

Descartes, Mind-Body Union, and Holenmerism

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For many critics of Descartes's dualism, its most important problem derives from the question of mind-body interaction. Some have charged that mind-body interaction violates Descartes's own causal principles, according to which the cause must contain at least as much reality as the effect; others have raised the question how such interaction is compatible with Descartes's law of the conservation of motion. Descartes was prompted to address the problem, however, by the less theory-bound, more intuitive worries raised by his interlocutors. Thus the Princess Elisabeth asked Descartes to explain to her:

how the soul of man can determine the spirits of the body to produce voluntary actions ([the soul] being merely a thinking substance). For it seems to me that all determination of movement happens by the moved object being pushed, by the way in which it is pushed by what moves it, or by the qualification and shape of the surface of the latter. Touch is required for the first two conditions, extension for the third. You completely exclude the latter from your notion of the soul, and the former strikes me as incompatible with an immaterial thing. (AT III 661)

Elisabeth's question was this: how can an immaterial, nonextended entity produce effects in an extended entity, or, to be more precise, how can it produce or affect bodily motions? She claimed that Descartes's exclusion of extension from the nature of the soul was an obstacle to understanding the action of mind on body.

Descartes responds that so far he had neglected the union of mind and body, which needs to be addressed in view of the question of interaction. He proceeds by explaining that we have four types of primitive notions “which are, as it were, originals on the pattern of which we form all our other knowledge.” One of these is the following: “for soul and body together we have only the notion of their union on which depends that of the force that the soul has to move the body and the body to act on the soul, causing its feelings and passions” (AT III 665/CSM III 218). He proceeds to argue that, erroneously, we have used this notion for what he calls “real qualities,” such as heaviness and heat. He explains how we use this notion, which really applies only to mind-body union and interaction, to think about how heaviness moves a body toward the earth. When we do so, he argues, “we have no trouble conceiving how it moves the body nor how it is joined to it; and we do not think that this happens by real touch of one surface against another, for we experience, in ourselves, that we have a specific notion for conceiving this” (AT III 667/CSM III 219). And Descartes refers Elisabeth to the Sixth Replies, where he had explained the analogy with heaviness in more detail. There he argued, among other things, that the mind is coextended with the body “whole in the whole and whole in any of its parts” (AT VII 442/CSM II 298). And later Descartes encourages Elisabeth to attribute to the mind matter and extension, albeit in a special sense, suggesting that this amounts to conceiving their union.¹ The idea that the soul is whole in the whole and whole in the parts of the body expresses the view Henry More referred to as *Holenmerism* and I will adopt More’s term.²

The *holenmerian* claim has puzzled Descartes’s interpreters. For instance, Margaret Wilson wonders “why Descartes should feel impelled to get involved in the obfuscating talk about heaviness, or about coextensiveness.”³ And she argues that this talk is in tension with what she calls the *Natural Institution* view, Descartes’s view that the mind or soul interacts with the body at the pineal gland in accordance with correlations between mental and physical states established by God. Nevertheless, while considerable attention has been lavished in recent decades on Descartes’s treatment of mind-body union and interaction, little effort has been made to get clear about his *Holenmerism*.⁴ In this paper I wish to fill the gap.

Holenmerism already had a long history before Descartes and goes back at least as far as Plotinus.⁵ I will survey two different contexts in Aristotelian scholasticism in which the view was used and that resonate with Descartes’s *Holenmerism*: (1) discussion of the action of spiritual substances, in particular God, on bodies, and (2) discussions of the union of body and soul as substantial form in the Aristotelian sense (section 1). I will then turn to Descartes’s use of the *holenmerian* picture and argue that there are also two different uses of the picture in Descartes, which correspond to the two uses found in scholasticism (section 2).⁶ I will examine these two uses in detail

(section 3) and I will conclude by briefly examining the relationship between Descartes's Hologenmerisms and hylomorphism.

The interpretation I offer succeeds in making clear what most, although not all of Descartes's Hologenmerism means. I will argue that what we can understand fits comfortably into his other views of mind and body. And I will argue that we cannot use Descartes's Hologenmerism to attribute to him, as some have done, an Aristotelian, hylomorphic conception of the union of mind and body, that is, the view that the union should be understood in virtue of the soul being the form of the body. The comparison with the scholastics will help make sense of Descartes's use of Hologenmerism in answering questions about interaction, but unfortunately, neither the scholastic nor the Cartesian version of Hologenmerism really answers Elisabeth's question: that is, Hologenmerism does not really help understand *how* mind-body interaction works.

I. HOLENMERISM AMONG THE SCHOLASTICS

There are two different contexts where we find applications of Hologenmerism among the Scholastics. In both contexts the Scholastics were addressing questions about how spiritual substances relate to bodies while being indivisible entities, unlike bodies. One of these concerns the action of spiritual substances—God, angels, and human souls, but especially God—on bodies; the other is the context of the hylomorphic union of the rational soul to the body.

In scholastic discussions we find extensive treatment of the question of how we should understand God's presence in the world: where is God, and what is the nature of his presence? As is often the case, Francisco Suárez offers a thorough and clear discussion of the issue. He lists quite a range of views: they include views reported by Aristotle to the effect that God is at the circumference of the heavens or at their center, and the view that God resides in heaven and rules from there like a king or duke. Averroes, he writes, deemed *puerilem* "the opinion of those who have thought that God is in all things" (DM XXX.VII.2).⁷ But according to Suárez "it can be demonstrated by natural reason that God is immense and consequently that he is everywhere" (DM XXX.VII.3). Crucial was the belief that God acts, or can act, anywhere in the world. The question was then whether this fact requires that God is in some sense antecedently present in the world at the location of a particular action. There was disagreement over this issue, with Aquinas and others defending the view that God was so present:

Thomas taught the former view at ST I.8 art.1, where he argued that from God's universal influx and action it follows that God is everywhere really and intimately present in all things. For every

agent must be joined to the patient on which the agent acts.
(Ibid.)

This is the view Suárez himself adopts. But he reports that Scotus, Ockham, and Gabriel Biel were lined up on the other side, arguing that the conclusion had not been established. They accepted what was sometimes called a mere extension of power, and More called it Nullibism. Suárez' discussion is rich and complex, and its details need not detain us here. But let me give an example. One argument Suárez cites relies on the principle that every agent must be joined to the patient on which the agent acts. The question is, Suárez writes, whether this principle really applies to God or only to finite agents. He concludes the principle applies to the "*ratio agendi*" as such, and is not dependent on issues of finitude (DM XXX.VII.12).⁸

The presence of the divine substance in creatures Suárez labels "whole in the whole and whole in the singular parts—*tota in toto et tota in singulis partibus*." This type of presence characterizes God but also angels and the rational soul (DM XXX.VII 44). Indeed, Suárez argues that it pertains to God on the ground that it pertains to the rational soul, and, being a more perfect mode of presence, must also belong to God. It is a mode of presence characteristic of spiritual substances. He then compares how this type of presence works for God as opposed to other types of such substances. An important difference is that God is always present everywhere, whereas created spiritual substances are not present everywhere but confined to specific parts of the physical world. Thus, for instance, the human soul is whole in the whole and whole in the parts of the human body.

So God is present everywhere in the physical world, but it is not the case that parts of God are present in different parts of the world. God is simple. So he is present as a whole in every part of the world. What was crucial was to define a sense of presence that would not assimilate God and other spiritual substances to bodies and preserve his indivisibility, indeed, his simplicity. But it is perhaps not so clear what the positive meaning of this presence is. Just how is it different from a mere extension of power?⁹ Suárez does not explain, nor have I found others doing so.

(2) Let us now turn away from God and other spiritual substances to the hylomorphic union of body and soul and Hologenism in the scholastics. There were different types of souls for the scholastics: not just human beings, but animals and plants too had souls and all had the status of substantial form. Some souls were considered to be divisible and others not. And again this question of divisibility is fundamental to the question of Hologenism.¹⁰ The souls of plants and imperfect animals are "divisible according to their integrating parts and quantitative extension." Human souls were regarded as indivisible, and there was controversy about the souls of the higher animals. The divisibility of the souls of plants and lower animals was illustrated by

various phenomena: in the case of plants the fact that a cutting from a tree can live and produce foliage; in the case of lower animals the example of a worm that continues to manifest life after being cut (Suárez, *De anima*, I.XIII, 2, 3, Coimbra Commentators, *De anima*, 2c1qu.8 p.107).¹¹ Divisible, extended souls are in their bodies “the whole form in the whole and part in the part—*tota forma in tota, pars in parte*” (Suárez, *De anima* I.XIV.2). And so when a living thing with a divisible soul is divided, the soul is divided, and different parts of the soul stay with different parts of the original body. This explains why the branch continues to live, and the worm continues to wriggle. An indivisible soul, however, is *tota in tota et tota in qualibet parte*—whole in the whole and whole in any part (DA I.XIV.9).

But there are complications. Like Aquinas, Suárez distinguished between several senses in which the holenmerian picture might apply, depending on the sense in which we are talking about the “totality of a form” (*De anima* I.XIV.9. See Aquinas, *Quaestiones de anima* X, for a very similar discussion). The first sense concerns the totality of essence “which arises from the composition of genus and differentia.” In this sense divisible forms are also “*tota in toto, et tota in qualibet parte*, because the whole essence of a form is in any part of the form.” The second sense concerns the totality of the powers of the soul: a hylomorphic soul endows its body with a range of powers. In this respect the intellectual soul is not whole in the whole and in the parts, because each of the relevant powers, say, sight, hearing, is located in a particular part of the body to the exclusion of others. And Aquinas notes that since the intellect is not located in the body at all, the intellectual soul is in this sense not even whole in the whole body (*Questiones de anima* X ad 8). The third sense concerns the totality of quantity; divisible souls are part in the part, but “since indivisible souls have no parts, their totality is entitative and in this sense [indivisible souls] are said to be whole in any part that they inform.” Suárez illustrates the point by claiming that when an arm is cut off the soul remains in the rest of the body in the same way (*De anima* I.XIV.9, 10), a point similar to one we will see Descartes make. The human soul in its entirety makes the human body a living being, by informing, being present in, the entire body as well as informing and being present as a whole in each of its parts. It is this third sense of Hologenmerism that is distinctive of the human soul among forms. While the human soul has a variety of powers each of which it exercises in different parts of the body, it does not have parts that can be separated from each other. When a worm is cut up different parts of its soul go with different parts of its body, but nothing of the sort can happen with an indivisible soul.¹² When you amputate a human limb, there is no part of the soul that pertains specifically to that limb and that you cut off with it.¹³

Another way of explaining the idea is by means of Aquinas’s example of whiteness (*Quaestiones de anima* X, ST I 76.8). The human soul is like

whiteness in the following two senses. Each part of a white surface is equally white and so in terms of Suárez' totality of essence whiteness is whole in the whole and whole in each part. But parts of the white surface cannot reflect as much light as the whole and so in terms of the totality of power the whiteness is whole in the whole but not whole in the parts, as is also the case with the human soul. The difference between whiteness and the human soul lies in totality of quantity: the whiteness is whole in the whole and part in the parts. When we cut up the white object each part continues to be white and the whiteness is divided up, thus demonstrating that the whiteness was distributed over the body.

It is worth pausing over what connects the two discussions of Hologenmerism for human souls and spiritual substances: they seem to focus on different issues, but both apply Hologenmerism to the human soul. And both are concerned to address this question: how can a spiritual substance relate to bodies, in Descartes's words, extended substances? One question concerns the action of spiritual substances on corporeal substances, the other the hylomorphic union of the rational soul to the human body. But we saw that Suárez united them: he argued from Hologenmerism for the human soul to Hologenmerism for God. And Hologenmerism for the human soul he connected to the idea of the soul being the form of the body, not to its action on the body. So presumably Hologenmerism means the same in both contexts. And whatever separates these two discussions, the crucial point they have in common is this: they wish to provide an answer that does not attribute to a spiritual substance what Descartes would call "real extension—*veram extensionem*" (letter to More, February 5, 1649, AT V 269/CSM III 361). They wished to avoid extension as it belongs to matter, which has *partes extra partes*, parts that exist outside each other, a sense of extension that implies the possibility of divisibility into parts, and that characterizes all bodies.

II. HOLENMERISM IN DESCARTES: TWO VERSIONS

In Descartes we also find two uses of Hologenmerism. One of these he offers in the heaviness analogy when answering questions about mind-body interaction. The other one has nothing to do with interaction, but evokes aspects of the hylomorphic conception of the union of body and soul. But before delving into Descartes's Hologenmerism, it is important to get clear about its precise role in his thought about mind-body union. We must distinguish the issues it is meant to address from several other issues about the union to which Descartes did not apply the hologenmerian picture:

(1) One question we will not be concerned with is this: in what sense do mind and body together constitute a single, unified entity, such that Descartes is

willing to call it an *ens per se*? This question, which concerns the question of the *unity* of the human being, is a different one from the union between mind and body as it concerns interaction. For instance, two things, say my computer and my printer, can be united so that they can interact without thereby constituting a single, unified entity. Similarly, one may think that body and soul are united so that they interact without being unified into a single entity.¹⁴ Descartes addresses the question of the unity on a number of occasions, but he never uses holenmerian language to address it and neither did the scholastics. And so I see no reason to think Hologenmerism contributed for him to an answer to that question.¹⁵

(2) Nor will we be concerned with Descartes's defense of his claim that mind and body are *intimately* or *closely* united. Many interpreters have thought that the close union of mind and body consists in interaction for Descartes. I have argued at length elsewhere that Descartes defends that claim on the basis of observations not about mind-body interaction, but about the *content* of sense perception.¹⁶ In Meditation VI and elsewhere he argues that he, his mind, is closely united to the body on the ground that instead of having only purely intellectual perceptions we also have qualitatively different kinds of states, sensory states—internal sensations such as hunger, thirst, pain, as well as external sensations, such as sensations of color, flavor, sound. As I noted, we will find two rather different uses for Hologenmerism in Descartes, which correspond to the two uses in scholasticism that we found. One of these concerns mind-body interaction. But Descartes never uses Hologenmerism to defend the closeness of the union.

One may well think that it is not possible to pry apart Descartes's treatment of the qualitative nature of sensation and the holenmerian picture in this way. After all, when Descartes defends the close and intimate union on the basis of the qualitative nature of sensation in Meditation VI, he writes that sensation indicates that the soul is "united very closely and as it were *intermingled* with the body" (AT VII 81/CSM II 56). Doesn't this suggest the holenmerian picture, by suggesting that the mind is mixed in with the entire body? Not so. In the Sixth Replies Descartes explains that sense perception starts with mechanical processes in the body; next we get "what results immediately in the mind due to the fact that it is united to the body so affected, and such are perceptions of pain, tickles, thirst, hunger, color, sound, flavor, odor, heat, cold and the like, which in the Sixth Meditation were said to arise from the union and as it were intermingling of the mind with the body." Only a few lines down he writes that these perceptions arise from "the fact that the mind is so intimately united with the brain—*mens cerebro tam intime conjuncta sit*" (AT VII 437/CSM II 295; see also Principles IV 189).¹⁷ So here the mixture analogy is part of the idea that mind and body are intimately united at the brain! But central to the holenmerian picture is the idea of union with the entire body rather than just the brain, and so it must be kept apart from the mixture analogy.

Moreover, on several occasions Descartes's remarks strongly suggest that he did not see the holenmerian picture as contributing to the closeness of the union, by contrast with the mixture analogy. He invokes the heaviness analogy specifically when Elisabeth (and later Arnauld) queries him about the action of mind on body rather than interaction generally. But there are clear indications that the action of mind on body is not, for Descartes, an indication of the closeness of the union, a closeness that goes against outright Platonism about the relationship between mind and body. Thus in the *Discourse* he had written: "it does not suffice that the [rational soul] is lodged in the human body as a pilot in his ship, *unless perhaps in order to move its limbs*, but it must be joined and united to it more closely in order to have, in addition, sensations and appetites like ours, and thus compose a real man" (AT VI 59/CSM I 141, emphasis added). The pilot-ship analogy was a standard way of describing Platonism within the Aristotelian tradition.¹⁸ And much later Descartes wrote to More:

Although I think that no mode of acting belongs univocally to both God and creatures, I think that I find in my mind no idea that represents the way in which God or an angel can move matter that is different from the idea that shows me the way in which I am conscious that I can move my body by means of my thought. (AT V 347/CSM III 375)

So Descartes sees no difference with respect to the action of mind, angels, or God on body.¹⁹ But he clearly wanted to distinguish the union of the mind to the body from the union God or an angel would have to a body: when writing to Regius he explicitly contrasted the close union of the mind to the body to that of an angel to the body (AT III 493/CSM III 206). So the closeness of the union in us does not lie in the action of mind on body.

(3) This clearly leads to a third point. When Descartes uses Hologenmerism in relation to mind-body interaction, he is concerned with the action of mind on body and not of body on mind. Now strictly speaking Descartes does not confine the holenmerian picture to the action of mind on body. When he uses the analogy with heaviness in correspondence with Elisabeth, he proposes it as an answer to the question about interaction in both directions. He answers her query about the possibility of interaction by proposing that we have three types of primitive notions, one of which is the notion of the union of mind and body "on which depends that of the force that the soul has to move the body, and the body to act on the soul, causing its sensations and passions" (AT III 665/CSM III 218). Then he argues that our notion of heaviness is in fact derived from the primitive notion of the union of body and soul. Nevertheless when he uses the analogy with heaviness, he is firmly focused on the action of mind on body, and this is true elsewhere as well when he discusses the heaviness analogy. Besides, the idea of the analogy with

heaviness is that on the relevant conception heaviness is thought to act on the body in the way in which we should think the mind acts on the body. There is no hint of action of the body on mind, or on heaviness here. Indeed, what would the latter mean? Now that rhetorical question ultimately has limited force: after all, Descartes thinks that the idea used in the relevant incorrect conception of heaviness is an idea of mind-body union. He allows for mind-body interaction in both directions,²⁰ and as I just noted, he suggests that the primitive idea of the union underlies our grasp of interaction in both directions. Nevertheless, it would seem that the analogy is useful only to illuminate action of mind on body, given that surely we don't think of the body as acting on its heaviness.²¹ So while in principle Descartes allows the idea underlying the analogy with heaviness to address both directions of interaction, he actually uses that analogy only for the action of mind on body.

Having set aside these other questions that will not concern us, let us now turn to the two applications of Hologenmerism we do find in Descartes.

(1) *The heaviness analogy.* Descartes first introduces Hologenmerism in the Sixth Replies with the analogy with heaviness—although there it is not introduced with a focus on mind-body union and interaction, but in the context of a discussion of notions that, according to Descartes, mix mental and corporeal elements. The Sixth Replies contain the most extensive discussion of the analogy and it is the only place where Descartes explicitly uses full-fledged hologenmerian language:

I conceived of heaviness as some real quality, which inheres in a solid body; I called it a *quality*, insofar as I referred it to bodies in which it inhered, but because I added that it is *real*, I really thought that it was a substance: in the same way clothing, considered in itself, is a substance, although when it is referred to a clothed man, it is a quality. And the mind also, even though it really is a substance, can yet be called a quality of the body to which it is joined. Although I imagined heaviness to be spread through the entire body which is heavy, I did not, however, attribute the same extension to it which constitutes the nature of body. For the real extension of body is such that it excludes any penetrability of parts; but I thought that there is the same amount of heaviness in a mass of gold or some other metal of one foot as in a piece of wood of ten feet; indeed, I thought that it can all be contracted to one mathematical point. I also saw that while heaviness remains extended throughout the heavy body, it could exercise its whole force in any part of it; for if the body were hung from a rope attached to any of its parts, it would pull the rope down with all its heaviness, just as if this heaviness was only in the part touching the rope instead of also being spread through the other parts. This is exactly the way in which I now understand the mind to be co-extended with the body: whole in the whole, and whole in any of its parts. But what makes it especially clear that my idea of heaviness was taken partly from the idea I had of

the mind is the fact that I thought it carried bodies towards the center of the earth, as if it had some cognition of it within itself. For this surely could not happen without knowledge, and there can be no knowledge except in a mind. Nevertheless, I attributed to heaviness various other things which cannot be understood about the mind in the same way, for example, being divisible, measurable, and so on. (AT VII 441–42/CSM II 297–98)

Descartes returns to the heaviness analogy in his correspondence with Elisabeth in 1643 (AT III 667/CSM III 219) and again much later in a letter to Arnauld (July 29, 1648, AT V 222–23/CSM III 358). On both of these occasions he is concerned to explain mind-body interaction, but on neither of these occasions does he explain the special sense of extension he attributes to the mind proposed in the Sixth Replies. Only in the Sixth Replies, where he is not focused on explaining interaction, does he use the analogy to claim explicitly that we must think of the mind as whole in the whole and whole in the parts. This raises the question whether Holenmerism is meant to be part of what is helpful in the heaviness analogy for grasping interaction. But a later letter to Elisabeth confirms that it is. Descartes encourages Elisabeth to think of the mind as extended, and that this would amount to conceiving of its union with the body. This would be a special sense of extension, he argues, because the extension of matter “is of a different nature from the extension of thought in that the former is determined to a particular location, from which it excludes all other extension of body, which is not so in the case of the latter” (AT III 694/CSM III 228).

So the purpose of the analogy with heaviness is to address questions about mind-body interaction, and it is focused on the action of mind on body. But now *how* does Descartes think this analogy helps explain such interaction? Before we explore this question, we should first become clear about how the analogy is supposed to work, given that he complains that the relevant notion of heaviness involves confusion. Descartes cites two confusions: (a) The notion of heaviness at issue is the notion of a real quality, which means that we think of it as a substance and a quality at the same time. This is contradictory, as substances can exist *per se*, in themselves. Qualities can't. The latter must exist by inhering in a substance. This confusion we can and should do away with by simply using the primitive notion at issue to think about the mind as a substance (AT III 667–68/CSM III 219; AT V 222–23/CSM III 358; AT VII 441–42/CSM II 297–98). (b) The other confusion is that we think of heaviness as a corporeal entity. Usually Descartes suggests that the primitive notion we are using in fact contains elements that pertain to minds only: the mind's way of being united to and acting on the body: whole in the whole and whole in the parts, and the idea of knowledge implied by the idea that heaviness carries a body toward the center of the earth. On this line of thought this part of the confusion disappears once we cease applying this notion to corporeal phenomena and confine it to its proper

application, the union of the mind to the body (AT III 667–68/CSM III 218; AT V 222–23/CSM III 358). What interests Descartes is the conception of the union and interaction with body that the notion of heaviness suggests.

In the Sixth Replies Descartes writes that the confusion means that we attribute a mixture of mental and physical characteristics to heaviness: the physical ones include divisibility, measurability (AT VII 441–42/CSM II 297–98). So proper use of the analogy requires eliminating some intrinsically corporeal ideas from the notion of heaviness. Most noteworthy is divisibility, since the denial of that feature is central to the use of Holenmerism in scholasticism. It is clear that that feature has to go for Descartes since he regarded the mind as indivisible. It poses no problems for understanding his use of the heaviness analogy since he explains its usefulness relying on elements of the analogy that do not include divisibility.

So now how does Descartes's explanation of this notion by way of the heaviness analogy help understand the action of mind on body by way of a special type of extension? Let me quote again the relevant part:

For the real extension of body is such that it excludes any penetrability of parts; but I thought that there is the same amount of heaviness in a mass of gold or some other metal of one foot as in a piece of wood of ten feet; and so I thought that it can all be contracted to one mathematical point. I also saw that while heaviness remains extended throughout the heavy body, it could exercise its whole force in any part of it; for if the body were hung from a rope attached to any of its parts, it would pull the rope down with all its heaviness, just as if this heaviness was only in the part touching the rope instead of also being spread through the other parts. This is exactly the way in which I now understand the mind to be co-extended with the body: whole in the whole, and whole in any of its parts. (AT VII 442/CSM II 298)

What does this suggest about interaction? It seems to suggest that the mind is extended throughout the body, but can act in any part of it, although Descartes does not explicitly say so—he only says explicitly that heaviness can so act. This is an extremely surprising claim for Descartes to make. For elsewhere he surely suggests that mind and body interact only in a particular location, the pineal gland.²² We have two questions here: (1) What does it mean for the whole soul to be joined to the whole body and extended with it; (2) What should we make of the idea that heaviness can act in its entirety in any part of the body? Rather than answering these questions now, I will first turn to the other form in which Holenmerism manifests itself in Descartes.

In Meditation VI he writes that he, or his mind, is indivisible:

[F]or when I simply consider this, or myself insofar as I am only a thinking thing, I can distinguish no parts in me, but I understand that I am simply one entire thing—*rem unam et integram*.

For although the whole mind seems to be united to the whole body, when, however, a foot or an arm is cut off, or any other part of the body, I know that nothing is therefore taken away from the mind; and the faculties of willing, sensing and understanding etc. can also not be called its parts because it is one and the same mind that wants, senses, understands. On the other hand, no corporeal or extended thing can be thought by me that I do not easily divide into parts in thought, and in this sense I understand that it is divisible. (AT VII 86/CSM II 59)

Descartes is concerned here with exactly the point that concerned the scholastics when they formulated their Hologenmerism: the idea that the human soul is indivisible and is not extended—or, to be precise, is not extended in the sense in which bodies are extended, a sense that implies divisibility into separable parts. Descartes does not now use the full hologenmerian language: he writes that the mind is united to the whole body, but does not claim that it is whole in each of its parts. But his claim that when a limb is cut off no part of the soul vanishes, evokes that part of the hologenmerian picture in scholasticism. Suárez wrote that when a part of the body is cut off, the soul retains its union with the rest of the body. Both have in mind the idea that no part of the soul leaves, and that meant that while the soul is whole in the whole body, it is not in the body by having parts of the soul in parts of the body but by being whole in the parts.

The claim about amputation was absent from the discussion of the heaviness analogy, and now there is an interesting difference between the two passages. In the heaviness analogy the location of mind-body interaction is part of Hologenmerism, that is what supports the phrase *tota in qualibet parte*. This idea is reminiscent of scholastic Hologenmerism as used to explain the action of spiritual substances on bodies. But in the Sixth Meditation Descartes supports the phrase *tota in qualibet parte* with his claim that when a body part disappears no part of the soul disappears. And now he actually states a view that is akin to the scholastic version of Hologenmerism as used in the hylomorphic conception of the union of body and soul, a version that was not concerned with interaction. When the scholastics applied Hologenmerism to the action of God on the physical world, they were not, of course, explaining hylomorphism. God is after all not, for them, the form of the physical world.

But right after he implies Hologenmerism in the Sixth Meditation, Descartes turns to interaction:

Furthermore, I notice that my mind is not affected immediately by all the parts of the body, but only by the brain, or perhaps even by only one very small part of it, that is, by that part where it is said the common sense is located. (AT VII 86/CSM II 59)

Unlike in the Sixth Replies Descartes is now concerned with the action of body on mind, rather than mind on body. More important, he now states his

familiar view that interaction occurs in one particular location rather than suggesting, as the Sixth Replies did, that interaction occurs anywhere in the body—in *qualibet eius parte*.

But if the soul interacts with the body only at the pineal gland, in what sense is the soul supposed to be united to the whole body? The Sixth Meditation tells us why *the soul* as a whole is involved: it is simple and has no parts. But in what sense is the *whole body* its partner, rather than (a part of) the brain, or the pineal gland? A parallel passage in the *Passions* holds, I think, the answer:

But in order to understand all these things more perfectly, it is necessary to know that the soul is really joined to the whole body, and that we cannot properly say that it is in one of its parts to the exclusion of the others, because [the body] is one and in a sense indivisible, because of the disposition of its organs that relate to each other in such a way that when one of them is removed, it renders the entire body defective. And because [the soul] is of a nature that has no relation to extension or to dimensions or other properties of the matter of which the body is composed, but only to the entire organization [*assemblage*] of its organs. This is clear from the fact that we cannot at all conceive of half or a third of a soul or of the extension that it occupies, and that it does not become smaller when a part of the body is cut off, but it separates off entirely when the organization of its organs is dissolved. (*Passions* I.30)²³

Now we can see in what sense the whole soul is joined to the whole body according to the *Meditations* and the *Principles*. Descartes reiterates his claim that the soul is indivisible, and that when a body part is cut off, this does not result in the loss of a part of the soul. This much bears on the idea that the soul as a whole is at stake. But he now also explains that the whole soul is joined to *the body as a whole* because it requires a full-fledged human body as its partner, in the sense of the functional unit. It can't be joined to an isolated brain or pineal gland. If the human body's organization is destroyed so that it can no longer function as a human body, the soul departs. At the same time, Descartes leaves open the possibility of the loss of body parts as in the case of amputated limbs echoing the scholastic idea that the soul is whole in each part of the body.²⁴

So in the *Passions* we find the same sense of Holenmerism as in the Sixth Meditation. And, as in the Sixth Meditation, Descartes quickly, in the next article, turns to his view that interaction—in both directions—takes place in a particular location, now identifying it as “a certain very small gland—*une certaine glande fort petite*.” Here the soul exercises its functions “immediately” from where it “radiates [*rayonne*] throughout the rest of the body by means of the spirits, nerves and even the blood, which, participating in the impressions of the spirits, can carry them to all the other members” (*Passions* I 31,

34). This explanation is clear enough: the soul acts directly on the gland, from where mechanical processes transmit its influence.

So we seem to find two forms of Hologenmerism in Descartes that can be traced to the two forms we found in scholasticism. The heaviness analogy is focused on the action of mind on body and derives from Hologenmerism in scholastic discussions of the action of spiritual substances, especially God, on bodies. Without using the full vocabulary of Hologenmerism, the *Meditations* and the *Passions* suggest a form of Hologenmerism that contains features of another use of Hologenmerism that is not focused on interaction and that evokes a hylomorphic conception of body-soul union. In the last section we will see, however, that this manifestation of Hologenmerism in Descartes does not offer any support for ascribing genuine hylomorphism to him.²⁵

III. THE TWO VERSIONS OF HOLOGENMERISM: PROBLEMS AND SOLUTIONS

Now we might well ask ourselves: how do these two forms of Hologenmerism in Descartes relate to each other? Both versions in Descartes, as in scholasticism, aim to explain the relationship of an indivisible, spiritual substance to extended matter, albeit different aspects of that relationship. But do they do so in compatible ways? I will discuss three issues in this order: the soul being whole in the parts, interaction, and the soul being whole in the whole.

Let me begin with the idea of the soul being whole in the parts, which only requires brief discussion. This idea is used in the heaviness analogy to address interaction. In the *Passions* and the *Meditations* it is not, and it is illustrated by means of the claim that the loss of a bodily limb won't imply the loss of a part of the soul. This claim illustrates the simplicity and indivisibility of the soul. It does not fit into the heaviness analogy. If we cut off a piece of the wood or gold, its weight is reduced. But surely Descartes simply would not want to extend the analogy to this point. He would want to leave out this aspect of weight, just as much as he wants to ignore its measurability, a closely related feature. The heaviness analogy, I would suggest, runs out at this point. And we can see the sense in which the *Meditations* and the *Passions* imply that the soul is whole in the parts as an idea that is not contained in the heaviness analogy but that is not incompatible with the point Descartes tries to convey by means of that analogy.

Interaction poses more of a challenge. The Sixth Replies suggested that the mind can act as a whole on the body anywhere, *tota in qualibet parte*. But elsewhere, including in the *Meditations* and the *Passions*, Descartes claims the soul acts directly only on one part, in particular, the pineal gland. What should we make of this problem? I wish to propose that we read the Sixth Replies in

light of Descartes's usual location of interaction at the gland. Although in the Sixth Replies Descartes implies that the mind can act on the body *anywhere*, what really mattered for him is this: in some sense the mind is united to the whole body, but at the same time it can act as a whole on a particular part of the body. What Descartes says in his analysis of the notion of heaviness is that "if the body were hung from a rope attached to any of its parts, it would pull the rope down with all its heaviness, *just as if this heaviness was only in the part touching the rope instead of also being spread through the other parts*" (emphasis added). I am proposing that the point he really *cared* about is that the soul could act in one part of the body to the exclusion of other parts while being united to the whole. And that idea derives from scholastic Holoism as it was used to explain the action of God in the physical world. God is present in the entire physical world and that is why he can at any time act on a particular part of it. The heaviness analogy suggests the same, but Descartes's restriction to the pineal gland as the locus of interaction for the soul modifies it by switching from the possibility of action on *any* part of the body by the entire soul to its action on one particular part of the body, all while being united to the entire body.

This move allows us to reconcile the Holoism of the heaviness analogy with the *Meditations* and the *Passions*. The heaviness analogy addresses interaction and the Holoism in the *Meditations* and the *Passions* does not, but in both of these works an explanation of interaction as confined to a particular location in the body closely follows. And assuming we accept the restriction of the heaviness analogy to action on a particular location, which happens to be the gland, there is no real conflict.

A more complicated matter is the question of the sense in which the soul is supposed to be whole in the whole body. In the *Passions* we found a very deflationary sense, in which the soul is united to the whole body but not genuinely "in" the body. And there is no detectable sense in which the soul is extended—even in some special sense. In the heaviness analogy the soul is presented as in the whole body in a stronger sense, so that it is coextended with the body and the suggestion is that the soul has some sort of genuine presence in the entire body, not merely that it is united to the entire functional unit. What should we make of this difference?

Relevant is Descartes's correspondence with More, since there he seems to deny that extension for the soul is required for its action on body. More had criticized Descartes's restricting extension to bodies, claiming, "God, an angel, and any other thing subsisting *per se* is an extended thing" (December 11, 1648, AT V 238). Descartes responds as follows:

I deny that real extension—*veram extensionem*—as it is ordinarily understood by everyone is found in God, or in angels or in our mind, or in any substance that is not a body... But I understand them as certain powers or forces—*virtutes aut vires*—which,

although they apply themselves to extended things, are not therefore extended; just as although fire is in red-hot iron, that fire is not therefore iron. (February 5, 1649, AT V 269–70/CSM III 361)

And later he writes that God does not exist anywhere: “by reason of his power he is everywhere but by reason of his essence he has no relation to place,” and the soul “does not expand or shrink spatially with respect to its substance, but only with respect to power, which it can apply to larger and smaller bodies” (April 15, 1649, AT V 343, 347/CSM III 373, 375).²⁶ Descartes now seems to adopt what More called “Nullibism,” indeed, he termed Descartes the “Prince of Nullibists,” and thought he assigned no extension at all to spiritual substances so that he was really on the side of Scotus.²⁷

But there is reason to believe that Descartes is not really departing from his Hologenism. More objected in a later letter, of July 23, 1649, that it is contradictory to say that “the power of the mind is extended while the mind itself is not extended in any way. For it is clear that since the power of the mind is an intrinsic mode of the mind, it cannot be outside the mind itself” (AT V 379). In a letter More never received, Descartes responds:

I said that God is extended by reason of his power, because that power exerts itself, or can exert itself in *res extensa*. And it is certain that God’s essence must be present everywhere so that his power can exert itself there. But I deny that it is there in the way of an extended thing, that is, in that way in which earlier I described *res extensa*. (August 1649, AT V 403/CSM III 381)

So Descartes’s point seems to be really only to deny the type of extension that pertains to bodies (although I find it difficult to dispel the impression that Descartes is in some sense struggling with the issue). And indeed, that is what he had suggested at the beginning of the discussion with More: he denied *veram extensionem* for spiritual substances. Consequently the exchange with More does not relieve us of the need to find an explanation of the sense in which the soul is coextended with the body as proposed by the Sixth Replies.

One possibility appeals to a sense of Hologenism we have not discussed yet but that can also be found in its long history. Descartes thought that we experience the union with the body in everyday life. Perhaps what he had in mind is the phenomenology of the union. Henry More wrote that one argument for Hologenism is that the soul immediately perceives what happens in any part of the body. And Augustine said that the whole soul perceives whatever happens in any small part of the body.²⁸ The idea here is the following intuitive one: when I feel pain I feel it directly as if in my foot; when my finger itches, I feel the itch as if in my finger. It feels as if the conscious experience occurs right in the various bodily parts. And Descartes himself suggests in Meditation VI that the *whole* soul senses, wills, and understands. So Descartes may have in mind the idea that the whole soul has the relevant

sensations in the various body parts. Similarly, when I want to rub my foot or scratch my finger, it feels as if the volition directly results in the relevant actions rather than as the result of the soul acting on the gland from which mechanical processes radiate out to my foot or hand.

But this cannot be what Descartes had in mind when responding to Elisabeth's question, since for him this is not the real explanation of the soul's action on the body. After all, he makes very clear, most prominently in Meditation VI (AT VII 86–89/CSM II 59–61), that mind-body interaction occurs not in the finger or foot but at the pineal gland. In the *Passions*, it is true, he explains mind-body interaction by suggesting that the mind radiates out to the rest of the body by way of the nerves, animal spirits, and the blood (*Passions* I 34). But that observation can hardly be what he had in mind when suggesting that we understand the soul's action on body by way of the heaviness analogy. For this radiating out by way of various bodily processes does not at all address the immediate action of soul on body, which is surely what Elisabeth was trying to understand. So it seems implausible that Descartes would have in mind either the phenomenology of the union, with its suggestion of immediate presence everywhere in the body, or the indirect connection between soul and bodily parts.

Perhaps we should simply import the sense of being whole in the whole from the *Passions* into the heaviness analogy: the soul is united to the entire organic body without being genuinely "in" the entire body. In that case we have an understanding of the sense in which the soul is whole in the whole, and it is an understanding that is easily compatible with Descartes's dualism.

But again the analogy with heaviness suggests a stronger sense of being in the whole body than the *Passions* suggest: according to Descartes, heaviness is ordinarily thought by us to be present everywhere "in" a body, and that seems to be an essential part of the point of the analogy (as opposed to features of heaviness that are not used in the analogy and so can be dismissed). And recall that to Elisabeth he writes that she should think of the soul as extended, albeit in a special sense, and we saw that Descartes endorses this idea again later in his correspondence with More. So here is, I think, a real difference with the form of Holoemerism offered in the *Passions*. This is not to say that the two forms are incompatible: they are proposed to address different issues and make different claims. But we have no clear explanation yet of the sense of Descartes's claim that the soul is coextended.

A return to the scholastics offers some solace, but no complete solution of this problem. Recall that the heaviness analogy comes from a history of using Holoemerism to offer a sense of presence of a spiritual substance in the physical world that is required for its ability to act on bodies while maintaining its status as spiritual rather than material. That means that one feature of this type of Holoemerism is that the spiritual substance is, in Descartes's

words using a scholastic phrase, extended without having *partes extra partes*. And God or the soul is not present in the physical world or a body by having parts present in parts of bodies. All this is required for its indivisibility. This much is clear. But the scholastics did not go any further explaining this sense of extension. The real meaning of this sense of presence I find unclear, both in the scholastics and in Descartes. I will return to this issue briefly in the final section of this paper.

There is a further problem. Descartes uses Holenmerism in the heaviness analogy to explain the action of souls on bodies and to More he writes that we have the same notion for such action whether the agent is a soul, God, or an angel. But for Descartes God and the soul would seem to differ as follows. God can act on the world anywhere, and for this reason he is regarded as present everywhere while being able to act, in a particular instance, in a particular location. The human soul, on the other hand, acts directly only on the pineal gland. So there is no real reason for Descartes to claim that the soul is whole in the whole body in view of explaining its action on the body of the kind we found in the scholastics. Consequently, in light of Descartes's restricting the (direct) action of the soul on the body to the pineal gland, he should have given up on any sense of extension for the soul. In sum, we have returned to Wilson's question of "why Descartes should feel impelled to get involved in the obfuscating talk about heaviness, or about coextensiveness."

I wish to respond to this question in two ways. First, I share much of Wilson's pessimism about Holenmerism being genuinely helpful in explaining interaction, but second, I think the historical use of Holenmerism for the action of spiritual substances on bodies may help us see why Descartes had recourse to it.

First of all, it is hard to see how Holenmerism helps answer Elisabeth's question. She had written that

it seems to me that all determination of movement happens by the moved object being pushed, by the way in which it is pushed by what moves it, or by the qualification and shape of the surface of the latter. Touch is required for the first two conditions, extension for the third. (AT III 661)

But it is hard to see how it helps seeing the soul as extended *in its special way*. Rather, it seems that one needs precisely the sense in which bodies are extended to explain how a body is pushed in particular ways. The soul is supposed to be extended with the body without excluding body from the space where it is. But isn't this exclusion from a space precisely what helps us understand the pushing?

Nor does the scholastic background help philosophically. The scholastic discussion of the action of spiritual substances on bodies was not meant to illuminate the question of *how* the mind interacts with the body. Suárez'

discussion of divine presence in the world does not address how God acts on the world. That question is not at issue: the discussion of divine presence addresses the question in what sense God, a spiritual, nonphysical substance, is present in the physical world in view of the fact that he acts on it, but it does not address the further question of *how* that action works. And it was assumed that God does act on the world. In fact, this is in line with what Descartes himself writes to More: he says that we know that God acts on the world, and so there is not in principle a problem with a spiritual substance acting on body (AT V 347/CSM III 375). Neither does the scholastic use of Holo-merism in the context of the hylomorphic body-soul union help explain how the soul acts on body. Indeed in this context the scholastics did not invoke Holo-merism to address interaction at all.

Elisabeth was focused on the question how interaction works. She found the heaviness analogy unhelpful in answering it. And I must confess that I am on her side. But we can now offer an explanation for why Descartes even offered Holo-merism in response to Elisabeth's worries. When he offered the coextension idea, Descartes did not explicitly separate the location and the "how" questions, and I suspect he failed to distinguish between them. When he invokes the heaviness analogy Descartes is in fact drawing on a tradition that invokes Holo-merism to address location problems for spiritual substances rather than the question of how they act on bodies. But his doing so means that he conflates the two issues, and in effect fails to address Elisabeth's question, since Holo-merism does not address her question of how interaction occurs.

At the same time, there is another answer to Elisabeth's question in Descartes's use of the heaviness analogy. He writes to Elisabeth that "we have no trouble conceiving how [the soul] moves the body nor how it is joined to it. We do not think that it happens through real contact between two surfaces, since we experience, within ourselves, that we have a specific notion for conceiving it" (AT III 667/CSM III 219). And much later to Arnauld, just before again invoking the heaviness analogy:

That the mind, which is incorporeal, can impel the body is shown to us not by reasoning or comparison with other things, but by certain and very evident daily experience in us. *For this is one of those self-evident things—per se notis—, which we make obscure when we want to explain them by means of others.* (AT V 222/CSM III 358, emphasis added)

What he conveys now is that he thinks one will simply see how interaction works. We experience it daily, and it cannot be explained by offering an analysis using other notions. And he again offers the heaviness analogy to address this question, but now he does not mention the idea of coextension. So perhaps Descartes had given up on the idea that coextension helped explain

how interaction works.²⁹ He saw the analogy as evocative of our intuitive sense of how mind-body interaction works, which at the same time cannot be explained. And the analogy can be useful in the following way. Setting aside the location issues, suppose our naïve conception of heaviness includes an intuitive understanding of how heaviness acts on a body by acting on it in a particular location. That intuitive grasp is in fact, Descartes might say, the grasp we have of the action of mind on body at the gland—even though we don't experience it as action on the gland, but it seems to us to be action directly on our hand or foot, a discrepancy Malebranche and others were later happy to point out. So the coextension part of the analogy misses the point of Elisabeth's question. And the analogy is misleading about Descartes's real view: it may express the phenomenology of the action of mind and body, but not his real metaphysical view of the location of interaction. But what is salvageable is the intuitive sense we have of the action of the mind on the body, wherever that may occur.

CONCLUSION

What do we learn from the comparison between Descartes and the scholastic discussions of Hologenmerism? First of all, the scholastic discussion of the action of God on the physical world simply confirms something very familiar about Descartes's views: the soul is a spiritual substance, indivisible and lacking in the sense of extension that pertains to body. On the other hand, Descartes's use of hologenmerian language raises the question whether we should ascribe a hylomorphic view to Descartes about the union of body and soul, that is to say, the view that the soul is united to the body as its substantial form. He does sometimes refer to the soul as a substantial form (AT VII 356/CSM II 246; AT III 503/CSM III 207–8; AT IV 346/CSM III 279). I have argued against such an interpretation of the union at length elsewhere, and will only dwell on this issue briefly here. I will confine myself to explaining why Descartes's Hologenmerism does not support a hylomorphic interpretation.³⁰

The first instance of the hologenmerian picture in scholasticism is proposed for the action of *any* spiritual substance on body, and so it is clearly unconnected to hylomorphism: God and the angels are not substantial forms of bodies. So this use of Hologenmerism in Descartes does not offer support for a hylomorphic interpretation of his conception of mind-body union. But what about the Hologenmerism of Meditation VI and the *Passions*?

Recall that Descartes explains the idea that “the soul is really joined to the whole body, and that we cannot properly say that the soul is in any part of the body to the exclusion of other parts.” In the *Passions*: the explanation

was that the soul must be “in” the whole body in the sense that it requires a whole functional body as its partner in the union. On one hand, this idea is evocative of hylomorphism insofar as for scholastic hylomorphists the human soul is the form of a functional human body, the soul requires certain material conditions in its partner and constitutes such a body. The rational soul can only be united to a body suitable to its nature and to the functions of life characteristic of a human organism; the soul is the principle endowing the body with those functions. Nevertheless, the similarity is insufficient to generate full-fledged hylomorphism in Descartes. For it is hard to see how his explanation of the union to the whole body results in the soul being genuinely “in” the body in the sense required for a hylomorphic union between body and soul. In hylomorphism the soul is in each part of the body informing it, making it alive and endowing it with the relevant functions of life. Given Descartes’s rather deflationary explanation, this sense of union with the whole body does not offer support for a hylomorphic interpretation.

Furthermore, the deflationary sense of “in” fits very well with Descartes’s dualism, and this can be illustrated by a discussion in the *Passions* that offers particularly strong evidence against a hylomorphic interpretation of Descartes. Unlike the Aristotelian scholastics, Descartes famously saw the human body as a machine rather than an ensouled being. And this aspect of his views comes out quite clearly in *Passions* I.6, where Descartes addresses the question of “what the difference is between a living and a dead body.” And he comments that

the body of a living man differs as much from that of a dead man as a watch or other automaton (that is to say, another machine that moves itself) when it is wound up and when it has within itself the corporeal principle of the movements for which it is put together with everything required for its action; and the same watch or other machine when it is broken and when its principle of action ceases to act.

This account constitutes a very clear departure from hylomorphism, and surely Descartes must be aiming to express his disagreement with hylomorphism here. For the hylomorphist the soul is form of the organic body by being its principle of life (see, for instance, Aquinas, ST I 76.1). And the hylomorphist offers a very different characterization of the difference between a dead and a living body. When the soul departs, famously, the position is that the organs of the dead body are eyes, ears, etc., merely analogically. There is not merely a mechanical difference, but a metaphysical difference. Aquinas’s discussion in the *Summa* makes the point very clear, precisely when he is connecting Hologenism and hylomorphism:

The soul is a substantial form: therefore it must be the case that it is the form and act not only of the whole but also of every part.

And therefore, when the soul departs, we speak of an animal or a man only equivocally, just as in the case of a painted or a stone animal; and so also do we speak equivocally only of a hand and an eye, or flesh and bone, as the Philosopher says. A sign of this is that no part of the body has its proper operation when the soul recedes. (ST I 76.8. See also *Quaestiones de anima* X, Suárez, *De anima* I.XIV.7. Suárez also refers to Aristotle. See for instance, Aristotle *De anima* II.i, 412b18–24.)

I have argued that we can find two uses of Hologenmerism in scholasticism that correspond to two forms in Descartes. Descartes does not use either to explain the *per se* unity or the close union of mind and body. One form derives from a tradition addressing the action of spiritual substances on body, the other from the hylomorphic context. I have argued that most of the ideas embodied in both versions in Descartes can be understood and reconciled. But both in the scholastics and in Descartes, it remains unclear what is meant by the soul being whole in the whole body in the sense the heaviness analogy suggests. And Descartes's use of Hologenmerism to address interaction may be understandable given its history, but it involves confusion between two issues, the location question and the question of how interaction occurs. So Hologenmerism does not help answer Elisabeth's question of how interaction works.

NOTES

I am grateful for very stimulating, helpful comments from Donald Ainslie and Martin Lin at a crucial point in writing this paper. Alison Simmons's comments were a considerable help in clarifying my thinking in the last stage.

1. Letter to Elisabeth, June 28, 1643 (AT III 694/CSM III 228). Reference to Descartes's writings are as follows: AT = Charles Adam and Paul Tannery, eds., *Œuvres de Descartes*, 11 vols. (Paris: CNRS and Vrin, 1964–1976); CSM = *The Philosophical Writings of Descartes*, 3 vols. (Cambridge: Cambridge University Press, 1985–1991).
2. See his *Manual of Metaphysics*, 98, a translation of More's *Enchiridion metaphysicum*. The references are to Alexander Jacob, trans., *Henry More's Manual of Metaphysics (Studien und Materialien zur Geschichte der Philosophie)* (Hildesheim: Georg Olms Verlag, 1995).
3. Margaret Wilson, *Descartes* (Boston: Routledge and Kegan Paul, 1978), 214.
4. For some discussion, see Paul Hoffman, "The Unity of Descartes's Man," *Philosophical Review* 95 (1986): 339–70; and Geneviève Rodis-Lewis, *L'individualité selon Descartes* (Paris: Vrin, 1950), 74–81.
5. As Calvin Normore pointed out to me many years ago. See *Enneads* IV.2.1 (Stephen McKenna, trans., and B. S. Page, ed., 4th rev. ed. [London: Faber and Faber, 1969]).
6. Others have assumed that there is just one form of Hologenmerism in Descartes. See Wilson, *Descartes*, 213–16, and Hoffman, "The Unity of Descartes's Man," 356–57.
7. References to scholastic sources should be understood as follows. Francisco Suárez, *De anima (Opera omnia)* (Paris: Vivès, 1856), 26 vols., vol. 3, referred to by book, chapter, section; DM = Francisco Suárez, *Disputationes metaphysicae (Opera omnia)*, vols. 25–26,

- referred to by disputation, section and article. ST = Thomas Aquinas, *Summa theologiae* (New York: Blackfriars and McGraw-Hill, 1964–); by part, question, article, and where appropriate, the number of an objection or a reply. Aquinas's *Quaestiones de anima*, ed. James Robb (Toronto: Pontifical Institute for Medieval Studies, 1968), by question. Finally, I refer to *De anima* by the Coimbra Commentators, *Commentarii Collegii Conimbricensis in tres libros de Anima Aristotelis Stagiritae* (Lyons, 1604).
8. For discussion of these models of the presence of God and mind in the physical world in various philosophers, see also Grant, *Much Ado about Nothing: Theories of Space and Vacuum from the Middle Ages to the Scientific Revolution* (Cambridge: Cambridge University Press, 1981), 223–28, 350 n. 127. Grant writes that extension of power was rejected by some as insufficient, as it would result in a spiritual substance acting somewhere where it is not, and thus action at a distance (ibid., 146, 153ff., 253–54).
 9. Interestingly enough, Suárez suggests that the disagreement is merely verbal; although I must say I am not sure I understand his point. Focusing in particular on the complicated case of *creation* of things—things that do not yet exist, and relate to as yet uncreated space—he writes:

It must be said about this matter that antecedent to God's action it is necessary to presuppose on God's part such a mode of existence, or [*seu*] such a disposition (as we say in our way of speaking) of his substance, that he exists on his part in such a way that he can without change [*sine sui mutatione*] intimately and really be in any thing if he wants to create it, and this mode of being God has in virtue of his immensity. Since we cannot conceive this disposition in a spiritual substance except by way of an ordering [*ordinatio*] to space . . . we cannot conceive this disposition of the divine substance except by way of its extension, which we necessarily explain through an ordering to [*per ordinem ad*] bodies. (DM XXX.VII.16)

10. Indeed, the issue Suárez and Aquinas raise in terms of the question whether souls are whole in the whole and whole in the part, is raised by the Coimbra Commentators under the label “Whether all souls are divisible or not” (*De anima*, 2c1qu.8, 106).
11. For discussion of divisible souls, see Dennis Des Chene, *Life's Form: Late Aristotelian Conceptions of the Soul* (Ithaca, N.Y.: Cornell University Press, 2000), ch. 9.
12. Aquinas seems to propose a different interpretation of what happens in the case of a worm. He writes that perhaps in that case the animal has “one soul in act and several in potency, as the Philosopher teaches” (*Quaestiones de anima* X).
13. This statement does not do full justice to the indivisibility of the soul. For an entity could in principle have distinct parts that are not separable. Space is sometimes thought of this way: there are distinct spatial parts, *partes extra partes*, but not in the sense that such parts could be separated. That sense of part also is meant to be ruled out by Holoemerism; the soul is whole in every part, and so it is not the case that one part of the soul is in one part of a body, another part in another part of a body.
14. The distinction between the two issues is important and clearly present in other early modern thinkers as well. See my “Leibniz and the Union of Body and Soul,” *Archiv für Geschichte der Philosophie* 79 (1997): 150–78, esp. 154–56.
15. I address this issue in *Descartes's Dualism* (Cambridge: Harvard University Press, 1998), ch. 5. It is important to realize that for Descartes and the scholastics real qualities and substantial forms are not the same, a point sometimes ignored by interpreters. I discuss the distinction in ibid., ch. 4.

It is worth noting that at one point, when pressed by Elisabeth, Descartes writes that we have no trouble with interaction when we think of the body-soul composite as one thing, thus connecting the issues of interaction and unity. The way in which Descartes does so here is, however, not helpful since this is where he writes that in ordinary life, as opposed to when we use our intellect, we have no trouble with interaction (AT III 692/CMS III 227).

16. See Rozemond, *Descartes's Dualism*, ch. 6.
17. This point is obscured by the CSM translation, which says that the mind is joined to the *body*.
18. The analogy dates back to Aristotle himself. See *De anima* (Oxford: Clarendon Press, 1993), 413a.8.
19. Descartes does write that he thinks that “no mode of acting belongs univocally to both God and creatures,” thus qualifying his claim about how God acts on bodies. But that leaves the assimilation of the action of souls on bodies to the action of angels on bodies unaffected.
20. Not all interpreters would agree that Descartes accepts mind-body interaction. For a discussion of the controversy, see Margaret Wilson, “Descartes on the Origin of Sensation,” in *Ideas and Mechanism: Essays on Early Modern Philosophy* (Princeton, N.J.: Princeton University Press, 1999), 41–68.
21. And that, as we saw, fits perfectly with the use of the holenmerian picture by other philosophers. When the picture was used to address questions of interaction about corporeal and incorporeal substances, it concerned only the action of spiritual substances on bodies, not the other way around. Thus I have not found Hologenmerism in discussions of the action of body on mind in scholasticism, which I discuss in “Descartes on Mind-Body Interaction: What’s the Problem?” *Journal of the History of Philosophy* 37 (1999): 435–67.
22. See, for instance, *Treatise on Man*, AT XI 176–77/CSM I 106; *Passions* I 31, letter to Meyssonier, January 29, 1640, AT III 19/CSM III 143; letter to Mersenne, April 1, 1640, AT III 47–48/CSM III 145. For a discussion of the choice of the gland, see Stephen Voss, “Simplicity and the Seat of the Soul,” in *Essays on the Philosophy and Science of René Descartes* (Oxford: Oxford University Press, 1993), 128–41, and Lisa Shapiro, “Descartes’s Pineal Gland Reconsidered,” unpublished manuscript.
23. In this passage Descartes makes the strong claim that the soul has no relation to extension at all. This might seem to contradict his claims elsewhere to the effect that the soul or mind does have some sort of extension. But he could be referring to what in a letter to More he calls “*veram extensionem*” real extension. See the discussion of the exchange with More below.
24. Alison Simmons has suggested to me that there seems to be tension between this aspect of Descartes’s Hologenmerism and what Wilson has called the Natural Institution Theory (Wilson, *Descartes*, 205–20). As formulated by Wilson, this theory states that God arranges for correlations between states of the pineal gland and sensations. Descartes’s description of the arrangements does not clearly rule out the possibility of a pineal gland in a vat joined to a mind with sensations. But the Hologenmerism of the *Passions* suggests that the mind can only be joined to a complete functional human body, thus ruling out this scenario. Simmons also suggested a plausible solution: implicitly the Natural Institution Theory holds that God sets up correlations between mental states (which should include sensations as well as volitions) and states of the gland-that-is-part-of-a-functional-human-body.
25. The fact that the Hologenmerism of the *Passions* but not of the heaviness analogy hearkens back to hylomorphism can be illustrated by a discussion in Aquinas, where he tries to reconcile his hylomorphism with a claim in Aristotle that the soul has a particular location in the body, namely the heart. For instance, when at *Quaestiones de anima* X Aquinas argues that the soul is “wholly in the whole body and wholly in each of its parts,” he considers the objection that Aristotle claimed in *De motu animalium* X (703a 30–b 2) that the soul is only in a particular part of the body. (See also ST I 76.art. 8). Aquinas responds by saying: “In the text the Philosopher is speaking of a soul’s motive power. For the principle of a body’s movement is in one part of the body, namely the heart; and by means of this part it moves the entire body.” So Aquinas locates the soul whole in the whole body and whole its parts and he does so in the context of hylomorphism. But the action of the soul on a particular part of the body (as opposed to everywhere in the body) as its motor is not part of this Hologenmerism, rather it needs to be reconciled with it. For a different

- treatment of the similarity between Descartes and Aquinas on this issue, see Hoffman, "The Unity of Descartes's Man," 356–57.
26. This last claim, that the soul can apply itself to larger or smaller bodies, seems again puzzling in view of the interaction-at-the-gland view, if Descartes means, as one would expect him to, that the soul can apply itself directly, as opposed to by way of action on the animal spirits.
 27. More bases this characterization of Descartes on the *Meditations* (*Henry More's Manual of Metaphysics*, ch. 27). Chapter 27 of the *Enchiridion metaphysicum* is a refutation of two models for the relationship between spiritual substances and the physical world, Hylomerism and Nullibism. The reason More gives for describing Descartes as a nullibist is that for a nullibist a spiritual substance has no extension, and what has no extension, is nowhere (*ibid.*, 99).
 28. *Ibid.*, 108, Augustine, *De Trinitate* VI.6.
 29. On the other hand, as we saw, the later exchange with More suggests that Descartes does not entirely abandon some sort of coextension view. My point is here that he may have given up on trying to explain how interaction works by means of the idea of coextension.
 30. For the most powerful defense of the hylomorphic interpretation of Descartes, see Hoffman, "The Unity of Descartes's Man." For my criticism of this interpretation, see my *Descartes's Dualism*, ch. 5.