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Leibniz and Sleigh on Substantial Unity

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Robert C. Sleigh Jr.'s *Leibniz and Arnauld: A Commentary on Their Correspondence* is wonderfully Leibnizian. Sleigh creates a harmonized series of tightly related components out of the complicated details that passed between Arnauld and Leibniz in their correspondence (April 1686 to March 1690). Because Sleigh's book is a commentary on the letters that exchanged hands between Leibniz, Arnauld, and their intermediary, Ernst von Hessen-Rheinfels, Sleigh restricts his analysis of Leibniz's metaphysics primarily to the philosophical material contained in the letters. There are virtually no serious philosophical questions raised in the correspondence that are left unexamined. There are, however, some questions left unanswered. The reason for this is not hard to identify: in the correspondence, Leibniz was neither clear nor explicit about some of his most important views and there are no related texts in which he offers neat answers to the relevant questions. In other words, there are some questions that Sleigh left unanswered about Leibniz's views, and these are the questions to which Leibniz himself seemed either unable or unwilling to give answers to Arnauld.

In this essay, I would like to turn to one of the most important—and surely one of the most intractable—of these difficulties, namely, the question of substantial unity. I do not pretend to have greater insight into the underlying notion of substance and unity as presented in the correspondence between Leibniz and Arnauld and the *Discourse on Metaphysics* than did Sleigh. In fact, I consider it a truth that if Sleigh works carefully through a text and does not make good sense of a topic, then there is no sense to be made of the topic as presented in that text. However, I would like to show here that once we place our topic within a wider textual scope, and once we position the relevant texts within a broader intellectual context, we can construct a satisfactory answer to some of the questions that arise about substantial unity.

The cluster of problems surrounding the notion of unity have plagued Leibniz scholars for a very long time. Between the correspondence with Arnauld (1686–90)

and the *Monadology* of 1714, Leibniz is clear about the central role that unity plays in his metaphysics, but he is rarely more than suggestive about how we are supposed to *explain* this crucial feature of substance. As with many of his core tenets, however, Leibniz is much more explicit about his motivating assumptions in his early works. When we turn our attention to the early period (roughly, 1666 through 1676) in which he is developing his ideas and working out the details of his system, it is much easier to glimpse his underlying views about unity.

In the first section that follows, I summarize the most important parts of *Leibniz and Arnauld: A Commentary on Their Correspondence* concerning substantial unity. Such a summary affords significant insights into Leibniz's ideas about unity. But there are a few important questions left unanswered. Before turning to the early works for help with these, it will be useful to situate the early writings in their proper historical setting. The second section offers a brief outline of the relevant Platonist background, and the third section turns to an analysis of the most important early texts on the topic of substantial unity. More textual study needs to be done before a full account of Leibniz's views is available, but the materials of these early works offer at least tentative answers to our questions about substantial unity.

Leibniz and Sleigh on Unity, Identity, and Substance

According to Sleigh, it is in the correspondence with Arnauld that Leibniz "first worked out in detail his conception of an individual substance and what he took to be its philosophical consequences" (Sleigh 1990: 95). One of the assumptions that underlies this conception of substance is that a substance is what is a unity per se.[1] Although in the correspondence with Arnauld and the related *Discourse on Metaphysics*, Leibniz says a great deal about substantial unity, some very important questions remain insufficiently answered. Let's consider the most significant of these.

As Sleigh makes clear, "the most stringent and exacting standards of substantial unity" include incorruptibility, ingenerability, and "most significantly" indivisibility (Sleigh 1990: 104). Leibniz writes to Arnauld in his letter of December 8, 1686: "Substantial unity requires a being that is complete, indivisible, and naturally indestructible," and, moreover, this unity derives from "soul or substantial form. These are the only true complete beings" (LA 76). As Sleigh is right to note, for Leibniz, it is the soul or substantial form that confers the relevant sort of unity. Leibniz is however frustratingly unhelpful about the exact means by which a soul or substantial form produces a unity that is indivisible, ingenerable, and naturally indestructible. Nor does he explain precisely why such beings are "the only complete" ones, or even exactly why this is important. We have here a set of questions that concern both the nature and power of a substantial form: what is it about a soul or substantial form F in a substance S that confers unity on S; how does this unity guarantee the indivisibility, indestructibility, and ingenerability of S; in what sense is S a complete being and how is this completeness related to its other features (e.g., the indivisibility)?

In his analysis of substantial forms in chapter 6, Sleigh offers important help with these questions. He explains:

> There are two central theses concerning the composition of corporeal substances—one negative, the other positive—to which Leibniz held fast in the *Discourse* and the correspondence. The negative thesis is that nothing whose essence is extension is an individual substance. The positive thesis is that each created individual substance, hence each corporeal substance, includes a substantial form. Leibniz saw these theses as connected. He often wrote as if establishing the negative thesis were tantamount to establishing the positive thesis. (Sleigh 1990: 116)

Since, for Leibniz, one of the main goals of the correspondence is to tempt "the great Arnauld" away from Cartesianism and toward the metaphysics of preestablished harmony, it is not surprising that Leibniz is keen to show Arnauld the various weaknesses of the Cartesian account of corporeal substance. As a means to this goal, Leibniz is very concerned to show that something whose entire essence is constituted by *extensa* is inadequate as a substance. Because Leibniz spends so much time on this topic, so does Sleigh. Although many of these details are enormously interesting, we can cut to the point most relevant to our topic, namely, that anything (whether extended or not) that is divisible is a being by aggregation, and that a being by aggregation is not a substance (Sleigh 1990: 119). Leibniz wants to convince Arnauld that, whereas beings by aggregation admit of degrees, substances or beings with substantial unity do not. The former are a matter of convention; the latter are not (Sleigh 1990: 121). The former change constantly; the latter remain the same unified thing throughout the course of their existence. That is, it is a fundamental view of Leibniz that, in Sleigh's words, "[n]o substance is such that its unity and identity conditions are a matter of degree, a matter of convention." As Sleigh nicely puts it:

> When [Leibniz] waxed most eloquent about substance, in contrast to various pretenders, it is this fundamental intuition that is generating the steam: "I maintain that one cannot find a better way of restoring the prestige of philosophy and transforming it into something precise than by distinguishing the only substances or complete entities, endowed with true unity... all the rest is merely phenomena, abstractions or relations." (Sleigh 1990: 121; LA 101)

For Leibniz in the correspondence with Arnauld, therefore, there are fundamental individuals and there are nonfundamental individuals. The latter are aggregates, which are divisible, destructible, and temporary. They admit of degrees in the sense that they can be more or less unified and more or less divisible (e.g., a pile of rocks is more divisible than a piece of marble). Sleigh intends to articulate the difference between the fundamental individuals and the aggregates, and thereby to gain clarity on the nature of substantial unity. To this end, the question to which Sleigh turns is "what did Leibniz take to be the relation between an entity through aggregation and the entities that compose it, in virtue of which the entity through aggregation can be said to be 'a state of being of those entities from which it is composed'?" In an attempt to answer this question, Sleigh cites an essay related to the correspondence entitled *General Notations* (*Notationes Generales*), in which, as Leibniz explains, "[t]he chief point is this: an army accurately considered is not the same thing even for a moment, for it has nothing real in itself that does not result from the reality of the parts from which it is aggregated" (Sleigh 1990: 123; Grua 323). Sleigh's gloss on this point is as follows:

> an aggregate is a state of being of those entities that compose it, in the sense that any truth about the aggregate can be expressed in propositions that ascribe modes and states to the composing entities without any need to refer to the aggregate itself. In other words, I take Leibniz to be claiming that aggregates are logical constructions from modes and states of the entities aggregated. Given this view of aggregates, it is easy enough to see why Leibniz would accept the grounding principle. (Sleigh 1990: 123–124)

The grounding principle claims: "For any x, if x is a being through aggregation, then there exists a decomposition D of x such that, for any y, if y is an element of D, then y is not a being through aggregation" (Sleigh 1990: 121). Leibniz explains to Arnauld part of the motivation behind the principle: "What constitutes the essence of an entity through aggregation is only a state of being of those entities from which it is composed; for example, what constitutes the essence of an army is only a state of being of the men who compose it" (LA 96–97). For Leibniz, then, a being that is divisible is one that is an aggregate, and an aggregate is something constituted of nonaggregates, that is, things with substantial unity. A nonaggregate or something with substantial unity is not divisible. To drive home this important point, Sleigh offers the following passage written by Leibniz in an essay entitled *Definitions of Metaphysical and Logical Concepts*:

> [N]o entity that is truly one [Ens vere unum] is composed of parts. Every substance is indivisible and whatever has parts is not an entity, but only a phenomenon. From these considerations the ancient philosophers correctly attributed substantial forms, such as minds, souls, or primary entelechies, to those things that they said made up an Unum per se. And they denied that matter by itself is a single entity [Unum Ens]. Certainly those things that lack these [substantial forms] are no more a single entity [Unum Ens] than a pile of sticks.... Certainly, these things do not remain the same more than a moment, whereas, by contrast, true substances remain through changes. (Sleigh 1990: 124)

There is, then, an intimate connection between entities that are divisible and entities through aggregation. As Sleigh explains: "An entity through aggregation is an entity whose existence depends upon those entities from which it is aggregated, in such fashion that a change in entities aggregated means a different entity through aggregation" (Sleigh 1990: 124). As Sleigh summarizes the point: "The feature common to divisible entities and entities through aggregation, to which Leibniz wished to draw our attention, is this: such entities are wholes composed in such a fashion that their identity conditions require a different whole for every change in composition" (Sleigh 1990: 125).

Substances, however, are not like aggregates. They are truly one in the sense that they are indivisible and remain the same thing through time. Leibniz insists that each thing that is truly one has its own substantial form. An entity through aggregation does not have its own substantial form. The underlying assumption

here is that a substantial form F of a substance S confers both unity and identity on S. The problem is that Leibniz does not explain how this is supposed to work. That is, nowhere in the *Discourse* or the correspondence with Arnauld does he explain exactly how substantial forms perform this double metaphysical task. So, the important question to address is: what exactly is it about substantial form F of a substance S such that F confers identity on S while it also confers unity?

Sleigh is perturbed by the unity- and identity-making powers assigned to substantial forms, and for good reason. On the one hand, Leibniz endorses a notion of corporeal substance according to which a substantial form (somehow) constitutes a unity with its passive principle or body, which is itself constituted of other corporeal substances; on the other hand, he does not explain how this account is consistent with the indivisibility requirement. In his letters to Arnauld, Leibniz makes clear that substances are capable of remaining the same unified things although components of them come and go. Leibniz explains, for example, that "fire can transform an animal and reduce it in size," although the animal retains its identity (LA 156). In an attempt to make sense of Leibniz's position, Sleigh defines the term 'composite entity' as what refers to any individual, one proper component of which is another individual; and he distinguishes between what is divisible and what is deconstructible component-wise. While, for Leibniz, substances are not divisible, they are deconstructible component-wise. But this is all very odd. As Sleigh wonders: "What is the operative difference between being divisible and being deconstructible component-wise on which Leibniz wished to build so much metaphysics?" (Sleigh 1990: 126).

It is in an attempt to answer this question that Sleigh turns his attention to Leibniz's account of identity, which he considers to be the underlying issue. Sleigh justifies the transition from a discussion of unity and divisibility to one about identity in the following way:

> The real test is this: does the composite entity in question depend on each and every one of its components for its existence? If the answer is yes, then we have no substance; if the answer is no, we may have a substance. So divisibility is not really the vital matter here; the vital matter is whether the particular entity in question can remain the same entity over time while undergoing change of components. Leibniz's claim amounts to this: given a substantial form suitably related to various components, we have a composite entity that can pass the test of remaining the same through change of components; absent the form, we do not. (Sleigh 1990: 126)

According to Sleigh, our "task" is to unearth "the explanation" behind the distinction between the sort of composite entity whose identity changes when its components do and the sort whose identity persists even through changes in its components. Sleigh's point here is important. According to Leibniz in his correspondence with Arnauld, it is the substantial form of a substance that confers both the unity and identity on the substance. As noted earlier, one of the underlying questions here is: what exactly is it about mind-like or soul-like substantial form F of a substance S such that F confers identity on S while it also confers unity? In the light of Sleigh's distinction between divisibility and component change, we might revise this question as follows: what exactly is it about mind-like or soul-like substantial form F of a substance S such that F confers identity and unity on S despite changes in the components of S?

In his attempt to uncover Leibniz's views about identity, Sleigh calls attention to some of the passages in which Leibniz seems to explain identity in terms of the causal autonomy of substances. For Leibniz, explains Sleigh, "remaining numerically identical over time is a basic condition that the metaphysically ultimate individuals of an acceptable substance ontology must satisfy" (Sleigh 1990: 128). Here the underlying assumption is that, in those cases when an entity persists despite component changes, the entity is one that "contains" all its predicates past, present, and future. In a letter of December 1686, Leibniz calls such entities "complete" and explains that they "express" all of their states, "as the concept of a substance must do" (Sleigh 1990: 126; LA 72). As Sleigh points out, Leibniz intends to convince Arnauld that "any alteration in the properties" of a person "would yield a different person" (Sleigh 1990: 128).

One of my original questions concerned what it meant for a substance to be complete. As it turns out, Leibniz's notion of completeness is more robust than one might first assume. He seems to identify completeness with causal autonomy where the idea is that F confers causal autonomy on S, along with unity and identity. The odd thing here is that F is supposed to confer unity, identity, and completeness on S despite changes in the components of S. Clearly, for Leibniz, substantial unity, identity, completeness, and causal autonomy are all closely related and are grounded in the substantial form.

"Much is at stake here," and so Sleigh sets about analyzing more thoroughly the notion of an individual substance that Leibniz presents to Arnauld (Sleigh 1990: 127–128). From Sleigh's painstaking analysis, we can draw the following conclusions. First, in the correspondence with Arnauld and related *Discourse on Metaphysics*, Leibniz is prepared to embrace a view very like his later position, according to which each substance has a "law of order" that "constitutes" the substance. As Leibniz writes to Arnauld: "Each substance contains in its nature the law by which the series of its operations continues and all that has happened or will happen to it" (Sleigh 1990: 129; LA 136). The important point is that despite substantial changes, the substance remains numerically the same as long as those changes follow, in Leibniz's words, "from its own nature" (Sleigh 1990: 129; Grua 323). According to Sleigh, this "account of substance" is "fresh in our period" (Sleigh 1990: 129) and was motivated by the rigorous conception of "what is involved in being an individual substance" (Sleigh 1990: 130).

The second conclusion to draw from Sleigh's analysis of Leibniz's account of substantial identity is that the latter is consistent both with "the doctrine of spontaneity" and with (what Sleigh calls) "the doctrine of superintrinsicalness." The doctrine of superintrinsicalness describes how a property or state is related to the individual substance that has it; the doctrine of spontaneity tells us how that property or state was produced. Sleigh considers Leibniz's views about spontaneity to be helpful in explaining how the "law of order" is supposed to guarantee the identity of a substance S. According to the doctrine of superintrinsicalness, "every individual has all its properties intrinsically." As Sleigh puts it: "Consider an individual x and a property f that x has; if f is such that, for any y, were y to lack f then y would not be x, then let us say that x has f intrinsically" (Sleigh 1990: 57). According to the doctrine of spontaneity, "the series of states, constituting the

history of an individual substance, must be generated by a relation of causality, applied to its initial state" (Sleigh 1990: 129). It is important to Sleigh that "every property included in the concept of an individual substance is intrinsic to that substance" and "[t]hat an entity is an individual substance only if its series of states may be generated by a relation of real causality applied to its first state." In the correspondence with Arnauld, Leibniz's original formulation of the doctrine is: "Every present state of a substance occurs to it spontaneously and is only a consequence of its preceding state" (Sleigh 1990: 134; LA 47). Given all this, Sleigh then "speculates" that Leibniz regarded his doctrine of spontaneity as preserving intrinsicalness "so that whenever some state f of x is a real cause of state g of x, then if x has f intrinsically, x has g intrinsically" (Sleigh 1990: 130). For Sleigh, such claims are "a consequence" of Leibniz's rigorous conception of "what is involved in being an individual substance" (Sleigh 1990: 130). Once we put these claims together with the plausible assumption that "Leibniz supposed that the initial state of any substance is intrinsic to it," Sleigh proposes that we "attribute the following view to Leibniz: every noninitial state of a substance has as its real cause some preceding state of that substance; and, since every state of an individual substance thereby turns out to be intrinsic to that substance, every state of that substance (including its initial state) is included in, and in that sense a consequence of, its concept" (Sleigh 1990: 130). As we approach the climax of this part of Sleigh's analysis, it is worth quoting him at length. He writes:

> Let us take stock of what ground has been covered and remains to be covered. Our first concern was how Leibniz differentiated between composites that are divisible and those that are not. Careful scrutiny of Leibniz's arguments in the correspondence suggested that that distinction turned on another—the one between composite individuals that remain numerically the same through changes over time and those that do not. So our question became: What conditions must an entity satisfy according to Leibniz in order to remain numerically the same over time? Our answer is that this condition obtains, according to Leibniz, if each noninitial state of an individual has as its real cause some predecessor state of that individual. On this interpretation, the doctrine of spontaneity is built into the notion of an individual substance, according to Leibniz. Given the thesis that the relation of real causality preserves intrinsicalness and the thesis that the initial state of a substance is intrinsic to it, we reach the doctrine of superintrinsicalness. Attempting to derive so much of Leibniz's doctrine concerning individual substances from his conception of what is required for real unity—unity consistent with remaining numerically identical through change—may seem excessive. But I take heart from a letter from Leibniz to l'Hospital, dated July 1695. After rehearsing the doctrines of spontaneity, world-apart, and marks and traces, Leibniz concluded, "The key to my doctrine on this subject consists in this consideration of what is properly a real unity, Monas." (Sleigh 1990: 130–131)

Sleigh's analysis of Leibniz's correspondence with Arnauld shows that Leibniz's demands about unity are closely related to other core tenets. We begin to see, for example, that identity and completeness are intimately related to one another, and to the law of the series, which itself may be seen to imply the doctrines of spontaneity

and superintrinsicalness. I will return to the interrelations among these doctrines later. For now, it is noteworthy that on the basis of his thorough study of the correspondence with Arnauld and *Discourse on Metaphysics*, Sleigh is inclined to see the doctrines of superintrinsicalness and spontaneity as "built into the notion of an individual substance"; and, moreover, he suggests that Leibniz's understanding of that notion is itself grounded in his assumptions about "real unity."

Sleigh next turns to the question of "the internal generator, in virtue of which a substance produces its states in accord with its developmental law." He identifies this internal generator with the substantial form of a substance, where the substantial form is "construed as a soul-like entity." And he proposes that the "deep thesis" that underlies the developmental law is "the doctrine of marks and traces." As Leibniz writes in a letter of 1686: "Every individual substance always contains traces of everything that has ever happened to it and indications of what will ever happen to it" (Sleigh 1990: 131–132; LA 39). Sleigh proposes that we understand the doctrine of marks and traces in terms of the intentions of a mind-like object: "Hence, only an entity that is a soul, or at least contains a soul, can satisfy the condition imposed by the doctrine of marks and traces, and hence, reach the level of an individual substance" (Sleigh 1990: 132). As Sleigh explains it: "Since past and future states of a substance (or anything else) do not literally exist in the present, they can be contained in the present state of a substance only intentionally, past states as the objects of memory, future states, as the objects of desire, or at least expectation" (Sleigh 1990: 132). Moreover, the intentionality of mind-like forms offers some help with their unity. As Leibniz writes in *General Notations* about the topic of how a composite can have true unity: "What makes these parts a unity in the case of man has attributes that cannot be made known without something that binds them together, namely, the faculty of perceiving and desiring" (Sleigh 1990: 132; Grua 323). On the basis of Sleigh's discussion of the numerical identity of substance, we may conclude the following: for each individual substance S, there is a developmental law that itself is somehow generated by a soul-like substantial form F and that ultimately depends on the marks and traces of F; moreover, the doctrine of marks and traces is itself to be explained intentionally, that is, by the memories and desires of the mind-like F.[2]

In this section, I have summarized the discussion of substantial unity in *Leibniz and Arnauld: A Commentary on Their Correspondence*. Sleigh's analysis of the notion as Leibniz discusses it in the correspondence with Arnauld and the related *Discourse on Metaphysics* makes genuine progress in uncovering the interconnections among Leibniz's ideas about substantial unity, identity, and completeness. But despite this success in excavating Leibniz's views about substantial unity, some fundamental questions remain unanswered. As noted, Sleigh's account is based entirely on texts in which Leibniz avoids explicit acknowledgment of some of his underlying assumptions about unity. Therefore, the lack of resolution of some significant problems should not come as a surprise. But the unresolved problems do come as a disappointment. We yearn to learn more about the underlying nature of substance such that it produces its own unity, identity, and completeness.

From Sleigh's analysis, we have discovered a good deal about what substantial unities are *not* (they are not aggregates whose state of being is constituted of the

entities from which it is composed), about what substantial unities *do* (they change components and yet remain the same), and about how their activities are directed (given the initial state of a substance S, S follows its "law"). Perhaps most dramatically of all, Sleigh makes it perfectly clear that the substantial form is the real workhorse here: it is the mind-like substantial form that generates the completeness and causal autonomy, that confers unity and identity on its substance, and that contains the developmental law. Sleigh's significant suggestion is that underlying all this is the mind-like substantial form with its memories and desires. This is all genuinely important. But we remain in the dark about the underlying nature of the mind-like substantial form such that it performs all these extraordinary tasks. That is, we want to know more about how the substantial form F in a substance S acts to accomplish so much. There are a number of related questions concerning both the underlying nature of F and the various metaphysical feats that it achieves. The most obvious of these are: by what means does F act and how does its activity guarantee the indestructibility and ingenerability of S; how exactly does F contain its developmental law and to what extent does the law constitute its nature; how exactly does F bind the components of S together so that component change does not affect the identity of S; can we clarify how the features of unity, self-sufficiency, and causal autonomy are related in F; can we understand more about how the features of completeness, self-sufficiency, and causal autonomy are related in F; and finally, is Sleigh right to attach so much importance to the intentionality of F?

That the answers to some of these questions may significantly affect the coherence of Sleigh's interpretation seems clear. Consider, for example, his explanation of identity. For each individual substance, says Sleigh, there is a developmental law that itself is somehow generated by a soul-like substantial form and that ultimately depends on the marks and traces of the individual; moreover, the doctrine of marks and traces is itself to be explained intentionally, that is, by the memories and desires of the soul-like substantial forms. While this helps to explain the identity of the substantial form over time, its contribution to the problem of unity is unclear if we take unity to be the relation that is supposed to exist between a substantial form and its body or passive principle. For a substance S that is constituted of a substantial form F and a passive principle P where P is a collection of corporeal substances, the unity formed between F and P remains mysterious. To use the example Leibniz offered Arnauld, an animal that is submitted to fire can decrease greatly in size while retaining its identity (LA 156). In such a case, Sleigh's account explains how the soul of the animal remains the same, but it does not explain the unity between the soul and the body. Or to approach the problem in another way, Sleigh's discussion of the relation among the doctrines of spontaneity, superintrinsicalness, and marks and traces is extremely helpful in revealing the subtleties and complexities of Leibniz's thinking about substance, but his analysis also makes clear how intractable Leibniz's views about unity are: as long as the substantial form is taken to be a soul-like entity whose thoughts and intentions arise entirely out of its own nature—that is, are intrinsic—it remains extremely difficult to see how such a self-sufficient object could create a unity with its passive principle. What exactly is the source of its metaphysical glue, and how are we to understand the constancy of it? Minds are supposed to be eternal and indestructible. There is

little help here in understanding Leibniz's assumptions about the apparent indefatigability of minds.

In conclusion, despite Sleigh's thoughtful analysis of Leibniz's views as they are presented to Arnauld, we remain unenlightened about how the mind-like substantial form is supposed to perform some of its most fundamental metaphysical tasks. Nor do other scholars succeed where Sleigh has failed. Recent accounts of Leibniz's views of substantial unity are no more enlightening.[3] We therefore find ourselves sadly befuddled about this crucial part of Leibniz's thought. But we need not despair. As I said in the introduction to this essay, if Sleigh works carefully through a text and does not make good sense of a topic, then there is no sense to be made of the topic as presented in that text. Because Sleigh has not been able to discern Leibniz's underlying assumptions about unity in the *Discourse on Metaphysics* and correspondence with Arnauld, we are fully justified in looking to other texts for answers to our questions. I propose that we turn to some of Leibniz's early writings in which he is working out his ideas about substantial unity, and that we situate these early texts in their rightful philosophical context.

Platonist Assumptions about Being and Unity

In his discussion of some of Leibniz's assumptions about unity, Sleigh identifies an idea that, as he puts it, "has had a remarkable hold on Western thought," namely, that "the fundamental individuals of an acceptable metaphysical system must have unity and identity conditions independent of human convention; otherwise, our metaphysical analysis has not reached bedrock" (Sleigh 1990: 121). This observation about the fundamental significance attached to substantial unity in the history of philosophy is important, and worth pursuing in greater detail. Leibniz himself encourages us in this pursuit. As quoted by Sleigh, Leibniz points out in *Definitions of Metaphysical and Logical Concepts* that "the ancient philosophers correctly attributed substantial forms, such as minds, souls, or primary entelechies, to those things that they said made up a Unum per se" (Sleigh 1990: 124). As with so many other aspects of Leibniz's thought, a survey of the right historical texts helps to identify some of the assumptions that underlie Leibniz's own thinking about unity, identity, and substantial form. A few choice examples from the history of Platonism should be sufficient to situate the young man's views about these matters.[4]

In Plato's *Phaedo*, Socrates explains to some of his friends why he is eager to die. He argues, among other things, for the immortality of the soul. It is in this context that Socrates explains to Cebes "that the soul is most like the divine—deathless, intelligible, uniform, indissoluble, always the same as itself—whereas the body is most like that which is human—mortal, multiform, unintelligible, soluble and never consistently the same."[5] Underlying Socrates' argument is the view that the soul is like the divine in that it is "pure and invisible" (80e). Or as Socrates puts it later in the dialogue: "the soul must be proved to be indestructible and immortal . . . it has great vitality and a godlike nature" (95c). For my purposes, it is particularly important that the soul is divine-like, is indestructible, and remains "always the same as itself."

At the end of the first section, I listed a number of questions about substantial unity that needed to be addressed. One of these concerned how the features of unity and self-sufficiency are supposed to be related in the mind-like substantial form; another asked how completeness, self-sufficiency, and causal autonomy are related in F. These passages from the *Phaedo* suggest that the divine-like nature of soul guarantees its self-sufficiency and constitutes its completeness in that that nature will never cease to be "the same as itself." And it would seem to follow from this sort of self-sufficiency that the soul would be indissoluble and "deathless." The idea that the soul—at least the human soul—stands between the mortal and the divine becomes standard fare in the history of Platonism. Many Platonists assumed that the soul's divine-like status entailed its unity and vitality. Among the cluster of intuitions here is the striking idea that the soul is the kind of thing that always remains self-sufficiently itself. Its indestructibility and immortality are supposed to follow from this. Before turning to one of the leading proponents of this idea, it will be helpful to review some points about the relation between unity and self-sufficiency.

For many ancient thinkers, ontological priority was to be explained mainly in terms of self-sufficiency. For Platonists, there was a hierarchy of self-sufficiency and being such that each of the lower strata in the hierarchy was supposed to depend on and be caused by the higher. In Plato's *Republic* the sensible things depend on the Ideas, which themselves depend on the Good. For many of the philosophers who followed Plato, it was taken as obvious that unity and perfection were intimately related to self-sufficiency and being, so that the more reality something has, the more unified and perfect it would be. Both Christian and non-Christian Platonists assumed that there is a supremely perfect, wholly simple, and unified being on which all else depends. The implication was that only the highest being was wholly perfect, self-sufficient, simple, and real and that the beings in the lower strata had diminishing degrees of these features. What is less a unity, for instance, is less real and what is less real is constituted and explained by what is more unified and hence more real. For many Platonists, unity was the key metaphysical notion around which a number of beliefs clustered: that eternity and immutability are the marks of true being and perfection; that utter unity or simplicity excludes the possibility of parts and the possibility of change; that simplicity implies independence and self-sufficiency. From such assumptions it is supposed to follow that a wholly unified being is eternally, immutably, and independently itself, but also that whatever partakes of unity has an equal share of self-sufficiency.[6]

Even these brief comments[7] about the proposals of Plato and other Platonists constitute significant help with the list of questions asked about substantial unity at the end of the first section. Within the Platonist tradition, we discern a cluster of assumptions about the souls or active principles in nature: they are fundamentally unified and self-sufficient; their self-sufficiency constitutes a kind of metaphysical completeness; this self-sufficiency and completeness entail indestructibility, indivisibility, and vitality; and they are somehow capable of sharing their unity and self-sufficiency with "lesser" beings.

The great fifteenth-century Platonist Marsilio Ficino explains in his *Platonic Theology* how the soul "causes life to be diffused among bodies." For Ficino, the

soul, which is "always alive," shares its unity and self-sufficiency with the body and thereby creates a harmony of components.[8] In an attempt to explain the unifying powers of the soul, Ficino writes that the soul "diffuses its vivifying shadow through the division of body." Although it remains "integral and simple," the soul spreads "its indivisible power" to every single part of the body and thereby is "wholly" present to every part. It thereby gives its body its essence as an indivisible thing (43v). That is, according to Ficino, because the soul is a constantly active divine-like power, it is fundamentally unified, self-sufficient, and complete, and moreover it communicates its "vivifying" and "indivisible power" to anything it diffuses.

But questions remain. The soul is supposed to be unextended (i.e., not *in* space) and yet it is supposed to diffuse its power to every part of its body. In order to explain the *position* of soul here, we need to turn briefly to the Platonist doctrine of emanation. Oversimplifying somewhat, we can say that: if A has an attribute f, then A can emanate f-ness to a being B. In the emanative relation, A loses nothing while B comes to instantiate f-ness. The emanative process is assumed to be continual so that B will participate in f-ness and have f if and only if A acts or emanates f-ness. It is important to emphasize the fact that, in the emanative causal relation, the f of A is greater and more perfect than that of B and yet the f in B resembles its cause. For early Platonists like Plotinus and Proclus, any act of production in the created world is a case of "imitating the One."[9]

These brief comments about emanative causation offer some assistance with one of the questions asked about substantial unity at the end of the first section, namely, how exactly does a mind-like substantial form F bind the components of a substance S together so that component change does not affect the identity of S? The answer suggested by Ficino is that S is constituted by F and the body over which F has emanative power, so that regardless of the changes in its body, S remains constantly itself. F binds together the components of S by emanating its power to them; and it follows that the changes in S are merely the result of F expanding or shrinking its emanative range. Although the soul effortlessly offers its powers to all the parts of its body, the range of its diffusion may be more or less expansive.

It would be interesting to analyze the views of the Platonists in greater detail, but it remains my goal to discern Leibniz's underlying assumptions about substantial unity. Despite the brevity of this historical material, we have made real headway with our questions. We are well prepared to discern Leibniz's underlying ideas about unity and to construct more complete answers to our questions.

The Young Leibniz on Substantial Unity

From the very beginning of his long philosophical career, Leibniz endorsed the Platonist assumptions just displayed. Although one of his main goals as a young philosopher was to construct an account of substance that was recognizably Aristotelian, Leibniz was perfectly happy to combine Platonist assumptions about God and the soul with Aristotelian ideas about substance. Briefly put, Leibniz intended to construct his theory of corporeal substance on the Aristotelian model, where a

substantial form or active principle combined with a material or passive principle to constitute the fundamental entities of the created world.[10] However, as so many medieval and early modern Aristotelians had done before, Leibniz borrowed heavily from the Platonist tradition for his views about God and the active principle in nature. For my purposes, it is particularly important to recognize that Leibniz assumed that the mind-like substantial form would possess the whole range of metaphysical powers described by Ficino. That is, for Leibniz—as for Plato, Proclus, Plotinus, Ficino, and many others—the active principle in nature is divine-like and therefore self-sufficient, complete, and unified. It is as unified and self-sufficient as anything other than God can be.

From the outset of Leibniz's philosophical career, we discern an intimate connection between unity, self-sufficiency, and completeness, and we find these features firmly rooted in the activity and vitality of the active principles in nature. Consider his first account of the nature and activities of substance. In *On Transubstantiation* of 1668, he defines substance as "a being that subsists per se" and then defines "a being that subsists per se" as "one that has a principle of action within itself [*in se*]" (A 6.1:508/L 115). That is, in *On Transubstantiation*, we find the following significant metaphysical commitment: the Principle of Substantial Activity assumes that a being S is a substance if and only if it subsists per se and S subsists per se if and only if it has a principle of activity within itself (*in se*). Also, in this essay, Leibniz equates mind and substantial form and implies that the principle of activity is in the latter (e.g., see A 6.1:509). It follows that both the mind-like substantial form and the corporeal substance that it activates are self-sufficient, and therefore that the substantial form is itself a substance. Thus, from the beginning of Leibniz's philosophical reflections, it is a mind-like substantial form that is responsible for the activity and self-sufficiency of substances.

In other essays of the late 1660s, Leibniz confirms this account of the activity and self-sufficiency of substance, and offers more details. Significantly, Leibniz's belief in the essential connection between the activity of mind on the one hand and its unity, self-sufficiency, completeness, and indestructibility on the other dates from his early postgraduate days. For example, in a published text of 1664, he discusses the problem of the identity of individual things and considers a solution that assumes all of these features of the active principle in nature. He speculates in *Specimen of Collected Philosophical Questions Concerning Law* that the source of identity is the *vivens unum*, the living unity or one, which is indivisible and acts as "a fountain of life." He notes that, "as the Rabbis maintain," the soul is "like a little house in a certain part of the body, which no power can destroy."[11] The implications of this early text are striking. First, the eighteen-year-old Leibniz suggests that vitality, self-sufficiency, and identity are all grounded in this living unity. Second, he commits himself to the connection between these features and indestructibility. That is, the assumption is that the *vivens unum* cannot be destroyed by any natural means. When we combine these assumptions with the Principle of Substantial Activity, the implication is that, for each individual substance S, there is a soul-like substantial form or *vivens unum* that guarantees the identity, self-sufficiency, indivisibility, and indestructibility of S. Finally, there is the provocative suggestion that this *vivens unum* somehow resides in a body, in which it is eternally based and to which it gives life.

That Leibniz thinks of the human soul as an indefatigable and eternal fortress is confirmed in other texts of the period. Consider, for example, the second part of the *Conspectus*, entitled "Demonstration of the Immortality of the Soul, and of Incorporality." In this text of 1668–69, Leibniz lists several topics that at first glance are not related to immortality. Of the six subjects listed, only the final one, a discussion of the immortality of the soul, explicitly mentions immortality. The other five topics concern the activity of mind where the assumption is that the immortality of the soul is supposed to follow from the fact that only God can destroy an active thing. Given the material of the second section, one of these is particularly interesting: Leibniz intends to argue for the immortality of the soul based "on self-motion, following Plato" (A 6.1:495). Or, as Leibniz further explains in some notes that he took on the *Phaedo* in 1676: whatever "participates in life is not able to be extinguished" (A 6.3:290). For the young Leibniz, therefore, only God can destroy the active principles in nature, and once created, such principles retain vitality. No natural thing can either corrupt or destroy them.

It would be very helpful to know more about the nature of this vital activity that is somehow constant and indestructible. As noted earlier, Leibniz takes the active principles in nature to be mind-like, and he often claims that they act constantly.[12] Although the young man makes few explicit comments about exactly what this activity is, the evidence strongly suggests that he models the activity and thinking of created minds on the activity and thinking of God, who acts by emanation. In brief, Leibniz follows his Platonist predecessors in modeling the nature and activity of created minds on God. For example, in a note of 1671, he explains: "Just as God thinks things... because they follow from his nature, so does Mind.... Mind and God do not differ except that one is finite and the other infinite."[13] Although previous scholars have not paid adequate attention to this important aspect of Leibniz's thought, throughout his long life, he conceives of the relation between God and creatures as emanative. Therefore, it should not come as a surprise that he follows Platonists like Ficino in thinking of the activity of divine-like minds as one of emanation. As Leibniz explains in section 14 of *Discourse on Metaphysics*: "it is evident that created substances depend on God, who preserves them and who even produces them continually by a kind of emanation, just as we produce our thoughts."[14] Given that created minds act by emanation, it is not surprising that they are "never depleted." Or, as Leibniz makes the point to Oldenburg, secretary of the Royal Society, in September 1670, the activity of mind is "perpetual" (A 2.1:64).

It is this perpetual activity of mind-like substantial forms that guarantees the self-sufficiency and completeness of substances. In a text written in conjunction with *On Transubstantiation* and also of 1668, Leibniz articulates his original understanding of substantial self-sufficiency. Against mechanical philosophers like Gassendi and Descartes, who consider figure, motion, and magnitude to be the primary qualities of bodies, Leibniz asks in *Confession of Nature against the Atheists*: "[W]hat if I should demonstrate that the origin of these very primary qualities themselves cannot be found in the nature of body? Then, indeed, I hope that these naturalists will admit that body is not self-sufficient [*sibi non sufficere*] and cannot subsist without an incorporeal principle."[15] In fact, Leibniz's original

rejection of the mechanical conception of body as *res extensa* rests on the assumption that extended stuff is insufficient and incomplete by itself to explain corporeal features. Leibniz argues that because "the same matter is indeterminate as to any definite figure . . . no complete reason [*plena ratio*] for the figure will ever be given" (A 6.1:490/L 110–111). The only way to avoid this unacceptable conclusion is to insist that there is "an incorporeal being" that acts to organize the matter of the body and thereby constitutes a "complete reason" for such corporeal features. For my purposes, Leibniz's argument against the "naturalists" is less important than his promotion of his own views of self-sufficiency and completeness. We can extract the following two significant metaphysical commitments from the argument in the *Confession of Nature*. First, the Principle of Substantial Self-Sufficiency assumes that a being S is a substance if and only if S is self-sufficient and moreover S is self-sufficient if and only if the complete reason (*ratio*) for its features can be discovered in the nature of S. Second, the notion of a complete reason (*ratio*) assumed in these principles, may be put as follows: for some state or feature f, a complete reason (*ratio*) of f constitutes the necessary and sufficient condition for f.

Among the questions left unanswered at the end of the first section were those that concerned the relation between the completeness, self-sufficiency, and causal autonomy of the substantial form F. The conjunction of the Principle of Substantial Self-Sufficiency and the Principle of Substantial Activity suggests a good deal about Leibniz's original understanding of the relation between activity, self-sufficiency, completeness, and causal autonomy. The principles display the two separate tasks that the substantial form F in a substance S is supposed to perform. First, F has an internal source of activity or principle of activity, which keeps F constantly active and therefore self-sufficient. As we have seen, this self-sufficiency guarantees the indivisibility and (natural) indestructibility of F. Second, the substantial form seems to possess something that directs its activities. Whereas the principle of activity acts constantly, the directive device (as yet unspecified) instructs the principle on how to behave.

It is important that the activities of F must somehow involve its body or passive principle and create a substantial nature with it. It is surely noteworthy that, from the beginning of Leibniz's ruminations about metaphysical matters, he seems to assume that (1) substances are *complete* in the sense that they offer a complete reason or explanation for (at least) their (primary) features, and moreover that (2) this completeness is to be grounded in the nature of the substance, that is, in the unity formed by the active and passive principles. In his analysis of Leibniz's notion of substantial unity, Sleigh worried about "[a]ttempting to derive so much of Leibniz's doctrine concerning individual substances from his conception of what is required for real unity" (Sleigh 1990: 130–131). In particular, Sleigh's analysis of identity and completeness led him to posit spontaneity and superintrinsicalness. As a confirmation and extension of Sleigh's point, the early works show that the young Leibniz intended to construct a tightly unified substantial nature out of a mind-like substantial form and a passive principle, and by such means to offer a complete reason for every natural occurrence.

In a work of 1669–70, Leibniz offers details about how this substantial nature is supposed to be formed. In *On the Incarnation of God, or On Hypostatic Union*,

which is surely the most important text for my purposes, Leibniz presents an account of substantial unity. Although the explicit goal of the essay is to explain how the divine and human natures of Christ can form one substance, Leibniz displays a theory of substantial unity more generally. The text is worth quoting at length. According to Leibniz, the things that "are able to be unified hypostatically" are:

> 1) God and mind, 2) Mind and Body, 3) Body and Body through a common mind. Body and Body are not able to be unified in themselves hypostatically, because no Body subsists in itself. Mind and Mind are not able to be unified hypostatically, unless as perfect and imperfect because imperfect mind [i.e., created mind] does not act outside of itself unless through Body. . . . Moreover, created Mind . . . is not unified with every body, but just to the one in which it has been rooted and from which it cannot be separated. E.g. in the human body it should not be thought that the soul is unified hypostatically to all the little bodies which are in it, because they change perpetually, but [the soul] inheres in the center of the brain in a certain fixed and inseparable flower of substance, most subtly mobile at the center of the animal spirits, and [the soul] is unified substantially so that it may not be separated by death.[16]

Leibniz makes five claims in this passage that are especially relevant to my present concerns. They are:

(1) if *x* and *y* are unified hypostatically, then either *x* or *y* subsists per se;
(2) created mind cannot act outside itself except though body;
(3) if *x* and *y* are unified hypostatically, then either *x* or *y* acts outside itself (through the other);
(4) every created mind has a body to which it is unified hypostatically;
(5) created mind is unified hypostatically with a body if and only if it is rooted in that body and cannot be separated from it.

Leibniz continues his essay by asserting the following:

(6) "there is no hypostatical union except by means of the activity of the one on the other"; i.e., if *x* and *y* are (presently) unified hypostatically, then one is (presently) acting on the other;
(7) minds "have in themselves a principle of acting";
(8) "every action [of God] on body is one of creation";
(9) *x* and *y* are unified hypostatically if and only if (a) "one of them acts constantly by a special *ratio* of action [*actus*] on the other" and (b) "one of them is the other's immediate instrument of acting" (A 6.1:533–534).

God is hypostatically unified with created minds in that the perfect mind acts constantly on the imperfect ones so that each of the latter is God's "instrument." God is not, however, hypostatically unified with bodies: although God constantly creates bodies, the divine mind is not the principle of the activity in an individual body nor is the body its immediate instrument of acting. Leibniz writes: "For truly the instrument of God is Mind, unified with God by means of which God acts on bodies other than by creating" (A 6.1:534). For my purposes, it is significant that, besides giving each mind its own principle of activity, Leibniz also suggests in this essay that God imposes on each mind "a *ratio* of action" so that the mind may act

as "the instrument" of God.[17] Leibniz offers the following summary of some of the claims made previously: "if A is [that which does] the unifying and B is that which is said to be unified, then (a) A is a thing subsisting per se, (b) A acts through B in C, (c) A acts immediately in B or [*seu*] not through another."[18]

Thus, according to Leibniz in *On the Incarnation of God*, for some mind-like substantial form F and some body or passive principle P, F and P are hypostatically unified just in case: F subsists per se (claim [1]), but only acts outside itself through the other; the passive principle need not subsist per se, but is the means by which F acts when it acts outside itself (claim [3]). Although God does not need a passive principle through which to act, F does (claim [2]). This means that all the activity in the natural world reduces to that of minds and bodies in hypostatic union. Moreover, it is not enough that the substantial form acts some of the time, it must act constantly on the passive principle. The idea seems to be that when the acting stops, so does the union (see claims [6] and [9]). Thus, Leibniz asserts in claim (9) that *x* and *y* are hypostatically unified if and only if the active principle acts constantly on the passive principle and that the latter is its "immediate instrument" of acting. By such means, we have arrived at two of Leibniz's most basic assumptions about substantial form, namely, that it acts constantly and moreover that it only acts outside itself through its passive principle.

In the remainder of the essay, Leibniz goes on to make an extraordinary claim, namely, that "there is no thought [*cognitio*] without a union because to render that which is thought [*cognitum reddere*] is itself an action of the one on the other."[19] Thus, according to Leibniz:

(10) created mind always thinks (*cognoscere*);
(11) thought (*cognitio*) requires a union because to render the thing thought is itself an action of the one on the other (i.e., the formation of a thought requires an action of mind on body);
(12) therefore, created mind must always be hypostatically unified with its body.

The main part of *On the Incarnation of God* offers a thorough account of the substantial unity forged by the mind and its body. Before mind will succeed at its assigned task, namely, to forge a unity with its body, four conditions must be met. First, according to Leibniz, each individual created mind has its own principle of activity (claim [7]) by which it acts constantly. Second, it has its own "special *ratio*" (claim [9a]). That is, the active principle or mind-like substantial form in a corporeal substance is fundamentally an active thing with its own set of instructions or "special *ratio*" in terms of which it acts. Third, when the mind acts, which it always does, it acts on its body. Finally, the result of each of these activities is a thought (although there may also be other results). It will be helpful to consider these features of mind and its relation to body in more detail.

The mind-like substantial form has its own principle of activity by means of which it acts constantly and its constant activities are always on its body or passive principle. By combining mind and body in this way, Leibniz has cleverly managed to create a single unit out of active and passive principles. His strategy is straightforward: a real substantial union between the principles depends on the constant activity of the one on the other because the constancy of the union of the two depends on the constancy of the connection between them. Since the two principles will cease to be a union when they cease to be connected and since constant activity assures constant connection, Leibniz's account of substantial union requires constant activity. Thus, the hypostatic union of the principles critically depends on two features of mind: that mind constantly acts and that each mind cannot act outside of itself except through the body in which it is rooted.

A comparison to organic unities may be helpful at this point. If one understands an organic unity to be composed of substantial form and matter, then it is easy to see why unity requires constant activity: if the activity involved in maintaining the organic unity stops, so does the unity. We would generally agree that when the maintenance of the organization ceases (e.g., the heart stops, the liver no longer functions), the unity of the substantial form and matter does so as well (e.g., the entity dies, the formerly organized body becomes a heap of decaying flesh). The nature of organic unities also helps us to understand what Leibniz means when he says that the active principle cannot act outside itself except through the passive: in order to act externally, the source or cause of the organization has to act through the passive principle that it organizes.

The mind-like substantial form, besides having a principle of activity by means of which it acts constantly, also has "a special *ratio*" that (somehow) directs its actions. Leibniz explains at least part of his motivation: "For truly the instrument of God is mind." The suggestion is that God constructs individual substantial forms so that they act according to their divinely arranged instructions. The proposal here seems to be a more developed version of the idea found in *Specimen of Collected Philosophical Questions Concerning Law*. In that text of 1664, Leibniz intended to offer the *vivens unum* as the source of substantial identity. In *On the Incarnation of God*, he is prepared to give every mind-like substantial form a set of instructions by which it acts and maintains its identity.

Among the questions left unanswered by Sleigh's analysis of substantial unity, one concerned the matter of how the mind-like substantial form F was supposed to contain its developmental law and to what extent the law constituted the nature of F. *On the Incarnation of God* offers significant help with this topic. I said earlier that Leibniz has assigned F two tasks: to act constantly and to direct its activities. While the principle of activity easily fulfills the first task, we now see that it is the developmental law or "special *ratio*" that accomplishes the second. It would seem to follow then that each substantial form is the same insofar as it contains a divine-like *vivens unum*. What individuates one substantial form from another and what makes it complete in the relevant sense is its "special *ratio*." That is, each substance will be (in Plato's terms) "always the same as itself" because of the law by which it acts.

There are two more points to emphasize about the features of mind and its relation to body as presented in the main part of *On the Incarnation of God*. Both concern the nature of the unity of the substantial nature. In the *Confession of Nature against the Atheists*, we witnessed Leibniz's demand that each substantial nature offer a complete reason or explanation for its features (at least the primary ones). The account of substantial union presented in *On the Incarnation of God*

easily attains that goal. Leibniz has constructed the substantial union between the mind and body so that, for any feature f of the corporeal substance S, f results from the organization of the passive principle in S and moreover this organization occurs if and only if the mind acts through the passive principle. While the mind is the source of activity, the body is what mind organizes: each is necessary and both are sufficient for the corporeal feature f. By combining mind and body in this way, Leibniz has cleverly managed to create a single corporeal nature.

Finally, the nature of the union forged between the active and passive principles in *On the Incarnation of God* is such that the result of the activities of this substantial unity are thoughts. That is, according to Leibniz in this essay, when minds act constantly on their bodies, what they produce are thoughts.[20] This point brings us to another question raised at the end of the first section. We wondered there whether or not Sleigh is right to attach so much importance to the intentionality of the mind-like substantial form. It would appear that in Leibniz's original attempt to work out the details of his views about substantial unity, he was already thinking about unity in intentional terms.[21]

The proposals in *On the Incarnation of God* are important and contain significant details about the young Leibniz's views about substantial unity. The essay also makes some provocative remarks about the mind's relation to its body. Among the questions left unanswered at the end of the first section, the one I have yet to consider concerns the thorny matter of component changes. As I asked the question there, how exactly does the substantial form F in a substance S bind the components of S together so that component change does not affect the identity of S? Or, to pose the more general question: what exactly is it about mind-like or soul-like substantial form F of a substance S such that F confers identity and unity on S despite changes in the components of S? As noted at the end of the first section, this is a serious problem and one that poses potential difficulties for Sleigh's account. For each individual substance, says Sleigh, there is a developmental law that itself is somehow generated by a soul-like substantial form. While the developmental law helps to explain the identity of the substantial form over time, its contribution to the problem of unity is unclear if we take unity to be the relation that is supposed to exist between a substantial form and its body or passive principle. For a substance S that is constituted of a substantial form F and a passive principle P where P is a collection of corporeal substances, the unity formed between F and P remains mysterious. As Leibniz pointed out to Arnauld, an animal that is submitted to fire can decrease greatly in size while retaining its identity (LA 156). Sleigh's account helps to explain how the soul of the animal remains the same, but it does not account for the unity between the soul and the body. Moreover, as long as the substantial form is taken to be a soul-like entity whose thoughts and intentions arise entirely out of its own nature—that is, are intrinsic—it remains extremely difficult to see how such a self-sufficient object could create a unity with its passive principle.

In *On the Incarnation of God*, Leibniz offers some clues about how we might answer the question about component change. He writes in a passage already mentioned: "it should not be thought that the soul is unified hypostatically to all the little bodies which are in it, because they change perpetually, but [the soul] inheres in the center of the brain in a certain fixed and inseparable flower of substance . . . so that it may not be separated by death" (A 6.1:533). But what is this "flower of substance" and how is the soul permanently attached to it? According to Ficino, the soul is related to its body by means of emanation where the idea is that its power diffuses all the parts of that body. For Platonists like Ficino, God emanates the divine power to souls, which accordingly have that power (though in an inferior manner) and can then emanate it to their bodies. When the soul diffuses its body, it loses none of its emanative causal power and yet enlivens its body. For the young Leibniz, both the activity of mind and the relation between mind and body is to be understood along similar lines.[22] Although previous scholars have not noticed this feature of the early texts, there is clear evidence that, for the young Leibniz, the activity of mind is one of emanation and moreover that minds diffuse bodies in much the same way that God diffuses creatures. That is, whether the mind in question is the infinite mind of God or the finite minds of nature, mind acts through emanation and "without being diminished."[23]

Fortunately, there is ample evidence of this account of substantial unity. Leibniz summarizes his position in a letter to Johann Friedrich of May 1671: "I am of the opinion that in a body, whether of a human being or animal, vegetable or mineral, there is a core [*Kern*] of its substance. . . . This core is so subtle that it remains also in the ashes of burned things and can, so to speak, draw itself into an invisible center" (A 2.1:108). In a fascinating essay that Leibniz attached to this letter, he offers crucial details about this "core" of substance. In this text, entitled *On the Resurrection of the Body*, Leibniz employs the same Latin verb used by Ficino (i.e., *diffundere*) to describe the relation between the soul and its body. He writes: "in everything there is a certain seminal center that is diffused throughout the thing." This center is "the fountain of life" and that "in which the very soul is implanted." The "subtle spirit or substance" cannot be destroyed but will survive through fire and other changes as "the flower of substance" (A 2.1:116).

In the theological context of resurrection, it is not surprising that Leibniz should be concerned to show that the soul remains eternally attached to its body. Since the Christian doctrine demands that the human soul will be resurrected with its body, the believing Christian wants to rest assured that come Judgment Day, it will be her body (and not someone else's) that accompanies her soul through the Pearly Gates. Leibniz has constructed the core of substance to satisfy exactly these demands. In fact, Leibniz is proud of his theory and insists that it has many benefits. Besides solving the problem of resurrection, it explains "the generation of plants from seeds," the "development of the seed in the uterus," and "the essences of chemicals" (A 2.1:116); it is also consistent with the radical theological demands of the doctrine of the Eucharist.[24] Moreover, Leibniz is proud that his theory agrees with "the Jews." He writes: "Indeed, the Jews maintain that, in a certain little bone, which they call Luz, the soul with this flower of substance remains unconquered by anything that happens" (A 2.1:117; see also A 6.1:91). For the young Leibniz, whether it is the development of a crystal, the generation of a plant, the movement of an object, or the resurrection of the body, the same process occurs: there is a core of substance that diffuses the thing.

Leibniz's notion of a core of substance is constructed so that each human substance will retain both its soul and its body from its birth to its death and for all eternity.[25] Roughly speaking, the idea is that the soul remains eternally unified with a passive principle through which it acts. That is, for every substance S, there will be a substantial form F and a passive principle P. Although P can be more or less expansive, there will be some part of it, say, Pd, that remains invariably attached to F and through which F always acts. Following Leibniz's use of the verb 'to diffuse' (*diffundere*), let's call the relation between the active and passive principles one of *diffusion*. From Leibniz's comments, we can interpret the relation as follows. For a substantial form F of a substance S, F diffuses its passive principle P just in case F has constant causal power over P. That is, like his Platonist predecessors, Leibniz intends the mind-like substantial form F in a substance S to diffuse the components of its passive principle. In the discussion of Ficino's views about substantial unity in the second section, I showed that the soul is supposed to diffuse its unifying and vivifying powers to various parts of its body. For Ficino, the changes in the components of a substance S are merely the result of the substantial form F expanding or shrinking its emanative range. Leibniz's view is strikingly similar except that he constructs a core of substance through which this emanation of unifying power must occur. That is, as Leibniz has constructed the core of substance, F remains eternally rooted in Pd and the diffusion of P by F will always occur through Pd. It is in this sense that the core is "the flower of substance." In the letter to Johann Friedrich, Leibniz explains that the core is like "an embryo or seed of an animal [*dem foetu oder frucht der Thiere*]," which contains "the core of the whole body." He insists that "this core of the substance of a human being neither increases nor decreases although its clothing and casing [*Kleidt und Decke*] are in constant flux." These fluctuations can be extreme. Not only is "the core of the whole body" able to spread throughout the body, it is also able to "retract itself back to its source and fountain" where it is in a state of such subtlety that "no force . . . is able to damage it" (A 2.1:108–109). In the discussion of the resurrection of the body, it is not surprising that Leibniz is keen to explain some of the more dramatic changes that, as Christian doctrine insists, every human being will suffer in the eternity of existence.

Leibniz's theory of a core of substance is enormously clever: it explains how a substance is able to remain fundamentally the same and yet undergo the changes of natural growth and supernatural resurrection. And the diffusion relation constitutes a neat account of the unity formed between the active and passive principles, regardless of the changes in components. In every diffusion relation between a mind-like substantial form F and a body or passive principle P, each of the components of P contributes to the unity of the whole by acting according to the emanations of F through Pd. For example, in the case of an individual human substance, the person grows from infant to adult, then dramatically shrinks and expands between the moments of death and resurrection. Underneath these variations in the passive principle stands the core. Because the core of the substance is constituted by a self-sufficient soul and a passive principle through which the soul constantly acts, the core of the human is ripe for life, death, and even resurrection. For Leibniz in 1671, whether it is the generation of a plant, the growth of an adolescent, or the resurrection of the body, the same process occurs (A 2.1:116).

Conclusion

According to Sleigh, in *Leibniz and Arnauld: A Commentary on Their Correspondence*, it was in the correspondence with Arnauld and the *Discourse on Metaphysics* that Leibniz "first worked out in detail his conception of an individual substance and what he took to be its philosophical consequences" (Sleigh 1990: 95). The material of the third section herein suggests, however, that Leibniz had a conception of substance in his early period, and that the young man was keen to unpack the weighty metaphysical implications of Platonist ideas about mind, activity, completeness, self-sufficiency, and unity.[26] It is not surprising therefore that the texts of Leibniz's early period (roughly, 1666–76) offer significant help with questions left unanswered in the correspondence with Arnauld and the *Discourse on Metaphysics*. Once we place Leibniz's early ruminations about substantial unity in their rightful philosophical context, we can begin to discern his underlying assumptions about the power of the active mind-like principles of nature to confer unity, self-sufficiency, and completeness on substances. A brief review of these assumptions is in order.

One of the most difficult questions left unanswered by Sleigh's analysis involved how the mind-like substantial form F in a substance S could confer unity. The conferral of unity on S was supposed to guarantee the indivisibility, indestructibility, and ingenerability of S, and to allow S to retain its identity despite changes of components. Following his Platonist predecessors, the young Leibniz assumes that the divine-like nature of the active principle constantly acts through emanation so that it remains (in Plato's words) "constantly itself" and thereby is incapable of division, generation, and destruction (by anything but God). Leibniz also takes it for granted that this mind-like form can act more or less expansively and that it is eternally rooted in a passive principle from which it cannot be severed. Although from my philosophical perspective, the divine-like nature of F remains (mostly) unfathomable, there may be some comfort in the fact that, for Leibniz and many of his contemporaries, the nature of mind was unfathomable *exactly because* it was divine-like (e.g., A 2.1:113; A 6.1:492–493). Despite the absence of an entirely plausible account of the activity of mind-like forms, the materials of Leibniz's early period contribute significantly to our understanding of the indivisibility, ingenerability, indestructibility, and constancy of substantial unities.

The early works have also helped with questions involving the interrelations among self-sufficiency, completeness, causal autonomy, and the developmental law. What we discovered was that each substantial form contains its own principle of activity by which it acts and a "special *ratio*" or set of instructions that directs its activities. The former guarantees the self-sufficiency of S; the latter constitutes the completeness of S because it directs the substantial form F as F creates and maintains a unity with its passive principle. By such means, S retains its identity and self-sufficiency.

In conclusion, Sleigh's analysis of substantial unity in the correspondence with Arnauld and the *Discourse on Metaphysics* contributes significantly to our understanding of many of the subtleties of Leibniz's metaphysics. Once we place the

questions that remain from that study in an appropriately broad textual and contextual scope, we begin to discern Leibniz's underlying assumptions about the power of the active mind-like principles of nature to confer unity, self-sufficiency, and completeness on substances. Although more textual study needs to be done before a full account of Leibniz's later views is available, the analysis presented here constitutes a first attempt to construct a thoroughgoing account of Leibniz's theory of substantial unity.

Notes

I thank Don Rutherford and Jan Cover for helpful comments on this essay, and the National Endowment for the Humanities for support during my research.

1. Among scholastic philosophers, there is a standard distinction between unity per se and unity *per accidens*. Although there is some disagreement about how to account for each, the Latin *per se* implies that the feature (in this case, unity) has its source in the nature of the substance and is essential. It was common for seventeenth-century German philosophers to define unity per se in terms of *ens* (being) where the assumption is that every substance has *ens* and everything that has *ens* has unity per se. As Leibniz puts it to Arnauld: "I cannot conceive of any reality without true unity" (LA 97). It is in this sense that a unity per se is a substantial unity. Unity per se is contrasted with unity *per accidens* because the latter does not arise from the being of the substance, but from something else (say, the coordination of parts). For Leibniz's rough contemporaries on this topic, see, e.g., Weidling 1696: tab. 2; Stier 1641: cap. 3; Stahl 1655: tab. 14. In the correspondence with Arnauld, Leibniz insists that an accidental unity or a unity *per accidens* is "a phenomenal unity" and exists "by opinion, convention" (LA 101). See Sleigh 1990: 120–121.

2. At the end of his discussion, Sleigh poses a few questions that arise about his conclusions. One of these concerns how memory is supposed to work. Sleigh's analysis of the doctrine of marks and traces requires that every substantial form "remember" its past states. A question arises about how nonconscious souls can do this. Sleigh's answer to the question is based on a distinction that Leibniz sometimes makes between "the sheer reoccurrence of a previous perception, unaccompanied by consciousness of past perception" and a memory "which is remembrance accompanied by consciousness of past perception" (Sleigh 1990: 133). It would seem that memory of the former sort is available to nonconscious minds.

3. See, e.g., Adams 1994; Rutherford 1995a. In "Leibniz to Arnauld: Platonic and Aristotelian Themes on Matter and Corporeal Substance," Martha Bolton raises the question that I have noted here about substantial form and substantial unity. I would like to thank Bolton for a prepublication copy of that article (Bolton 2004), which takes a different approach to the question from mine.

4. It is virtually impossible to trace the precise sources of Leibniz's ideas. A number of previous scholars have noticed vaguely "Platonist themes" in Leibniz's philosophy, but no one has analyzed these with any precision. See, e.g., Belaval 1962; and most recently Bolton 2004. However, as I have recently argued, a (primarily) Plotinian form of Platonism contributed significantly to the development of some of Leibniz's fundamental tenets. For more on Leibniz's Platonism and its role in his philosophical evolution, see Mercer 2001: chaps. 5–6.

5. Plato 1997: 80a–e. Besides Plato, Leibniz was thoroughly familiar with the entire history of Platonism. Jakob Thomasius, who was the young man's "master" during his studies in Leipzig, wrote extensively on the history of philosophy. For Thomasius's erudition on Platonism, see, e.g., his *Schediasma Historicum* and *Exercitatio de Stoica Mundi Exustione*. For more about Thomasius, see Mercer 2001: chaps. 1, 3; Mercer 2004; Bodéüs 1993.

6. The great third-century Platonist Plotinus (204/5–270) is particularly helpful on these points. He writes about the supreme being, e.g., "[f]or if it is not to be simple, outside all coincidence and composition and really one, it could not be a first principle, and it is the most self-sufficient, because it is simple." Moreover, "what is not simple is in need of its simple components so that it can come into existence from them" (Plotinus 1990: 5.4.1.6–15). Also see Plotinus 1990: 3.8.10.20–26; 6.2.11.9–18; 6.9.1.14.

7. The material just summarized is discussed at greater length in chap. 5 of Mercer 2001. The other material of this section is new.

8. Bk. 3, chap. 2; Ficino 1559: 431–43v. There is a translation of some of this material by Luc Deitz in Kraye 1997: 30–36. It is interesting that the verb used by Ficino to describe the relation between the soul and the body, namely, *diffundere*, is the same one used by the young Leibniz in his account of the relation between the active and passive principles in a corporeal substance. For more, see hereafter. A longer version of this essay included a more thorough discussion of the interesting views of Ficino. A discussion of the relation between Ficino's and Leibniz's views on unity will appear in an essay tentatively entitled "The Power of Unity: Leibniz and His Predecessors."

9. For some of Plotinus's comments on emanative causation, see Plotinus 1990: 5.1.6.37–39; 4.3.10.32–42; 5.5.9.1–10; 2.3.18. For some of Proclus's comments, see Proclus 1963: props. 18, 26.

10. For more details about Leibniz's eclectic tendencies and his commitment to the philosophy of Aristotle, see Mercer 2001: chaps. 1–3.

11. A 6.1:91. The belief that some bones are "deathless" is mentioned by Plato in *Phaedo* 80d.

12. Between roughly mid-1670 and 1672, Leibniz considered the mind-like active principles in nonhuman substances to be momentary minds which produced themselves constantly "by traduction." In this case, each active principle was constituted of a series of momentary minds. For more on this, and reference to other literature, see Mercer 2001: chap. 4.

13. A 6.2:287–288. See also A 6.2:490; A 6.1:285–286, 495–496; A 2.1:97, 113.

14. For a fuller account of the emanative relation between God and the created world, see Mercer 2001: chap. 5, secs. 4–5; chap. 6, secs. 1, 3; chap. 9; chap. 10, sec. 3.

15. A 6.1:490/L 110. Leibniz's argument here, in the *Confession of Nature against the Atheists*, is a bit more complicated that I am suggesting; and he has not characterized the position of mechanists like Gassendi and Descartes with complete accuracy. For more details about these and related matters, see Mercer 2001: 70–82.

16. The Latin in the latter part of this passage reads: "Porro Mens creata . . . non unitur omni corpori, sed ei tantum in quo radicata est, et a quo separari non potest. V.g. in Corpore humano non putandum est animam omnibus quae in eo sunt corpusculis hypostatice uniri, cum perpetuo transpirent, sed in ipso centro cerebri flori cuidam substantiae fixo et inseparabili, subtilissime mobili in spirituum animalium centro inhaeret et substantialiter unitur ita ut nec morte separetur" (A 6.1:533).

17. Notwithstanding the fact that minds are instruments of God, Leibniz insists that minds (at least human minds) are "free." See A 6.1:533.

18. A 6.1:534. I have substituted lower-case letters for the numerals Leibniz uses in this passage in order to distinguish the claims he makes from the ones I have listed earlier.

19. A 6.1:534–535. For a more thorough account of some of the details of this essay, see Mercer 2001: chap. 4, sec. 3.

20. Also see, e.g., A 6.2:283. When minds act on their bodies, they also produce other things, like the organization of the body.

21. I argue elsewhere that *On the Incarnation of God* and related texts provide strong evidence for the conclusion that by 1671 Leibniz was prepared to construct the passive principle in nature out of mind-like substances. In brief, my argument is that otherwise these essays imply that matter is involved in thinking. For a discussion of this point, see Mercer 2001: 283–284.

22. See, e.g., A 6.1:285–6; A 2.1:97.

23. A 2.1:113. I am speaking roughly here because the theory of preestablished harmony complicates things enormously. As I argue elsewhere, the diffusion relation between the active principle or mind-like form F in a substance S and the passive principle P of S is one of preestablished harmony. That is, although F and P do not causally interact, P acts in perfect coordination with the thoughts (and instructions) of F. For more on this, see Mercer 2001: 334–340, 364–373, 376–381, 407–409, 411–43, 442–443.

24. In the development of his metaphysics, Leibniz was concerned to construct a theory of substance that would be consistent with the theological doctrines of resurrection and the Eucharist. See Mercer 2001: chap. 2; chap. 8, sec. 2.

25. At the end of his discussion of substantial unity, Sleigh poses a question: because Leibniz sometimes writes as though it were a matter of convention as to whether or not "an ontology of persisting substances" is better than "an ontology of transitory individuals," Sleigh asks: "Did Leibniz take the

scheme of transitory individuals to be metaphysically impossible, or did he have other grounds for favoring the scheme of created substances persisting through changes?" Although Sleigh suspects that Leibniz had certain theological concerns that inclined him to prefer persisting substances (e.g., that moral agency had to persist), he concludes that a clear answer to the question is not forthcoming (Sleigh 1990: 133). The material that I offer here suggests that Leibniz had several reasons, many of which were theological, for the preference of persisting substances.

26. A more thoroughgoing study of the early writings suggests that Leibniz worked out the details of his philosophy much earlier than previous scholars have thought. See Mercer 2001.

3

Leibniz on Precise Shapes and the Corporeal World

SAMUEL LEVEY

In many of his "middle-years" writings, especially those around 1679–89, Leibniz advances a rather puzzling argument for the claim that there are no precise shapes in things, and suggests that shape, motion, and extension are not in things outside us but involve something imaginary (see A 6.4:1465, 1612–3, 1622). He often concludes that if there were nothing but shape, motion, and extension in them, bodies would be only phenomena "like rainbows and mock suns" (A 6.4:1648; see A 6.4:1464). Such claims about the status of extension and its modes certainly amount to a rejection of the Cartesian theory of corporeal substance. One might also suspect that they amount to a rejection of the very idea of corporeal being *tout court*.[1] Leibniz's denial of the existence of precise shapes in things has sometimes been taken to imply an antirealist or idealist reading of his own views about the nature of body during this same period, and thus to imply an idealist reading of his view of the corporeal world in general. I think this is a misunderstanding of Leibniz's philosophy concerning the status of shape, however, and that the argument for an idealist reading of his metaphysics that relies on it is unsound. A correct understanding of the content of Leibniz's views about shape can be recovered by considering their philosophical origins in his writings of the second half of the 1670s, and with that understanding in mind the dispute between realist and idealist interpretations of the middle-years metaphysics of the corporeal world can be properly framed.

Prelude to the Critique of Precise Shapes: Leibniz on Motion

Leibniz's critique of the Cartesian modes of extension, and in particular his critique of precise shapes, appears at least in outline in many texts from the 1680s. In the document *Specimen of Discoveries of the Admirable Secrets of Nature in General*, tentatively dated to 1688 by the Akademie editors,[2] one finds the following synopsis: