unrestricted Mereological Composition (UMC) – which says that whenever there are some things (e.g. temporal parts), no matter how disparate and unrelated, there is something composed of just those things (cf. Lewis, 1986, p. 211) – we encounter not just the individual temporal parts and the specific mereological sum of temporal parts which is Venus but an enormous set of scattered objects composed of diverse subsets of the temporal parts of Venus within the space-time area filled by Venus.

Suppose the UMC thesis is accepted: then, I observe, the identification of Phosphorus with Hesperus is no longer evident. A defender of this worldview is in a position to suggest that the mereological sum of the temporal parts of Venus which are visible in, and *only* in, the morning is the proper referent of “Phosphorus”, and that the mereological sum of the temporal parts of Venus which are visible in, and *only* in, the evening is the proper referent of “Hesperus”. (An anonymous reviewer has objected that this is no possibility if one demands that mereological sums be “compact or internally connected”. This is indeed correct. But my line of reasoning, as just presented, is that *if* one not only accepts the perdurance theory but also accepts *unrestricted* mereological composition, *then* one is in a position to suggest that “Phosphorus” picks out a certain temporally *scattered* object and that “Hesperus” picks out a *distinct* temporally scattered object. Notice, moreover, that many distinguished perdurantists do in fact accept the UMC thesis [see e.g. Goodman, 1966, p. 51; Lewis, 1986, p. 211; Sider, 2001, pp. 121-132 (although Sider is not an *orthodox* perdurantist, but a so-called stage theorist)], so the perdurance-UMC combination is not as artificial as the reviewer might think.)

Granting the suggested outlook, then, what we see shining brightly on a particular early morning is a common proper part of at least two distinct things: of Venus and of Phosphorus (i.e. we see Venus and Phosphorus “derivatively”). We do not, however, see

anything of Hesperus – a result which is in line with the beliefs of the ancient Greeks who introduced the names.

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