# Hylomorphism and Mereology:

*Proceedings of the Society for Medieval Logic and Metaphysics Volume 15*

Edited by

Gyula Klima and Alex Hall

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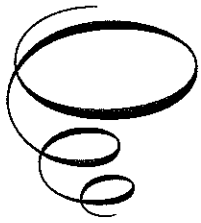

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# MANY EXITS ON THE ROAD TO CORPUSCULARIANISM: A RESPONSE TO WILKINS

THOMAS WARD

## 0. Introduction

Wilkins argues that Aquinas's view about elemental mixture is cogent and can even be maintained today, with modern chemistry's very different understanding of the number and natures of the elements.

Critics of Aquinas on this issue tend to assume that modern chemistry requires us to maintain that elements or various compounds (such as molecules) actually exist in the substances they make up, such as organisms. This assumption is incompatible with Aquinas's unitarianism about substantial form. Since Aquinas holds that each material substance is composed of prime matter and exactly one substantial form, it follows that no material substance can have any material substances as parts. No one can gainsay this entailment, so defenders of Aquinas need to attack the modern assumption that empirical science requires us to hold that substances such as organisms can have substances such as atoms and molecules as actual parts. This is what Wilkins does.

Wilkins begins by stating three assumptions shared by many medieval hylomorphists. He calls these assumptions desiderata which must be satisfied by any good theory of elemental mixture. Wilkins then addresses the dispute between unitarians and pluralists about substantial forms. He moves on to provide an account of Aquinas's theory of the ontological status of the elements in a mixture, and argues that this theory both satisfies the three desiderata and is consistent with the claims of empirical science. He then considers my recent argument that Scotus's version of pluralism about substantial forms is easier to adapt to modern science than Aquinas' theory. He criticizes my argument.

In the following I want to discuss Wilkins' three desiderata, focusing on the third. Then I will raise some concerns about Aquinas's theory of elemental mixture. Next, I will concede Wilkin's claim that empirical science does not require us to reject unitarianism about substantial form, but I will argue that Wilkins main criticism of Scotus's version of pluralism about substantial form – that it commits us to collocated substances, misses the mark. It does commit us to this, but this isn't a problem.

## 1. The desiderata

Here are three views Wilkins identifies as common to medieval hylomorphists, and in particular to Aquinas and Scotus.

(1) Hylomorphism: Material substances such as Socrates as composed of matter and a substantial form.

(2) Elemental Composition: Mixed bodies (including the material substances) are composed of elements.

(3) Power Coordination: The substantial form of a substance conveys powers on the substance by 'coordinating' the powers of the elements out of which the substance is composed.

I want to raise a concern about the third desideratum, power coordination. It seems correct to me, as far as it goes, to say that a substantial form "conveys powers on the substance." We might qualify this a bit though. Powers are both active and passive, but the passive powers of a substance are due in large part, if not exclusively, to matter, not substantial form.

But my concern with this third desideratum is really about the second part. Wilkins says substantial form conveys power *by coordinating powers of the elements out of which it is composed.* The thing to note is that this can't be the *only* way the substantial form conveys powers. After all, none of these thinkers would hold that for every material substance, *all* of its powers could be explained solely in terms of elemental powers and their coordination. To take an obvious case, human intellective power can't be explained at all by elemental powers and their coordination. So at best Wilkin's third desideratum describes just one of the ways in which medieval hylomorphists thought a substantial form conveys powers to its substance.

## 2. Aquinas's view of mixture

Leaving this quibble aside, I'll now move on to Wilkins' account of Aquinas's theory of elemental mixture. The basic idea is that when a material substance is produced by mixture of the elements, the original qualities of the elemental substances are brought into an intermediary state which disposes the elements to receive the new substantial form of the mixed body. At the moment the new substantial form begins to inhere in the prime matter of the elements, the elements themselves are corrupted and a new substance begins to exist. But somehow that intermediary quality which disposed the elements for receiving the new substantial form lingers in the new substance. This entitles us to say that there is a sense in which the elements themselves continue to exist in the new mixture, since something of their powers remains via that lingering intermediary quality. I've tended to read Aquinas here as claiming that numerically the same intermediary quality persists through the corruption of the elements and the generation of the new substance. On this reading, the big problem for Aquinas is that accidents in general and powers in particular can't jump substances, as Aquinas elsewhere says.[1] So he doesn't seem entitled to claim that elemental qualities can jump elements and begin to be the qualities of new mixed substances. But on Wilkins' reading numerically the same qualities do not persist through the corruption of the elements and the generation of the mixture. Instead, Wilkins thinks Aquinas thinks that some quality qualitatively similar to the quality of the elements begins to inhere in the new mixture, and it's the qualitative similarity of the new to the old which is supposed to explain how the elements have existence by their powers in the new substance. So on Wilkins' reading, Aquinas's theory satisfies his three desiderata in the following ways:

(i) (Hylomorphism) the substantial form of the whole is creating a genuine, novel unity, satisfying the hylomorphism principle, and

(ii) (Elemental composition) there are elements composing the mixed bodies of material substances in the sense that the sole substantial form is conferring on prime matter the active and passive qualities of elements of those types, satisfying the elemental composition principle and

(iii) (Powers coordination) yet those active and passive powers are as it were recruited into a new functional unity by the substantial form of the whole, satisfying the power coordination principle.

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[1] *De generatione et corruption* I.10.6.

On this reading, the big problem for Aquinas would seem to be the lack of explanation of how the new substance comes to have this qualitatively similar quality. Can Wilkins offer on Aquinas's behalf an account of how a brand new substance with brand new accidents is somehow guaranteed to have powers which are qualitatively similar to the powers of the elements from which the new substance came to be?

## 3. The updated Scotus?

### *3.1 Empirical science inconclusive*

Having raised this concern about Wilkins' account of Aquinas's theory, I'll now turn to his formulation and criticism of an argument I implicitly made about the update-ability of Scotus's theory of elemental mixture.

Wilkins offers support to his case for Aquinas by formulating an argument implicit in something I wrote, and then arguing against the first premise of that argument.

The argument Wilkins formulates goes like this

(1) A hylomorphic theory of the elements in a material substance could be acceptable to a contemporary audience if and only if it is possible for the hylomorphic theory to be developed in such a way to treat the elements as actual parts. (Premise)

(2) It is not possible for Aquinas's hylomorphic theory to be developed in such a way to treat the elements as actual parts. (Premise)

(3) But it is possible for Scotus's hylomorphic theory to be developed in such a way to treat the elements as actual parts. (Premise)

(4) Hence, Scotus's hylomorphic theory could be acceptable to a contemporary audience, but Aquinas's could not. (from 1-3)

And I accept this as a fair rendering of my line of reasoning. Wilkins concedes premises (2) and (3) but criticizes premise (1), for two different reasons.

First, empirical science doesn't strictly require that the elements remain actual in a mixture, so (1) is false. I concede this. I suppose I'd want to say something weaker, that all else being equal, better to have a theory of elemental composition which allows for the possibility of their actual

existence in a mixture. If nothing else, this view has the advantage of tracking common sense and the way scientists often talk about how organisms work at the biochemical and chemical levels.

### *3.2. The issue of collocation*

But is all else equal? The second objection Wilkins has to (1) is that he's not sure that pluralism of the sort Scotus endorses is coherent. According to Wilkins, Scotus's pluralism entails collocated bodies, and Wilkins finds this problematic.

The sort of collocation Wilkins seems to have in mind is the sort entailed by Scotus's view that some integral parts of some substances are themselves substances. So, for example, let's say that the heart of Socrates is a substance and Socrates is a substance. Socrates' substantial form exists all throughout Socrates, so every part of Socrates is human. But the heart's substantial form exists all throughout the heart. So it looks like there will be two collocated things: a heart, and a heart-of-a-living-human.

Other versions of pluralism hold that the whole body is a substance, but the integral parts of a body are not themselves substances. (I call this standard pluralism.) On this view, the body will have one substantial form in virtue of which it is a body. But it will have another substantial form, in virtue of which it is a body of a human being. So it looks like there will be two collocated things: a body and a human being.

The way to deal with the standard pluralist case points the way forward for dealing with the Scotist case. The standard pluralist has to say that the body is related to the form of the body and the form of a human being in two different ways. It is related to the form of the body as whole to part, since its two metaphysical constituents, prime matter and the form of the body, jointly compose the body. But it is related to the form of a human being as co-part of one whole, the human being, since the whole body functions as proximate matter which, with a human soul, composes a human being.

Now for the more complicated Scotist case. On my view, Scotus denies that the whole body is a substance; instead it's an essentially ordered network of integral parts, each of which is its own substance. All these parts together, related in a special way, serve as the proximate matter of a human being. So consider the heart. Assume for simplicity's sake that it's

composed of prime matter and just one substantial form, the substantial form of the heart. The heart is related to its substantial form as whole to part, since its two metaphysical constituents, prime matter and the form of the heart, jointly compose the heart. The heart itself is related to the body as part to whole, since it is part of this essentially ordered network of organic parts. And this body is related to the human being as part to whole, since it is the proximate matter which, with a human soul, composes a human being. Not all parthood relations are transitive, but these are: the heart is a part of a human being by transitivity, since it is part of a body which is itself part of a human being.

The basic move in either case is to say that careful pluralism about substantial form requires us to say that no two or more substantial forms are related to the same substance or the same part of a substance in exactly the same way, and similarly that no two or more substances are related to one and the same substantial form in exactly the same way.

Wilkins worries that this way of explaining collocation requires us to say that substantial forms are merely extrinsic unifying principles of the substances of which they're forms. But we must be careful here. The form of a heart is intrinsic to the heart, on Scotus's view. The form of the body is intrinsic to the body, on the standard pluralist view. The form of a human being is intrinsic to a human being, on either pluralist view. But, no, the form of a human being is not intrinsic to the body, on the standard pluralist view, since the body is the matter of a human being. But this is exactly how a hylomorphic account of composition should turn out. (Consider, by analogy: on Aquinas's view the form of a human is extrinsic to prime matter in the sense that it doesn't help make up what prime matter is; instead, prime matter and form together are intrinsic principles of a human being.)

Here's a second way of responding to the collocation view. Isn't it the case that Aquinas is committed to the collocation of substances and accidental unities? And isn't the way to explain this simply that an accident is related to an accidental unity and a substance in different ways? It's related to an accidental unity as part to whole, and it's related to a substance as co-part of the same whole.

So in the end I don't think of Wilkins' collocation objection as particularly worrisome or embarrassing. Even if you don't like my way of making sense out of collocation, namely by distinguishing different ways in which

forms are related to substances and substances related to forms, you still don't get a strong reason to prefer Aquinas over Scotus and the pluralists, since Aquinas seems to have an analogous issue to deal with when it comes to the relation between substances and accidental unities.

Now when it comes to elemental composition, Scotus denies that the elements actually exist in a mixture for reasons Wilkins discusses. I note that these reasons do not have to do with the metaphysics of hylomorphic composition but rather the old chemical theory itself. For this reason it's possible that, given his metaphysics of hylomorphic composition, a different chemistry could have led Scotus to a different view about elemental existence in mixtures. If current science tells Scotus that there are actual atoms making up his body, Scotus would have no reason to object.

So I don't take collocation to be a reason for rejecting pluralism, and therefore don't take it to have force against the first premise of the argument Wilkins formulated on my behalf.

## 4. Conclusion: is pluralism really hylomorphism?

Nevertheless, I concede his first objection to this premise – namely, that empirical science doesn't strictly require the abandonment of Unitarianism – and so I join Wilkins in rejecting premise (1) as formulated.

Since empirical science can't settle the issue for us, strictly speaking, it comes down to a kind of contest about relative metaphysical "costs" associated with either the Thomistic unitarian view or the Scotistic pluralist view.

The superficial way to weigh these costs, according to Wilkins, is to say that on the one hand Scotus commits us to collocated bodies whereas on the other hand Aquinas commits us to weird views about things that look continuous through time and change actually turning out to be two or more different things (recall his formulation of the Corpse objection). Wilkins seems to concede that it would be hard to decide which is the heavier cost.

The deeper problem for Wilkins is that he thinks pluralism is an unstable compromise with corpuscularianism. The suggestion here, I take it, is that pluralism in its logical extreme is not a version of hylomorphism worthy of the name. The worry here seems to be rooted in the traditional unitarian

concern that pluralists can't adequately account for the unity of material substances, and perhaps also the very closely related concern that pluralists can't account for the irreducibility of material substances to the parts they're made of. The reason to consider corpuscularianism a byword is, I take it, that it seems to imply that all there is to a substance is a bunch of corpuscles in close proximity to each other, moving more or less together. Hylomorphism is supposed to save us from that kind of reductionism.

In some sense Wilkins's closing point here is incontrovertible. Pluralism is more like corpuscularianism than unitarianism, at the very least in the sense that by definition it entertains more actual parts making up a substance than does unitarianism. In a second sense I think there is a promising historical case to be made that pluralism together with rejections of the Thomistic understanding of prime matter as pure potentiality somehow paved part of what became the way to early modern theories of bodies. But in a strictly philosophical sense I think Wilkins's concern is overblown. First, Scotus is as explicitly anti-reductionist as they come; moreover, he explicitly addresses the issue of the unity of a pluri-formed substance, taking the preservation of unity as a feature his theory of hylomorphism must have if it is to be viable. Second, there's a Whiggish danger in attributing to Scotus the seeds growing into, or pavers leading the way to, later philosophical views (pick your favorite metaphor). If I take a step toward the edge of a cliff it doesn't follow that I'll keep walking until I fall off. *If* I go on to walk off the cliff then it will be true that that first step was the first step in my walk of doom. But I don't need to keep walking. I might have very good reasons for taking that step – and equally good reasons for taking no more steps. If Scotus takes us a step toward corpuscularianism, it's our fault if we keep walking after he stopped.