

University of Groningen

## Cartesian Composites and the True Mode of Union

Embry, Brian

*Published in:*  
Australasian Journal of Philosophy

*DOI:*  
[10.1080/00048402.2019.1698626](https://doi.org/10.1080/00048402.2019.1698626)

**IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.**

*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2020

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*

Embry, B. (2020). Cartesian Composites and the True Mode of Union. *Australasian Journal of Philosophy*, 98(4), 629-645. <https://doi.org/10.1080/00048402.2019.1698626>

### Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

### Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

*Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.*



## Cartesian Composites and the True Mode of Union

Brian Embry

To cite this article: Brian Embry (2020) Cartesian Composites and the True Mode of Union, Australasian Journal of Philosophy, 98:4, 629-645, DOI: [10.1080/00048402.2019.1698626](https://doi.org/10.1080/00048402.2019.1698626)

To link to this article: <https://doi.org/10.1080/00048402.2019.1698626>



Published online: 02 Feb 2020.



Submit your article to this journal [↗](#)



Article views: 152



View related articles [↗](#)



View Crossmark data [↗](#)



# Cartesian Composites and the True Mode of Union

Brian Embry

University of Groningen

## ABSTRACT

Descartes argues that the mind and body are really distinct substances. He also insists that minds and bodies compose human beings. But how are mind and body united to compose a human? This question is crucial to understanding the place of human beings in Descartes's ontology. Many scholars argue that Descartes has no solution to the unity problem, and they call into question the ontological status of mind-body composites. On some views, Cartesian humans are mere aggregates, like stacks of pancakes; on other views, Descartes is not entitled to the view that humans exist at all. I argue that Descartes has a solution to the unity problem, and that he appropriates this solution from contemporaneous Jesuit discussions of soul-body unity—discussions that remain mostly unknown to contemporary scholars. The upshot is that Descartes has the metaphysical machinery to account for mind-body unity and doesn't have to say that a human being is like a stack of pancakes.

**ARTICLE HISTORY** Received 4 March 2019; Revised 28 October 2019

**KEYWORDS** Descartes; dualism; union; mode; Arriaga

## 1. Introduction

Perhaps Descartes's best-known view is that the mind and body are really distinct substances, and every substance is either a mind or a body. But Descartes also insists that the mind and body are in some sense united, composing a human being. After his argument for the real distinction between mind and body in the Sixth Meditation, Descartes notes [Sixth Meditation, AT VII 81/CSM II 56; my emphasis],

Nature also teaches me, by these sensations of pain, hunger, thirst and so on, that I am not merely present in my body as a sailor is present in a ship, but that I am very closely joined and, as it were, intermingled with it, so that *I and the body form a unit* [*unum quid*].

In the *Comments on a Certain Broadsheet*, he writes, 'But that which we regard as having at the same time both extension and thought is a composite entity, namely a human—an entity consisting of a soul and a body' [AT VIIIB 351/CSM I 299; see also AT VII 423–4/CSM II 286]. This mind-body unity has been the source of controversy in the Descartes literature, going back at least to Princess Elizabeth of Bohemia.

Princess Elizabeth pressed Descartes on the question of how an immaterial mind can interact with a material body. But in this paper I address a different question about unity, what I call *the principle of unity question*.

**The principle of unity question.** How are mind and body united? In virtue of what do a mind and body compose a human?

These are two questions, but I will treat them as one because they are supposed to have the same answer. The assumption in both Descartes's writings and the secondary literature is that the mind and body compose a human because they are united in a certain way. The principle of unity question is this: how are mind and body united, so that they compose a human? I argue that Descartes borrows his answer to this question from contemporaneous Jesuit discussions of body-soul union.

In the next section I'll explain why the principle of unity question matters for Descartes. Then (section 3) I'll raise problems for the two most popular approaches to the principle of unity question. That will motivate the search for a new answer (section 4). I will then (section 5) respond to some objections to my answer, and I'll conclude by considering prospects for what I call *the kind question*, which I explain presently.

## 2. The Importance of the Principle of Unity Question

The principle of unity question is philosophically interesting because it is a version of Peter van Inwagen's special composition question [1987]. It is also important because it bears on another question of importance to Descartes:

**The kind question.** What kind of thing is a mind-body composite?

Descartes sometimes suggests that mind-body composites are substances. He says, for example, that the mind and the body are 'substantially united' [Fourth Replies, AT VII 228/CSM II 160]. He doesn't explain what 'substantially united' means, but contemporaneous scholastics understood 'substantial union' to be a union resulting in a substance. Francisco Suárez, for example, says 'A substantial union is nothing other than a conjunction of two substantial things, resulting in one composite substance that is truly and properly one' [*De incarnatione* 7.2.2/XVII 340b].<sup>1</sup> In light of this usage, it is natural to interpret Descartes as saying that a mind-body composite is a substance.

Descartes also says that a human is 'a single *ens per se* and not *per accidens*' [AT III 508/CSMK 209]. In scholastic circles, *ens per se* is synonymous with substance (or sort of; I refine this claim below). So, it looks like Descartes is saying that a human is a substance.

If Cartesian humans are substances, then Descartes is not a dualist after all but is instead a 'trialist'. In addition to minds and bodies, there is a third kind of substance—humans, which are composites of mind and body. The trialist interpretation enjoyed some popularity in North America in the 1980s and early 1990s [Cottingham 1985; Hoffman 1986; Schmaltz 1992], but has since fallen out of favour. This is largely due to Marleen Rozemond's [1998] book, *Descartes's Dualism*. She argues forcefully for the claim that Descartes 'was not entitled to the view that the mind-body composite is a substance' [ibid.: 170]. She concludes [ibid.: 213]:

One should at the very least be skeptical towards the view that he regarded the human being as a substance ... This conviction also derives from the fact that I don't see in Descartes an answer to the question how mind and body are unified so that together they constitute a substance.

Rozemond rejects a trialist answer to the kind question because she thinks that Descartes does not have a good answer to the principle of unity question.

---

<sup>1</sup> Suárez's works are cited by their divisions and the volume and page numbers of the Vivès edition.

But if Descartes does not think that humans are substances, what does he mean when he says that a human is an *ens per se*? Scholastics use the phrase '*ens per se*' in two ways. In one way, *ens per se* is opposed to *ens in alio*. An *ens in alio* is an accident. Because scholastics typically divide the world exclusively and exhaustively into substances and accidents, it follows that an *ens per se* is a substance.

But scholastics have a second understanding of *ens per se*. Here, *ens per se* is opposed to *ens per accidens* [Suárez DM 4.3/XXV 125b]. Scholastics thought that a lion is one thing, and a stack of pancakes is one thing, but a lion has a better claim to being one thing than a stack of pancakes has: a stack of pancakes is just a plurality of pancakes, but a lion is not just a plurality of lion parts. Scholastics label this intuitive distinction by saying that a lion has unity *per se* and is therefore an *ens per se*, while a stack of pancakes has unity *per accidens* and is therefore an *ens per accidens*.

On this understanding, *ens per se* is not synonymous with substance. Francisco Suárez notes that accidents can be *entia per se*, since accidents are not aggregates [DM 4.3.12/XXV 129b]. A patch of whiteness in a wall, for example, is an *ens per se* on this understanding. So, when Descartes says that a human is an *ens per se* and not *per accidens*, perhaps he means that, when it comes to unity, a human is more like a lion than like a stack of pancakes. But it would not follow that a human is a substance.

Someone attracted to this reading would be led to a view that I call 'individualism'. According to individualism, a human is what Paul Hoffman calls a 'genuine individual'—more unified than a mere aggregate, but not a substance. This is a popular view in Descartes scholarship today [Rozemond 1998; Schmaltz 2002; Brown 2006: 6; Normore 2011; Perler 2016].

But if, in the absence of an answer to the question of how mind and body compose a substance, Descartes is not entitled to the view that a human is a substance, he is also not entitled to the view that a human is a genuine individual. If we have no answer to the principle of unity question, perhaps we should say that a mind-body composite is not an individual.

Thinking along these lines leads to a view that I call *sailor-in-a-ship-ism*, the view that the mind is in a body just as a sailor is in a ship. One advocate of sailor-in-a-ship-ism is Jacques Maritain: 'Cartesian dualism breaks man up into two complete substances, joined to one another no one knows how ... an angel inhabiting a machine and directing it by means of the pineal gland' ([1932: 275; translated in Maritain [1944: 179]). The idea here seems to be that, because Descartes does not explain how mind and body are joined to one another, a human is like an angel inhabiting a machine.

But one might also think that Descartes does not have room in his substance-mode ontology for mere aggregates. This thought leads to yet another view—nihilism, according to which there are no humans in the Cartesian world. Stephen Voss is an advocate of nihilism [1994: 296]:

A problem that confronts Descartes [is] the preservation of man in a Cartesian metaphysics of substance and mode, as one being and not simply a pair made for each other. If Descartes cannot solve this problem, he is left with another philosophical reason, perhaps the most basic one of all, to drop man from his ontology.

And Voss concludes that 'man has disappeared from the Cartesian universe' [ibid.: 300].

The lesson here is that an answer to the kind question hinges on an answer to the principle of unity question, and what is at stake is the place of human beings in a Cartesian ontology.

### 3. Proposed Principles of Unity

Before discussing proposed answers to the principle of unity question, I want to establish the data for which an adequate answer to the principle of unity question should account.

As we have seen, Descartes often says that the mind and body are ‘really and substantially united’ and they compose an *ens per se*. Ideally, an answer to the principle of unity question would be able to account for this language. I think that I can account for this language, but it’s controversial in the Descartes literature what this language amounts to and how seriously Descartes takes it [Yandell 1999]. So, in order to avoid begging questions, I’ll set aside this datum for the sake of evaluating alternative answers to the principle of unity question. In other words, I will not assume that the Cartesian mind and body compose a substance.

We have also seen that Descartes says that minds are not in bodies like sailors are in ships. This claim provides a test for an adequate answer to the principle of unity question:

**The sailor in a ship test.** An adequate answer to the principle of unity question will explain the difference between a mind-body composite, on the one hand, and a sailor-in-a-ship aggregate, on the other.

I write ‘sailor-in-a-ship aggregate’ instead of ‘sailor-ship aggregate’ because a sailor-ship aggregate might exist when the sailor is enjoying his leave on shore, but, as I understand Descartes, he means to say that the mind-body composite is not like a sailor-ship aggregate even when the sailor is *in* the ship.

We saw from the Sixth Meditation that Descartes infers mind-body union from facts about sensation. He also states in several places that sensation depends on mind-body union. For instance [AT VI 59/CSM I 141],

It is not sufficient for [the soul] to be lodged in the human body like a helmsman in his ship, except perhaps to move its limbs, but ... it must be more closely joined and united with the body in order to have, besides this power of movement, feelings and appetites like ours and so constitute a real man.

This suggests another test for an adequate answer to the principle of unity question, what I’ll call the sensation test:

**The sensation test.** An adequate answer to the principle of unity question should accommodate the claim that sensation depends on mind-body union.

To say that sensation depends on mind-body union is to say, at least, that it is impossible (metaphysically or naturally impossible) to have sensation without a mind united to a body. Here I assume that sensation depends on mind-body union in a non-trivial way. If the dependence is merely counterfactual, sensation could depend on mind-body union by being identical to mind-body union. This is because on the identity view, if there were no mind-body union, then there would be no sensation. I take it Descartes’s view of the dependence of sensation on mind-body union is not trivial in this sense. This is because he often says that sensation ‘arises from’ mind-body union [AT VII

81/CSM II 56; AT III 424/CSMK 190; AT VII 437/CSM II 294; AT VIII 23/CSM I 209], which suggests that mind-body union is in some sense prior to sensation.

It should be noted that the sensation test intentionally sets a low bar in so far as an adequate answer to the principle of unity question merely needs to accommodate, not explain, sensation's dependence on mind-body union. It is a good question how mind-body union gives rise to sensation, but demanding an answer to that question would impose too high a bar on an adequate answer to the principle of unity question, since it would presuppose that there is a good explanation of how mind-body union gives rise to sensation. As we will see, many seventeenth-century Jesuit philosophers assert that sensation depends on mind-body union, but one Jesuit philosopher, Rodrigo de Arriaga, disagrees [*Cursus* 711a14].<sup>2</sup> So the claim that sensation depends on mind-body union was contentious in the seventeenth century, and the further claim that there was an explanation for such dependence was also contentious. Demanding such an explanation would set an unfair standard on an adequate answer to the principle of unity question. But since Descartes explicitly states that sensation depends on mind-body union, it would not be unfair to expect an adequate answer to the principle of unity question to be compatible with that claim.

The first account of unity that I'll consider is Hoffman's [1989] hylomorphic account. To understand his reading, we need a quick refresher on hylomorphism. Hylomorphism is an Aristotelian view of substances, according to which ordinary substances like lions and humans are composed of stuff called 'matter' and a substantial form. The go-to illustration of this idea is the bronze statue. The story goes as follows. There is a difference between the statue and the lump of bronze of which it's made. The lump can survive being melted down, but the statue cannot. In order to get the lump of bronze to constitute a statue, one must add a statue-shape. So, one might think that a statue is composed of the lump plus the statue-shape. Aristotelians think that all substances are like the bronze statue, but that, instead of a lump of bronze and a shape, substances are made of prime matter and a substantial form. The substantial form makes the matter into a certain kind of thing, like a lion or a human.

Hoffman argues that Descartes endorses a hylomorphic account of mind-body unity. He bases his reading on the fact that Descartes sometimes uses hylomorphic language to talk about the human soul. He says, for instance, that the soul could be recognised as the only substantial form and the body is informed by the soul [AT III 503/CSMK 207–8; AT IV 167/CSMK 243].

If we could work out the details of Hoffman's hylomorphic account, it would pass both the sailor-in-a-ship test and the sensation test. As mentioned above, Aristotelians took hylomorphic compounds to be paradigm instances of genuine unity, unlike a sailor in a ship. So, the unity of a hylomorphic compound seems to guarantee the unity of a mind-body composite, thereby differentiating a mind-body composite from a sailor-ship aggregate.

Aristotelians also typically thought that sensation is a corporeal process, and what makes a body sentient is its form. So if Descartes views a human as a hylomorphic composite, it makes sense that he would think that sensation depends on mind-body union, just as his Aristotelian teachers thought that sensation depends on matter-form union.

---

<sup>2</sup> Early modern scholastic texts are cited by page number, column, and paragraph number. This rule excludes Suárez, we saw, who is cited by the standard divisions of his works as well as by the volume, page, and column of the Vivès edition.

But Rozemond [1998] has argued that hylomorphism is not a solution to the problem of unity: hylomorphism presents its own problem of unity. Just as Descartes must explain how mind and body compose a *per se* unity, Aristotelians must explain how matter and form compose a *per se* unity. Scholastics had things to say about the unity problem, but their stories are generally not available to Descartes.

In late mediaeval scholasticism, there were, broadly speaking, two main strategies for accounting for hylomorphic unity. One is Aquinas's pure potency solution—his claim that matter and form compose one thing rather than an aggregate because prime matter is pure potency [*De principiis naturae* 2.115-18/Leon. XLIII 41b; ST I, 66.1/Leon. V 154b; *Quodl.* 3, q.1, a.1/Leon. XXV/2: 241–2]. What exactly this means is the subject of some controversy. There is an anti-realist reading, according to which prime matter is a mere abstraction, not an actual part of a substance [Hughes 1998; Kretzmann 1999: 212; Pasnau 2002: 131]. On this reading, matter and form compose one thing because a matter-form composite has only one actual part; matter-form composites aren't really composites at all but instead are simples.

Setting aside the philosophical problems implied by the anti-realist reading—that the substratum of change does not exist, for instance—Aquinas often says that substantial forms give being to matter [*De principiis naturae*, 1.31–5/Leon. XLIII 39; ST I 76.8/Leon. V 232a–b], and that sort of remark suggests that prime matter does exist.<sup>3</sup> What makes it pure potency is that it gets its being from form. On this reading, matter and form compose one thing because form gives being to matter. A heap of stones is not one thing, because none of the stones gives being to any of the others.

Whatever one thinks of these readings of Aquinas, the views themselves are not available to Descartes. The Cartesian analogue of the anti-realist view of matter would be that the mind and body compose one thing because the body does not exist. But Descartes clearly thinks that our bodies exist, so that view is a non-starter for him.

The pure potency solution on the realist reading does not fare much better. The Cartesian analogue of that view is that mind and body compose one thing because the mind gives being to the body. But Descartes insists that the body is independent of the mind, so the body cannot get its being from the mind.

It might be replied that, while Descartes does not take the Thomist line on bodies in general, he does take that line on the human body. For, in a letter to Mesland, he says that the human body as such could not exist apart from a soul [AT IV 166/CSMK 243]. As soon as you remove a person's soul from her body, her body is no longer a *human* body. Consequently, a human body cannot exist apart from a human soul [Hoffman 1986: 359].

I respond that, while this objection gets Descartes right on the human body, it does not point the way to an account of the unity of composite substances. For it remains the case that the portion of matter that composing the human body has its own being, independently of the human soul. So, even if the human body cannot remain a *human* body apart from a human soul, there remains the problem of unifying the human soul with the portion of matter that composes the human body.

Most scholastics who were not Thomists reject Aquinas's conception of matter as pure potency. They thought that if matter is to underlie change then it has to have its own being [Ockham, *Summa philosophiae naturalis* I.10/*Opera philosophica* VI

<sup>3</sup> This realist reading is endorsed by Adams [1989 II: 638], Wippel [2000: 312–26], and Brower [2014: 32, 121].



181–6; Suárez DM 13.4.13/XXV 413a]. So, they must tell another story about matter-form unity, and the story that they tell typically appeals to the notion of incomplete being. Suárez, for instance, tells us, ‘it is impossible for an *ens per se* and actually complete to be composed, unless it is composed of actual, incomplete beings’ [DM 13.5.17/XXV 419a]. The idea is that a composite substance counts as one thing because it is composed of incomplete beings, like pieces of a puzzle.

But what exactly is an incomplete being? Suárez explains the idea like this [DM 4.3.8/XXV 127b]:

Because neither matter nor form are *per se* complete entities and complete in their genus, but are instituted by their nature to compose a being [*ad illud componendum*], that which is proximately composed of matter and form is said to be and indeed is *per se* one nature and essence.

A being is incomplete just in case it is instituted by its nature to compose something else. Matter is incomplete in this sense because it is essentially such as to unite with a form, thereby composing a hylomorphic compound.

It sometimes appears that Descartes wants to avail himself of the incomplete being strategy, for he explicitly says that mind and body are incomplete ‘in so far as they are referred to some other substance with which they compose something one *per se*’ [AT VII 222/CSM II 157]. But, whatever the (dubious) merits of the incomplete-substance solution, it is not available to Descartes because he denies that bodies are essentially disposed to be united to minds, and *vice versa* [AT III 461/CSMK 200]:

When we consider the body alone we simply perceive nothing in it because of which it desires to be united to the soul; just as we perceive nothing in the soul because of which it must be united with the body.

So, whatever Descartes means when he says that body and soul are incomplete when referred to the human that they compose, he does not mean that they are essentially disposed to unite. The scholastic account of unity in terms of incomplete substance is therefore not available to him.

The lesson here is twofold. First, hylomorphism by itself does not even purport to solve unity problems. Second, the two mainstream scholastic strategies for accounting for substantial unity were not available to Descartes. In the next section we’ll see another scholastic strategy that is available to him, but first I want to turn to another prominent interpretation of Descartes on mind-body unity, and that is Margaret Wilson’s ‘Natural Institution’ interpretation.

On Wilson’s view [1978: 211],<sup>4</sup>

[w]hat we call the close union or intermingling of this mind with this body is nothing but the arbitrarily established disposition of this mind to experience certain types of sensations on the occasion of certain changes in this body, and to refer these sensations to (parts of) this body.

I’ll call the ‘natural institution fact’ the fact that the mind is disposed to experience certain types of sensations on the occasion of certain changes in the body. Some scholars talk about the natural institution account as if the natural institution fact alone constitutes mind-body union.

But on this reading the natural institution account fails the sailor-in-a-ship test. A sailor in a ship is disposed to experience certain types of sensations on the occasion of

---

<sup>4</sup> Other proponents of this interpretation or a version of it include Yandell [1999], Pasnau [2011: 600–2], and Perler [2016: 375].

certain changes in the ship. If the ship crashes into an iceberg, the sailor feels the impact. And if the ship gets a new coat of paint, the sailor can see that. The problem is that both a ship and a body are links in a causal chain that ends in sensation. For Descartes, the difference between the sailor's ship and his body is a matter of distance from the pineal gland, not a difference in kind or degree. As a result, the natural institution fact by itself cannot discriminate between the sailor's relation to his body and the sailor's relation to his ship.

Wilson was aware of this problem, and that's why she adds to the natural institution fact the fact that the mind 'refers' sensations to parts of the body. Not only do I feel pain when my foot is on fire, but I feel the pain *in my foot*. I'll call this the 'sensory reference fact'—the fact that a mind experiences sensations as being in certain parts of a body. The sophisticated natural institution account is that mind-body union consists in both the natural institution fact and the sensory reference fact together. This theory passes the sailor-in-a-ship test because a mind can feel pain in a body, but a sailor cannot feel pain in the ship.

But the sophisticated natural institution account fails the sensation test: if sensation plays a role in constituting mind-body union, then sensation fails to depend in any non-trivial way on mind-body union. The mind cannot experience sensation as in the body without first having sensation. Hence, on the natural institution account, the mind cannot be united to the body without having sensation. But this gets things backwards, since, for Descartes, sensation depends on mind-body union, not the other way around.

It's worth mentioning one more type of account that can be found in the literature. This account says that Descartes has nothing to say about mind-body union. Radner [1971], Pasnau [2011], and Simmons [2017] endorse a version of the no-account account. But the no-account account should be a last resort, and I think that it's not yet time to resort to it.

#### 4. The True Mode of Union

In the 1642 letter in which Descartes advises Regius to say that a human being is an *ens per se* and that mind and body are 'united in a real and substantial manner', Descartes explicitly answers the principle of unity question [AT III 493/CMSK 206]:

You must say that they [mind and body] are united not by position or disposition, as you assert in your last paper—for this too is open to objection and, in my opinion, quite untrue—but by a true mode of union [*verum modum unionis*], as everyone agrees, though nobody explains what this amounts to, and so you need not do so either.

Here Descartes suggests that mind and body are united by a 'mode of union', and he hints that this view is shared by everyone. We might begin to get a grip on his account of mind-body union if we can identify these other philosophers who 'agree' that mind and body are united by a mode of union.

One influential philosopher who thinks that matter and rational soul are united by a mode of union is Suárez. He writes that 'this mode of union [between a rational soul and matter] is like a certain medium or link between matter and form' [DM 15.3.11/XXV 516a].<sup>5</sup> By the mid-seventeenth century, the mode of union becomes the focus of a standard *Physics* disputation on whether matter-form (or body-soul) union is something distinct from matter and form.

---

<sup>5</sup> A similar passage is quoted by Normore [2011: 233], but its implications are left unexplored.

Rodrigo de Arriaga (1592–1667) explains what a union is and poses the question like this [*Cursus* 332a1]:

A union is said to be that nexus by means of which one composite, such as a lion or a human, results from two things, such as matter and form. About this union we presently ask whether it is distinct from each term, that is, from body and soul.

This is a version of the principle of unity question. If you have a body and soul, and you want to make a human from them, do you have to add something else? Jesuit authors almost universally answer this question in the affirmative.

In an argument that has a Cartesian ring, Jesuit authors point out that matter and form can exist without being united. Indeed St. Peter's matter still exists, no doubt scattered throughout the universe. This is because, when St. Peter dies, his matter gets new substantial forms and constitutes various elements, which are then scattered as chance may have it. Not only does St. Peter's matter exist, but his soul exists too, since the soul is immortal. So St. Peter's matter and form exist, but St. Peter does not exist, since his matter and form are not united. This shows that the union of St. Peter's matter and form is separable from his matter and form: the matter and form exist, but their union does not. It follows that the union of matter and form is something other than matter and form. The separability argument is supposed to show that if the *xs* can exist without being united, then their union is something distinct from the *xs*. I'll call this the 'distinct union view'.

One objection to the distinct union view is that it leads to a Bradley-style regress. An argument for the regress might go as follows:

*The regress objection*

- (1) Any two united things are united by a distinct union.
- (2) Matter and form are united.
- (3) Matter and form are united by a distinct union,  $U_1$ . (1, 2)
- (4) Matter and form are united to  $U_1$ .
- (5) Matter, form, and  $U_1$  are united by a distinct union,  $U_2$ . (1, 4)

*Ad infinitum ...*

The Jesuits were aware of this objection. Arriaga raises it in this passage [*Cursus* 339a52]:

You will object firstly, not only are matter and form united, but they are also united to the union itself. But they are not united to the union in virtue of a distinct union, otherwise there would be an infinite regress. So matter and form can be united without a distinct union.

In short, if union is achieved by means of a separate entity, a regress ensues; so, union is not achieved by means of a separate entity.

Arriaga responds to the regress objection as follows ([*Cursus* 339a52]; see also [353a141]):

I deny the consequence because a union cannot exist without being united to matter and form. Hence, the fact that it is actually united cannot come about through something distinct from it. But matter and form rightly can exist, as was shown, even if they are not actually united. Therefore, their being united is something distinct from each, since it is separable from each.

Arriaga stops the regress at the first union. His view is that mind and body are united by a distinct union, and the union is united to mind and body, but the union is not united to mind and body by a distinct union.

The regress objection, as standardised above, starts with the premise that any two united things are united by a distinct union. But Arriaga rejects that premise. He can deny that premise because the distinct union view is motivated by the separability argument, which commits him to the claim that any two *separable* and united items are united by a third item. The separability argument would generate a regress of unions if the union itself could exist apart from the matter and form it unifies. But Arriaga thinks that there cannot be a matter-form union floating free of matter and form. So the separability argument does not entail that a distinct union<sub>2</sub> is needed to unite matter, form, and their union<sub>1</sub>.

The regress objection is what leads early modern scholastics to conclude that the union is a mode, and they think of a mode along Cartesian lines, which is not a surprise because Descartes gets his notion of a mode from the Jesuits. A mode is something that is essentially united to and modifies its host.

So the Jesuit answer to the principle of unity question is that a body and soul are united by a mode of union, which is itself essentially united to body and soul. That tells us about the mechanism or ground of soul-body union, but it does not yet tell us what union is. The Jesuits do not even attempt to analyse the notion of union. That leads me to believe that, for the Jesuits, the concept of union is primitive. That might seem like a problem because if we don't know what union is, then saying that mind and body are united by a mode of union seems like saying that mind and body stand in a *sui generis*, primitive relation and that they do so because of a mode specially posited to get them into that relation. This appeal to a primitive relation seems little better than saying that it's a brute fact that mind and body are united and compose a human.

But things are not hopeless. Although the Jesuits do not provide an analysis of union, they do give us enough information to form an idea of what union is. In the first place, they provide metaphors. Union is described as a tie, a chain link, and a clamp [*nexus*, *vinculum*, and *uncus*; Suárez, DM 15.3.11/XXV 516a; Arriaga, *Cursus* 339a53]. Ties, links, and clamps are physical fasteners. The mode of union does not fasten things together in a physical way, like a chain. It seems that union is a kind of metaphysical fastening, understood on analogy with physical fastening.

Another way to get a grip on the notion of union is by extension of the relationship between things and their properties. My properties follow me around, even though my properties are distinct from me. That's not a cosmic coincidence. The Jesuits thought that one's properties follow one around because they are somehow attached to one. If you understand what is meant by saying that my properties are attached to me, you understand the kind of metaphysical fastening by which a soul is fastened to a body, since properties are supposed to be united to their bearers in the same way in which a soul is united to a body.

So when the Jesuits say that the soul and the body are united by a mode of union, they mean that the mind and body are metaphysically fastened together by a mode. This metaphysical fastening is a primitive notion that can be understood on analogy with physical fastening, and it's the same sort of fastening that binds together a substance and its modes and accidents.

The idea that a mode of union is responsible for uniting matter and form in a human being was the dominant Jesuit view. This is clear from a survey of texts and from Jesuit testimony. Pedro Hurtado de Mendoza (1578–1641) has a section of a disputation on matter and form titled 'What is union? And is it distinct from its extremes?' Hurtado

answers this question as follows: 'I say secondly that the union is distinguished really and modally from united extremes. This is the more common opinion of the Doctors ... it is now the most accepted opinion' [*Universa philosophia* 193a5]. To say that the union is distinguished modally from the united extremes is to say that it is a mode of the united extremes.

Francisco Oviedo (1602–1651) also has a disputation on matter-form union, one section of which is titled 'What is the union of a substantial composite?' He describes his view like this [*Cursus, tomus primus*, 165a3]:

The fifth opinion holds that a union is a certain substantial mode, modally distinct from matter and form ... This is the opinion of Vazquez ... Suárez ... Hurtado ... Arriaga, and nearly all the moderns and many ancients cited by Suárez.

From my survey of seventeenth-century scholastic texts, it appears that the vast majority of post-Suárez Jesuit philosophers endorse the mode of union as the means by which matter and form are united in a hylomorphic compound. In addition to Suárez, Arriaga, Hurtado, and Oviedo, Jesuits who endorse the mode of union view include Thomas Compton Carleton [*Cursus* 264b1], Luis de Losada [*Cursus* 237b17], Richard Lynch [*Universa* 46a17], Francisco Peinado [*Phys.* 126a28], and Bernaldo de Quiros [*Opus* 289b12]. The lone dissenter whom I have found is Giuseppe Polizzi. He notes that the mode of union is endorsed 'Suárez and other Spaniards who cite and follow Suárez with the greatest applause' [*Tomus secundus* 116b23]. For the dissenting opinion, he cites 'almost all Thomists' but no Jesuits [*ibid.*: 116b24].

My proposal is that Descartes thinks that the mind and body are united by a mode of union: that is, the mind and body are metaphysically fastened together by a mode whose job is to metaphysically fasten things together. My case for attributing the mode of union to Descartes is that he explicitly endorses the mode of union view in his letter to Regius, he attributes that view to 'everyone', and almost all the Jesuits do endorse that view.

Moreover, the mode of union view passes both of our tests. Recall that the sailor-in-a-ship test demands an explanation of the difference between a mind-body composite and a sailor-ship aggregate. The difference is that the parts of a mind-body composite are metaphysically fastened together, but the parts of a sailor-ship aggregate are not. This is exactly how Jesuits saw the situation. Here, for example, is Arriaga explaining the difference between a *per se* unity and an accidental unity, like a sailor in a ship [*Cursus* 948b59]:

*Unum per accidens* is sometimes used for something that has several parts without any union but is still called one, like an army, a house, etc. ... *Unum per se* is sometimes used for something indivisible, or even for something composed of parts, as long as they are joined by a true union.

Hurtado says something similar. Here he distinguishes between two ways in which the soul might be united to the body [*Universa philosophia* 476b12]:

We have said that the soul is the act of a body. Now we must ask whether it is an assisting act or an informing act. An assistant is that which has no physical union [*unionem physicam*] with the thing it assists, but only proximity [*propinquitatem*] for the sake of moving it, like a sailor with respect to a ship or an intelligence with respect to the heavens. An informing act is that which is conjoined to a subject by a physical union, like whiteness to a wall.

Hurtado sees only two options: either the soul is united to the body by a physical union, by which he means the mode of union, or the soul is united to the body like a sailor to a

ship. The job of the mode of union is to unite things so that they are not like a sailor in a ship.

The mode of union view also accommodates Descartes's claim that sensation depends on mind-body union, which was another common Jesuit claim. Here, for instance, is Hurtado arguing from sensation to mind-body union [*Universa philosophia* 476b15]:

A ship does nothing to allow a sailor to sense [*navis nihil deseruit navarcho ad sentiendum*], nor does the heaven allow an intelligence to understand, although both assist them. Further, unless a form is united to a body, it cannot operate immanently in it, nor will it be able to use intentional species received in an organ.

Rodrigo de Arriaga reports that this is a common argument (and he rejects it in *Cursus* [710b14–711a14]). Regardless of whether the argument is convincing, Jesuits who endorse the mode of union also thought that sensation depends on mind-body union, and this is why the sailor does not feel things in the ship—namely, because the sailor is not united to the ship. My point here is not that the mode of union helps to explain sensation. To be sure, most Jesuit scholastics, like Descartes, thought that mind-body union is required for sensation; but explaining why that is the case would require a paper of its own. For now, my point is that the mode of union view at least accommodates Descartes's claim that sensation depends on mind-body union.

## 5. Objections

### 5.1 The Sincere Objection

The first objection to my interpretation claims that Descartes is not obviously being sincere in his letter to Regius. There he is giving advice on how to quell a controversy, not necessarily representing his own views. Descartes is also flippant about explaining the mode of union when he says 'nobody explains what this amounts to, and so you need not do so either' [AT III 493/CSMK 206]. This shows that he is not being sincere about the mode of union view, and so we should not attribute it to him.

There is some controversy over how seriously we should take the Regius letters as representing Descartes's considered views. It is, of course, impossible to prove that he was being serious in any of his writings, much less in his letters to Regius, but, as noted by Hoffman [1999: 256] and Kauffman [2008: 45], there is evidence that the Regius letters do faithfully represent at least some of Descartes's views. His main piece of advice to Regius is to say that a human being is an *ens per se* [AT III 492–3/ CSMK 206], which is a view that he had already endorsed in the *Fourth Replies* [AT VII 222/ CSM II 156–7]. Further, Descartes indicates that he is providing Regius with his own views. He tells Regius: 'You must say that [the mind and the body] are not united by position or disposition as you assert in your last paper—for this too is open to objection and, *in my opinion*, quite untrue' [AT III 493/ CSMK 206; my emphasis]. Perhaps Descartes is being disingenuous in professing that this is his opinion, but such an assumption seems gratuitous, and it seems clear that he at least sometimes reports his own views in the letters to Regius. We therefore should not discount those letters simply on the ground that their purpose is to advise Regius on how to quell a controversy. Anyone who wishes to discount some of Descartes's claims in the Regius letters owes us an explanation of which claims should be discounted, which should not, and on what basis such a distinction is made. For my part, I think

that the most straightforward procedure is to take Descartes's claims in those letters seriously unless there is compelling reason not to do so. Hence, the fact that the mode of union view is presented in the Regius letter is not by itself sufficient ground for discounting it.

What of Descartes's seeming flippancy about explaining what the mode of union 'amounts to'? There is an alternative to reading the relevant passage as indicating insincerity. As we have seen, Jesuits understand the mode of union to be a primitive metaphysical fastener. They do not explain what metaphysical fastening is, nor do they explain how, exactly, a mode of union manages to fasten things. When Descartes says 'no one explains what this amounts to', he is indicating not insincerity but familiarity with the literature. He is telling Regius that he doesn't need to explain how metaphysical fastening works, since the Jesuits do not do so either.

### 5.2 The Thin-Evidence Objection

It might be objected that my evidence for the mode of union view is thin. Only in one place—the 1642 letter to Regius—does Descartes explicitly mention the mode of union. If he endorsed the mode of union view, surely he would have mentioned it elsewhere, including perhaps in his exchange with Elizabeth on mind-body union.

Of course, no one can provide conclusive reasons why Descartes does not mention the mode of union in his correspondence with Elizabeth. But one possible reason is that her worry in that exchange is not about mind-body union (in the sense of composition); instead, it is about mind-body interaction. It is true that mind-body interaction depends on mind-body union, but whether mind and body are united by a mode or something else is orthogonal to Elizabeth's question about interaction.

Descartes also tells Elizabeth why he shies away from discussing mind-body union [AT III 664–5/ CSMK 217–18]:

There are two facts about the human soul on which depend all the knowledge we can have of its nature. The first is that it thinks, the second is that, being united to the body, it can act and be acted upon along with it. About the second I have said hardly anything; I have tried only to make the first well understood. For my principal aim was to prove the distinction between the soul and the body, and to this end only the first was useful, and the second might have been harmful.

According to this passage, Descartes's main aim has been to prove the distinction between the soul and the body. Discussing mind-body union undermines this effort because, as he writes later, 'to conceive the union between two things is to conceive them as one single thing' [AT III 692/CSMK 227]. So evidence for Descartes's view of mind-body union is thin because he tries to avoid discussing mind-body union. And he tries to avoid discussing mind-body union because doing so has the tendency to make his audience think that the mind and body are one rather than separate. So, no matter what Descartes's view of mind-body union was, evidence for its being so is bound to be thin.

### 5.3 Straddling Modes

I turn now to philosophical objections, and first the 'straddling modes objection', according to which a mode of union would be a straddling mode—that is, a mode of two substances at once. In *Principles* I.61, Descartes gives us a sign of the modal distinction. He says, 'We can clearly perceive a substance apart from the mode which we say

differs from it, whereas we cannot, conversely, understand the mode apart from the substance' [AT VIIA 29/CSM I, 214]. It seems like this applies to the mode of union. I can understand mind and body apart from their union, but I cannot understand a *mind-body* union apart from mind and body. If that is correct, then the mode of union is a mode of both mind and body.

Scholastics themselves had a vigorous debate over the subject of the mode of union. Some thought that the mode of union was lodged in the soul [Suárez DM 13.9.13/XXV 433a], some in the body [Oviedo, *Cursus, tomus primus*, 174a3], and some in both the body and the soul [Arriaga 351a131]. But I agree that, if Descartes admits a mode of union, there is significant pressure to say that it is a mode of both mind and body, and so I will grant this part of the objection.

But, as far as I can tell, the doctrine of straddling modes is not in conflict with any of Descartes's other commitments. He thinks that a created substance is that which needs only the concurrence of God to exist [*Principles* I.51, AT VIIIA 24/CSM I 210]. He thinks that a mode is a modification of a substance and that it cannot be conceived of without the substance of which it is a mode [*Principles* I.56, 61, AT VIIIA 26, 29/CSM I 211, 214]. As far as I can see, neither of these commitments is inconsistent with the doctrine of straddling modes.

And it is a good thing that the doctrine of straddling modes is consistent with Descartes's other commitments, since he explicitly commits himself to straddling modes. He says, for example, 'When two bodies are in mutual contact there is a single boundary common to both which is a part of neither; *it is the same mode of each body*' [AT VII 434/CSM II 292; my emphasis]. Here Descartes states that the boundary between contiguous bodies is a mode of each body—a straddling mode.

So Descartes is clearly committed to straddling modes. But it might be objected that a boundary is a mode that straddles two bodies, while the mode of union straddles a body and a mind. Call such a mode 'psychophysical'. Maybe there is something especially problematic about psychophysical modes.

### 5.4 Psychophysical Modes

In the seventeenth century, Pedro Hurtado de Mendoza raised what is probably the most cogent worry about psychophysical modes [*Universa philosophia* 207b120]. He argued that properties of extended objects are extended and properties of non-extended objects are not extended. So if a single union inhered in both matter and soul, it would be both extended and non-extended. In the Cartesian context, we can say that any psychophysical mode is both a mode of extension and a mode of thought. Since thought is not extended, any psychophysical mode is both extended and non-extended.

Rodrigo de Arriaga thought that the mode of union is a psychophysical mode. He responds to Hurtado's objection by flat-footedly denying that being spiritual is a matter of not having spatial extension [*Cursus* 716b46]. He concludes that (i) the mode of union is spiritual, since it modifies a soul, and (ii) it has extension. As far as I can see, the same move is open to Descartes: he should deny that a mode of a non-extended thing is non-extended. A mode is something that can't be conceived of apart from its host. So, if Descartes thinks that a mode of a non-extended thing is extended, he's committed to the claim that something extended cannot be conceived of apart from something non-extended. But there's nothing incoherent about that. So Descartes can maintain that the mode of union is extended, even if it is a mode of



the soul. In that case, Descartes has a response to Hurtado's psychophysical mode objection, a response that was circulating in Jesuit discussions of the mode of union, and there seems to be no objection in principle to psychophysical modes.

### 5.5 The Accidental Unity Objection

Another objection to the mode of union was raised by Hoffman against his own trialist interpretation. He writes [1986: 364]:

Since the hylomorphic complexes of Scotus, Ockham, and Descartes contain components which can exist apart from the others, it would seem to follow that it is only a contingent fact about the components that they are united at all, so the unity would be a mere accidental unity and not a *per se* unity.

Hoffman's argument goes like this:

- (1) A Cartesian/Scotist/Ockhamist mind and body contingently compose a human.
- (2) If parts contingently compose a whole, then the whole is an accidental unity and not a *per se* unity.
- (3) A Cartesian/Scotist/Ockhamist human is an accidental unity, not a *per se* unity.

This conclusion looks bad. Recall that, in scholastic jargon, accidental unity is the kind of unity enjoyed by a stack of pancakes, not a human. Hoffman is baffled by this objection, and he ends his paper aporetically, unable to answer the modal objection.

However, most scholastic philosophers would reject premise 2 of this argument. The distinction between *per se* and accidental unity is a distinction between two kinds of unity, and it is entirely insensitive to the modal profiles of things and their parts. To put it another way, premise 2 entails that *per se* unities exist necessarily. Scholastics thought that things like plants and animals are *per se* unities, but the vast majority of them did not think that things like plants and animals exist necessarily. (A weaker reading of premise 2 would imply that, necessarily, *per se* unities exist if their parts exist. But scholastics also reject that claim: humans fail to exist when their parts (body and soul) are separated, yet scholastics count humans as *per se* unities.) In short, scholastics would reject premise 2 of Hoffman's objection as resting on a misunderstanding of the notion of accidental unity. Hoffman seems to mistakenly conflate accidental unity and contingent unity.

## 6. The Kind Question

I conclude that, since Descartes explicitly endorses the mode of union view, and there is no reason not to attribute it to him, we should attribute it to him. We therefore have an answer to the elusive principle of unity question.

I started by highlighting the importance of the principle of unity question for the kind question. I'll end by explaining where things stand with respect to the kind question. Recall that there are, broadly, four kinds of answers to the kind question:

- (1) Trialism: Humans are substances.
- (2) Individualism: Humans are 'Cartesian composites'—more than aggregates but not substances.

- (3) Sailor-in-a-ship-ism: Humans are aggregates.
- (4) Nihilism: Humans do not exist.

I think that we can now rule out sailor-in-a-ship-ism and nihilism. Descartes clearly thinks that humans exist and are more than mere aggregates. We can now see how he can substantiate that view: humans are more than mere aggregates because, unlike aggregates, their parts are metaphysically fastened together.

That leaves trialism and individualism. We saw earlier that one of the main objections to the idea that humans are substances was that Descartes could not account for how mind and body compose a substance. We can now set aside that objection. Descartes can say that any two substances united by a mode of union compose a further substance. As far as unity goes, Descartes is entitled to both trialism and individualism. There is a large literature on the debate between trialism and individualism, and I can't settle that debate here. Whether trialism or individualism is correct, Descartes seems entitled to maintain the existence of humans, and this seems like good news for his system.<sup>6</sup>

## Disclosure Statement

No potential conflict of interest was reported by the author.

## References

- Adams, Marilyn 1989. *William Ockham*, South Bend, IN: University of Notre Dame Press.
- Aquinas, Thomas 1882. *Sancti Thomae de Aquino Opera omnia iussu Leonis XIII P.M. edita*, Romae: Commissio Leonina.
- Arriaga, Rodrigo de 1669. *Cursus philosophicus*, 6<sup>th</sup> edn, Lugduni: Sumpt. Ioannis Antonii Huguetan & Guillielmi Barbier.
- Brower, Jeffrey E. 2014. *Aquinas's Ontology of the Material World: Change, Hylomorphism, and Material Objects*, Oxford: Oxford University Press.
- Brown, Deborah J. 2006. *Descartes and the Passionate Mind*, Cambridge: Cambridge University Press.
- Carleton, Thomas Compton 1698. *Cursus philosophicus universus*, 3<sup>rd</sup> edn, Antuerpiae: Apud Henricum & Cornelium Verdussen.
- Cottingham, John 1985. Cartesian Trialism, *Mind* 94/374: 218–30.
- Descartes, René 1964. *Oeuvres de Descartes*, ed. Charles Adam and Paul Tannery, Paris: Vrin.
- Descartes, René 1984–5. *The Philosophical Writings of Descartes*, ed. and trans. John Cottingham, Robert Stoothoff, and Dugald Murdoch, Cambridge: Cambridge University Press.
- Descartes, René 1991. *The Philosophical Writings of Descartes*, ed. and trans. John Cottingham, Robert Stoothoff, Dugald Murdoch, and Anthony Kenny, Cambridge: Cambridge University Press.
- Hoffman, Paul 1986. The Unity of Descartes's Man, *The Philosophical Review* 95/3: 339–70.
- Hoffman, Paul 1999. Cartesian Composites, *Journal of the History of Philosophy* 37/2: 251–70.
- Hughes, Christopher 1998. Matter and Actuality in Aquinas, *Revue Internationale de Philosophie* 52/204: 269–86.
- Hurtado de Mendoza, Pedro 1624. *Universa philosophia*, Lugduni: Sumpt. Ludovici Prost.
- Kaufman, Dan 2008. Descartes on Composites, Incomplete Substances, and Kinds of Unity, *Archiv für Geschichte der Philosophie* 90/1: 39–73.
- Kretzmann, Norman 1999. *The Metaphysics of Creation: Aquinas's Natural Theology in Summa Contra Gentiles II*, Oxford: Clarendon Press.

---

<sup>6</sup> As always, I owe special thanks to Martin Pickavé and Marleen Rozemond for commenting on multiple drafts of this paper. I presented this paper at the University of Groningen in June of 2018 and at the University of Massachusetts, Amherst in February 2019. Thanks to both audiences for helpful feedback. I also owe thanks to two anonymous referees for comments that led to definite improvements of the paper.

- Losada, Luis de 1730. *Cursus philosophici secunda pars*, Salamanca: Ex Typ. Eugenii Garcia.
- Lynch, Richard 1654. *Universa philosophia scholastica tomus secundus*, Lyon: Sumpt. Philippi Borde, et al.
- Maritain, Jacques 1932. *Le Songe de Descartes*, Paris: R.A. Corr ea.
- Maritain, Jacques 1944. *The Dream of Descartes*, trans. Mabelle Louise Cunningham Andison, New York: The Philosophical Library.
- Normore, Calvin 2011. Cartesian Unions, *Midwest Studies in Philosophy* 35/1: 223–39.
- Ockham, William 1974. *Opera philosophica*, ed. Philotheus Boehner, Gedeon G al, and Stephanus Brown, St. Bonaventure, NY: Franciscan Institute.
- Oviedo, Francisco 1651. *Cursus philosophicus ad unum corpus redactus, tomus primus*, 2nd edition, Lugduni: Sumpt. Philippi Borde, Laurentii Arnaud, & Claudii Rigaud.
- Pasnau, Robert 2002. *Thomas Aquinas on Human Nature: A Philosophical Study of Summa Theologiae, 1a 75–89*, Cambridge: Cambridge University Press.
- Pasnau, Robert 2011. *Metaphysical Themes: 1274–1671*, Oxford: Oxford University Press.
- Peinado, Francisco 1680. *Disputationes in octos libros physicorum Aristotelis*, Complutum: Sumptibus collegii Complutensis Societatis Jesu, Apud Franciscum Garcia Fernandez.
- Perler, Dominik 2016. Human Being, in *The Cambridge Descartes Lexicon*, ed. Lawrence Nolan, Cambridge: Cambridge University Press: 369–79.
- Polizzi, Giuseppe 1676. *Philosopharum disputationum tomus secundus*, Panormi: Typis Caroli Adamo.
- Quiros, Bernaldo de 1666. *Opus philosophicum*, Lyon: Sumpt. Philippi Borde et al.
- Radner, Daisie 1971. Descartes' Notion of the Union of Mind and Body, *Journal of the History of Philosophy* 9/2: 159–70.
- Rozemond, Marleen 1998. *Descartes's Dualism*, Cambridge, MA: Harvard University Press.
- Schmaltz, Tad M. 1992. Descartes and Malebranche on Mind and Mind-Body Union, *The Philosophical Review* 101/2: 281–325.
- Schmaltz, Tad M. 2002. *Radical Cartesianism: The French Reception of Descartes*, Cambridge: Cambridge University Press.
- Simmons, Allison 2017. Mind-Body Union and the Limits of Cartesian Metaphysics, *Philosopher's Imprint* 17/14: 1–36.
- Su arez, Francisco 1856–78. *Opera omnia*, ed. Charles Berton, 28 vols, Paris: Luis Viv es.
- van Inwagen, Peter 1987. When Are Objects Parts? *Philosophical Perspectives* 1: 21–47.
- Voss, Stephen 1994. Descartes: The End of Anthropology, in *Reason, Will and Sensation: Studies in Descartes's Metaphysics*, ed. John Cottingham Oxford: Clarendon Press: 273–306.
- Wilson, Margaret Dauler 1978. *Descartes*, London: Routledge & Kegan Paul.
- Wippel, John F. 2000. *The Metaphysical Thought of Thomas Aquinas: From Finite Being to Uncreated Being*, Washington, DC: The Catholic University of America Press.
- Yandell, David 1999. Did Descartes Abandon Dualism? The Nature of the Union of Mind and Body, *British Journal for the History of Philosophy* 7/2: 199–217.