ABSTRACT: I argue that Leibniz’s well-known Argument from Unity is equally an argument from plurality. I detail two main claims about plurality that drive the argument, and I provide evidence that they structure Leibniz’s argument from the late 1670s onwards. First, there is what I call Mereological Nihilism (i.e., the claim that a plurality cannot be made into a true unity by any available means). Second, there is what I call the Plurality Thesis (i.e., the claim that matter is a plurality in need of unity in the first place). I suggest that the Plurality Thesis offers a general analysis of materiality that, in some sense, is the most important aspect of Leibniz’s argument. Finally, I connect these claims about plurality to the common 17th & 18th century commitment known as the actual parts doctrine.

1. Introduction

A central feature of Leibniz’s metaphysics is that material objects fail to have the unity required to be substances (i.e., true beings). A substance, argues Leibniz, must be an unum per se—a true unity. But a material object is (and always will be) merely an unum per accidens—its unity is accidental or extrinsic. Leibniz’s favorite examples of accidental unities are things like flocks of sheep, armies, and schools of fish. Material objects, then, are more like flocks than individual sheep; more like armies than individual soldiers; and more like schools than individual fish. In a word, material objects are aggregates rather than individuals.

But how does Leibniz arrive at this position? One prominent argument, what I will call the “Argument from Unity” runs as follows:
(1) Matter is a plurality.
(2) A plurality cannot be a true unity.
(3) A substance must be a true unity.
(4) Therefore, matter is not a substance.

This argument appears throughout Leibniz’s philosophical career, from early to late, and has, appropriately, received lots of attention from commentators.1 But most of this attention has been paid the question of unity: what is a true unity and what things count as true unities for Leibniz?2 Significantly less attention has been paid to the correlative question about plurality: what is a plurality and what things count as pluralities for Leibniz?

The question about plurality is just as important as the question of unity. In order for Leibniz’s well-known Argument from Unity to have any force against the coherence of material substance, a clear conception of the plurality of matter and the motivation behind this characterization needs to be supplied.3 In what follows, I will detail the structure of

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2 There are other lines of argument employed by Leibniz against the substantiality of material objects; for instance, his argument from the nature of force: matter cannot be a substance because it is merely passive and thus cannot explain the presence of forces in bodies. See, for example, “On the Nature of Body and the Laws of Motion” (A 6.4, 1976-1980 = AG 245-250). For discussion of this line of argument, see, for example, Garber 2009, chs. 3-4. However, I will be concentrating on the arguments that rely on considerations of unity.
3 This question of unity has been paid so much attention that it has been at the center of one of the main scholarly disputes in Leibniz studies for nearly three decades. For recent contributions to this discussion, see, for example, McDonough 2013, Garber 2009, and Hartz 2006. For earlier discussions, see Garber 1985, Sleigh 1990, and R. Adams 1994.
4 Since my focus in this paper is Leibniz’s argument for the conclusion that matter is not a substance—what can be thought of as the negative moment of Leibniz’s theory of substance—I will not be developing an account of what ultimately does count as a substance on Leibniz’s considered view—what can be thought of as the positive moment of Leibniz’s theory of substance. In my estimation, commentators have focused so
Leibniz’s Argument from Unity, beginning in the late 1670s and ending in the mid 1700s. I will show that the same basic commitments drive the argument throughout. I will then argue that there are two ways in which plurality drives this argument: first, matter itself is a plurality (i.e., it is made up of different parts that need to be put together somehow). Second, there is no way to put a plurality of parts together into a true unity. Once the role of plurality has been established, I will consider how Leibniz’s conception of the plurality of matter lines up with the so-called “actual parts doctrine”, according to which parts are ontologically prior to wholes they compose. I will argue that Leibniz’s view is unique among the early moderns and defies easy categorization in terms of the actual parts doctrine. For Leibniz, the philosophical role of actual part is subject to a division of labor: while material parts enjoy a relative priority to wholes they compose, the “actual parts” of matter are not material parts at all, but non-material substances (though Leibniz will avoid the term “part” in this connection).

Focusing on the role of plurality is important because it shows that underlying Leibniz’s familiar Argument from Unity is a general analysis of materiality: to be material is to be plural. It is axiomatic, for Leibniz and for others too, that plurality presupposes unity: thus, the plurality of matter cries out for a foundation in substantial unities. By focusing on the role of plurality, the power of Leibniz’s Argument from Unity can be fully appreciated. This, in turn, helps us to see the uniqueness of Leibniz’s conception of matter among the early moderns. But this result is also of some contemporary interest: built into Leibniz’s

much on Leibniz’s considered ontology of matter or body—is body a substance or are monads the only substances?—that they have neglected to provide an analysis of the conception of materiality motivating Leibniz’s argument in the first place. I offer a corrective here.
conception of matter is the view that material wholes cannot be prior to their parts. Seeing the reasons behind this commitment, as well as the use to which Leibniz’s puts it, could, therefore, have some relevance to ongoing debates.5

In Section 2, I will present a standard version of Leibniz’s Argument from Unity, which is found in the *New System* (1695), and identify the ways in which the argument relies on claims about plurality. In Section 3, I will turn to both earlier and later versions of this argument, in order to show that the same structure of argument can be found in a wide array of texts; this will also allow me to develop a deeper conception of plurality and the role it plays in Leibniz’s argument. Finally, in Section 4, I will consider the connection between Leibniz’s conception of matter as plural and the actual parts doctrine.

2. Leibniz’s Argument from Unity

Leibniz argues against the coherence of merely material substance (i.e., substance consisting in extension alone) in a variety of ways. One of these ways is the Argument from Unity. In this section I will present a standard version of Leibniz's Argument from Unity, in order to identify some crucial features of the argument that will structure the discussion in subsequent sections. I will then (in Section 3) present versions of Leibniz's Argument from Unity found in texts written decades apart in order to show the stability and persistence of this line of argument in Leibniz’s thought.

Here is a standard version of Leibniz’s Argument from Unity, which is found in the *New System* (1695):

5 This runs counter to Jonathan Schaffer’s *priority monism*, for instance. See Schaffer 2010.
After much reflection, I perceived that it is impossible to find *the principles of true unity* in matter alone [*la matiere seule*], or in what is only passive, since everything in it is only a collection or aggregation [*collection ou amas*] of parts to infinity. Now, a multitude can derive its reality only from *true unities*, which have some other origin and are considerably different from points, which all agree cannot make up the continuum. Therefore, in order to find these *real entities* I was forced to have recourse to a formal atom, since a material thing cannot be both material and, at the same time, perfectly indivisible, that is, endowed with a true unity. (GP IV, 478-479 = AG 139)

One way to reconstruct Leibniz’s argument in this passage, which remains as close as possible to the text, is as follows:

(1) Matter alone (and everything in it) is only a collection or aggregation of parts to infinity.
(2) A collection or aggregation of parts cannot be endowed with a true unity.
(3) To be a real entity is to be endowed with a true unity.
(4) Therefore, matter alone is not (and cannot be) a real entity.

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6 I will focus on the claims about matter, leaving aside Leibniz’s conclusion that he must “have recourse to a formal atom”. I will also leave aside the connection Leibniz draws between materiality and passivity. This connection is important for Leibniz’s arguments from force. See footnote 1.
To see the structure of Leibniz’s argument more clearly, I will also give a streamlined version, which I take to be equivalent to the more textually sensitive version just given. I will also add some labels.

(1) Matter is a plurality. (Plurality Thesis)
(2) A plurality cannot be a true unity. (Mereological Nihilism)
(3) A substance must be a true unity. (Condition of Substantiality)
(4) Therefore, matter is not a substance.

Notice that Premises (1) and (2) concern plurality, while Premises (2) and (3) are concerned with unity (Premise (2), of course, links these two notions). Thus, Leibniz’s Argument from Unity is equally an argument from plurality. In order to zero in on the role of plurality in this argument, different claims about plurality need to be distinguished.

It is one thing to say that a material object is merely an unum per accidens. This amounts to the claim that a material object, though it has a certain kind of unity (i.e., accidental unity), does not have the type of unity required to be a substance—at least, once we take on board Leibniz’s commitments concerning the type of unity required by a substance. That is, the parts of a material thing cannot be put together in such a way that a substance will result. I call this commitment Mereological Nihilism, and it is Premise (2) above. Notice, however that Mereological Nihilism does not establish that matter is a plurality in the first place; rather, Mereological Nihilism presupposes that it is.

Leibniz’s mereological nihilism has some similarities with contemporary versions. For characterizations of nihilism, see, for example, Unger 1979, van Inwagen 1990, Ch. 8, and Sider 2013. The main difference is that Leibniz requires the object being composed to be a true unity; this condition does not figure in contemporary
It is, therefore, another thing to say that material objects must have parts in the first place, and that those parts are sufficiently independent that an account of their unity is required at all—put differently, that a material object is a plurality. Furthermore, Leibniz is clear that both matter and everything in it is a plurality. Thus, the type of plurality involved here is rather strong: matter has an infinitely descending plural structure. I call this commitment the *Plurality Thesis*, and it is Premise (1) above.

Though both of these claims are concerned with plurality in some way, they are saying different things. And importantly, Leibniz’s Argument from Unity runs by way of both of these claims. These two claims about plurality can be joined by a third, since one aspect of Leibniz’s considered view is that matter (in particular what Leibniz calls “secondary matter”) is an aggregate of substances. As Leibniz writes to Bernoulli in 1698, “secondary matter, i.e. mass, is not a substance, but substances” (A 3.7, 885 = Lo 9). Although this is an important component of Leibniz’s considered view, I am not interested in the plurality of matter in this sense, not for present purposes at any rate. The crucial thing for now is that Leibniz gives an account of the plurality of matter that is philosophically prior to his claim that material objects are aggregates of substances. Thus, the sense of plurality I am interested in here is one that functions as a premise in Leibniz’s argument for a non-material foundation for material objects.

discussions. It is of some historical interest to determine whether there are any precedents for Leibniz’s mereological nihilism or whether he is the first to endorse this view. Though I cannot undertake this task fully here, it is worth noting that Thomas Aquinas was suspicious of the possibility that a single thing can be composed of more than one actual constituent, at least when the thing in question is an unum per se. For further discussion of medieval positions on this issue, see M. Adams 1987, 633-670. See also Blank 2016 who attributes something like this view to Nicolaus Taurellus (1547-1606).

There is an inherent difficulty with employing any singular term to capture what I am after, since any term—collection, aggregate, and even plurality—suggests reference to a single thing. As I intend the term, *plurality* will refer to many things as such.
In order to keep track of these different senses of plurality, here is a summary of the three types I have identified:

*Plurality Thesis*: matter has an infinitely descending plural structure.

*Mereological Nihilism*: a plurality cannot be made into a unity.

*Aggregate Thesis*: matter is an aggregate of substances.

In what follows, I will be concerned with the first two types of plurality, leaving the third aside.\(^9\) I now turn to versions of Leibniz’s Argument from Unity found in texts decades apart, showing that the structure of the argument and the commitments driving it remain essentially the same.

3. Plurality in Leibniz’s Argument from Unity

The version of the Argument from Unity in Leibniz’s correspondence with Antoine Arnauld (1686-1690) is perhaps the most thoroughly studied version of this argument, and so I will present it first. Following this, I will present an earlier version found in a short text from 1679, and then a later version found in Leibniz’s correspondence with Burchard de Volder (1698-1706).

\(^9\) For an extended discussion of Leibniz’s view that matter is an aggregate of substances as well as the implications of this view for Leibniz’s considered metaphysics, see Arthur 2018, Ch. 2, esp. pp. 50-60.

\(^{10}\) The character of aggregates in Leibniz’s considered metaphysics is an important topic in its own right. For discussion, see, for example, Rutherford 1990 and Lodge 2001b.
3.1 Leibniz and Arnauld

In his correspondence with Arnauld, Leibniz presents a version of the Argument from Unity, which has been the subject of much scholarly attention. Robert C. Sleigh, Jr. presents a rendering of the Argument from Unity distilled from a variety of versions in the correspondence, and I will give Sleigh’s reconstruction here:

i. Every substance has true (substantial) unity.

ii. Anything whose essence is extension is divisible.

iii. Anything that is divisible is a being by aggregation.

iv. Nothing that is a being by aggregation has true (substantial) unity.

v. Hence, anything whose essence is extension lacks true unity.

vi. Therefore, nothing whose essence is extension is a substance. (Sleigh 1990, 119)

Some general remarks about the argument: notice the similarity between Sleigh’s reconstruction and the version from New System I presented above. Both rely on the same core commitments: (1) the Plurality Thesis—here, premises ii. and iii., (2) Mereological Nihilism—here, premise iv., and (3), a Condition of Substantiality—here, premise i.

11 For discussion, see, for example, Sleigh 1990, Ch. 6, Levey 2003, and Garber 2009, Ch. 2.
12 The numbering of premises I give here will match with the quotations from Sleigh given below.
13 It is worth noting, though I will not discuss Arnauld’s position in detail, that Arnauld rejects this argument by rejecting premise (i): he is dubious of Leibniz’s condition of substantiality (A 2.2 153 = Ma 107).
Leibniz provides a full-blooded defense of Mereological Nihilism in his discussion with Arnauld, so I will focus on this aspect of the argument first. Why does Leibniz endorse Mereological Nihilism? His strategy is essentially an argument from elimination: Leibniz canvases and rejects all available candidate answers to the question *when do the xs compose y, where y is an unum per se?*

(1) **Common Reference.** The xs compose y just in case there is a single name referring to the xs.

(2) **Spatial Proximity.** The xs compose y just in case there is no distance between the xs.

(3) **Common Motion.** The xs compose y just in case the xs share a common motion.

(4) **Functional Arrangement.** The xs compose y just in case the xs are organized towards some common end or function.

All four candidates are, in Leibniz’s view, unable to generate true unity from a collection of parts. His reasoning is presented in two rather long passages.

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14 I adapt this way of posing the question from Peter van Inwagen’s formulation of what he calls the “Special Composition Question” (van Inwagen 1990, 30). I think this is appropriate, since both Leibniz and van Inwagen are interested in the question of how many things might be arranged in order to compose some other thing. Peter van Inwagen’s survey of potential principles of composition largely mirrors Leibniz’s discussion here and arrives at a similar conclusion. van Inwagen notes this, although he is clear that he cannot accept Leibniz’s conclusion, by which I assume he means the introduction of non-material substances. See van Inwagen 1990, 15.

15 All four options are what Leibniz typically characterizes as “mechanical means” (i.e., means relying on only the magnitude, figure, motion, and position of the parts). Under this description, “functional arrangement” might seem like an outlier, but as Leibniz notes, such arrangements are tantamount to patterned interactions between the parts. See the quoted passage below (i.e., GP II, 101-102) for Leibniz’s statement that functional arrangement generates only accidental unity.
First, in a 28 November/8 December 1686 letter, Leibniz develops his view by considering two diamonds, at first spatially distinct from one another, but subsequently moved closer and eventually joined together on a single ring:

For let us assume that there are two stones, for instance the diamonds of the Grand Duke and of the Grand Mogul: one and the same collective name may be given to account for both, and it may be said that they are a pair of diamonds, although they are to be found a long way away from each other; but it will not be said that these two diamonds compose one substance. Matters of degree have no place here. If therefore they are brought closer to one another, even to the point of contact, they will not be more substantially united on that account; and even if after contact one were to add some other body calculated to prevent their separating, for example if one were to set them in a single ring, all that will make only what is called unum per accidens. For it is as though by accident that they are forced into one and the same movement. (A 2.2, 120 = Ma 94).

This passage speaks to options (1) – (3) from the list above. Calling the two diamonds by a single name (e.g., the pair) does not give them substantial unity, nor does placing them in the same display case, nor does causing them to move together by mounting them on the same ring. In each case the diamonds make up only an unum per accidens, not an unum per se.

Second, in a 30 April 1687 letter, Leibniz adds option (4):
One will never find any fixed principle for making a genuine substance from many entities by aggregation; for example, if those parts which conspire towards one and the same end are more fitted for composing a genuine substance than those which are contiguous, all the officers of the Dutch East Indies Company will form a real substance, much better than a heap of stones. But what is the common end, if not a likeness, or else an order of active and passive relationships which our mind perceives in different things? (A 2.2, 192 = Ma 126)

Leibniz frames the task here as the search for a “fixed principle for making a genuine substance from many entities by aggregation [reglé pour faire une substance veritable de plusieurs estres par aggregation]”. He then argues that no such principle can be found. All candidates, when taken as such a fixed principle, are too permissive—it is too easy to generate substances by these means. Therefore, no such principle exists. As Leibniz puts it in 1685: “But actually no entity that is really one [Ens vere unum] is composed of a plurality of parts, and every substance is indivisible, and those things that have parts are not entities, but merely phenomena” (A 6.4, 627 = Ar 271). This is the basis for Leibniz’s commitment to Mereological Nihilism.\(^\text{16}\)

Notice, however, that Mereological Nihilism will not be relevant to Leibniz’s argument against material substance, unless he can establish that matter is a plurality in the first place (i.e., the parts of matter must be sufficiently differentiated so as to require an

\(^{16}\)In recent discussions of Mereological Nihilism, a distinction is often drawn between whether composites exist at all and whether they exist fundamentally (see, for example, Korman 2016). Leibniz is clearly denying that composite things exist fundamentally, but not denying that they exist at all. Still, Leibniz’s view is difficult neatly to locate in contemporary categories. Composite things do exist in a derivative sense, for Leibniz, as pluralities that are given unity (i.e., accidental unity) by some perceiver. But no bodies whatsoever exist fundamentally, since what exists fundamentally are non-material monads.
account of their unity). Thus, the Plurality Thesis functions as a gateway premise to the rest of Leibniz’s Argument from Unity: without it, the argument cannot even get off the ground.

In Sleigh’s formulation of the Argument from Unity found in the Letters to Arnauld, the Plurality Thesis is captured by premises ii. and iii.:

ii. Anything whose essence is extension is divisible.

iii. Anything that is divisible is a being by aggregation.

These premises, when put together, assert a connection between being extended and being an aggregate (i.e., a plurality). On Sleigh’s view, then, the Plurality Thesis is a consequence of the divisibility of matter, since divisibility is what connects the fact that matter is extended with the fact that matter has many parts.

But how does divisibility play this role? In fact, in the correspondence with Arnauld, it is not clear that Leibniz thinks divisibility is enough. Recall the example that Leibniz uses to motivate his commitment to Mereological Nihilism: the diamonds of the Grand Duke and the Grand Mogul. Later in the same letter to Arnauld, Leibniz appeals to the example of the two diamonds as a model for the structure of matter. He writes,

[…] the continuum is not only infinitely divisible, but every part of matter is in fact divided into other parts as different from one another as the two diamonds mentioned above; and since it continues endlessly in this way, one will never arrive at a thing of which it may be said: ‘Here really is an entity’, except when one finds animate machines whose soul or substantial form creates substantial unity.
independent of the external union of contiguity. And if there are none, it follows that apart from man there is apparently nothing substantial in the visible world. (A 2.2, 122 = Ma 95).

Notice two important claims made in this passage:

a) Every part of matter is (not only divisible) but in fact divided.

b) The divided parts are as different from one another as two diamonds.

This suggests a connection between extension and plurality slightly different from the one asserted by Sleigh: the relevant connection is not, it seems, via divisibility, rather it is via actual division. As Leibniz asserts in this text, matter is actually divided and has parts as different from one another as two diamonds. This raises a question: does the Plurality Thesis assert the actual division of matter or merely its divisibility?

Another way to express this commitment would be to say that matter has actual parts; there is, however, some ambiguity in this phrase that needs to be cleared before it can serve as a precise statement of Leibniz's view. I return to this question below. Holden (2004) suggests that it is very common in the 17th & 18th centuries to think that matter is composed of parts that are, in some sense, actual. Holden calls this commitment the "actual parts doctrine" (16). However, Holden notes difficulty in finding arguments for this view in the early modern period. One way to understand the results of this paper, in Holden's terms, is that, for Leibniz, having actual parts is part of (or, at least, follows from) the nature of materiality itself.

Commentators seem to be divided on this question, though I think this is merely a function of the fact that the question has not been engaged explicitly. Sleigh (1990), as I have shown, articulates Leibniz's argument in terms of the divisibility of anything whose essence is extension (119). Garber (2009) also explains Leibniz's commitment in this way: "If we conceive of extended bodies, as the Cartesians argued, as indefinitely divisible and as containing extended parts which, in turn, contain further extended parts, ad infinitum, then it follows that bodies must therefore have no reality..." (75). On the other hand, Rutherford (1995) writes that "[b]ecause of its division in infinitum matter is an aggregate or multitude of things" (220). Levey (1998) and Arthur (2012) also highlight the role of actual division. Arthur writes: "[A]ctual parts, on the other hand, are the result of a motion in common that is actually instituted in matter. But this does not prevent there from being other motions within this part of matter: in fact, of course, Leibniz argues that there are always such differentiated motions in any part of matter, and this is what results in its being infinitely divided. But this also means that no part of matter can be a true unity" (2012, 21). See also Arthur 2018, pp. 39-48.
3.2 Whether Bodies are Mere Phenomena

The same argument, driven by the same commitments about plurality, can also be found in a much earlier work, a short study of body from around 1679, given the title An Corpora Sint Mera Phaenomena.19 This short study is not as refined as either the letters to Arnauld or the New System, but the argument it contains is clearly a precursor to the versions of the Argument from Unity that found in those texts. Furthermore, this early text contains some material that will help address the question raised above concerning the connection between extension, divisibility or division, and plurality. Here is the version of Leibniz’s Argument from Unity found in this text:

(1) I suppose that what has no greater unity than the logs in a bundle of firewood or logpile, or bricks placed one on top of the other, is not properly one entity [unum Ens], but rather entities, although one name can be supposed for them all.

[...]

(2) I also suppose that nothing is intelligible in a body other than extension, i.e. [seu] what has parts beyond parts.

(3) Finally, I suppose that every body is actually divided [actu divisium] into several parts, which are also bodies.

19 There is some uncertainty concerning the date of this text. The Akademie editors put it at 1682/3, based on similarity of content, while Richard T. W. Arthur makes the case that it is likely earlier. See Ar 257 and 415, n. 1 and n. 2. This is not important to settle for my purposes, since in either case the text contains an early version of an argument that Leibniz will employ frequently.
From this it follows:

First, that there is no such thing as one body [nullum dari unum corpus].

[...]

Hence it follows that either bodies are mere phenomena, and not really entities, or there is something other than extension in bodies. (A 6.4, 1464 = Ar 257-9)

Notice Premise (1). Even in this early version, Mereological Nihilism plays a central role in the argument: Leibniz argues that insofar as a body has several parts, it cannot have the unity required to be a substance; it is not properly one entity, but entities. This, of course, presupposes that matter is a plurality in the first place.

Fortunately, even in this early text, the Plurality Thesis is on display. Extension is characterized as “what has parts beyond parts”; and Leibniz makes the explicit point that “every body is actually divided into several parts, which are also bodies” (A 6.4, 1464 = Ar 257-9). As in the Letters to Arnauld, then, the Plurality Thesis seems to express the actual division of matter. So does that settle the question? Should the Plurality Thesis be understood in terms of actual division?

Not quite. Leibniz notes immediately following the quoted passage that “[t]his argument succeeds even if the third supposition is not conceded...” (A 6.4, 1464 = Ar 259); that is, the argument will still go through even if every body is not actually divided, but merely divisible. What does this mean for the conception of plurality being relied upon in this argument? Should the Plurality Thesis be understood in terms of divisibility?

Again, not quite. Leibniz claims that if (3) is not conceded, the argument requires an additional assumption, namely that “contact alone does not make one entity”. Once this
assumption is made, according to Leibniz, the argument will still go through. But what does this mean about whether the mere divisibility of matter establishes that matter is a plurality in the relevant sense? Leibniz seems to be relying on the idea that matter has differentiated parts even if those parts are not actually divided from one another. This is suggested by his remark about contact: if contact alone won’t do the trick, then the body remains entities even if it is merely divisible. Thus, mere divisibility will entail plurality because, even in this case, matter consists in a plurality of parts; it just happens to be the case that they are not yet divided from one another (i.e., they are still in contact). So, in this early text, Leibniz does seem to think that matter will be a plurality in the relevant sense even if it is merely divisible, not actually divided. But this is because he conceives of merely divisible matter as already containing differentiated, though not yet divided, parts.

It is important to remember that this is simply a variant of the argument, given that one wishes to deny Premise (3). As Leibniz himself formulates it, the argument runs by way of the actual division of matter. Still, this variant is instructive. It shows the dialectical force of the Plurality Thesis: whether one thinks of matter as merely extended and divisible or actually divided, matter has differentiated parts and is therefore a plurality in need of unity, unity that it cannot be granted by any available means. Thus, the Plurality Thesis is a

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20 Leibniz characterizes matter as actually infinitely divided, yet without any gaps between the divided parts, even at the time this text is written. See, for example, the dialogue Pacidius Philalethei, esp. A 6.4, 556 = Ar 187. This suggests that Leibniz’s discussion here is very much in a dialectical spirit.

21 Arthur (2018) reads this argument as crucially relying of the actual division of bodies (47-48), His interpretation does not consider the qualification Leibniz makes concerning the divisibility of matter.

22 Thus my assessment of Leibniz’s argument in this text agrees with Arthur 2018 in that I think Leibniz is in fact committed to the actually infinite division of matter. Where my assessment differs, however, is that on my reading Leibniz thinks the argument would go through even if matter is taken to be merely divisible. This point speaks to the generality of Leibniz’s Plurality Thesis.
general claim about the nature of materiality itself, whether it is actually divided or merely divisible: to be material is to be a plurality.

3.3 Leibniz and De Volder

The final instance of Leibniz’s Argument from Unity that I will consider is found in Leibniz’s letters to Burchard de Volder. Consideration of this text will help to vindicate many of the interpretive claims I have made above, but also to supplement our understanding of the connection between extension and plurality. As in the correspondence with Arnauld, Leibniz develops different versions of the Argument from Unity throughout the correspondence, though the focus is somewhat different given that De Volder has slightly different interests in, and objections to, Leibniz’s arguments when compared to Arnauld. In light of De Volder’s reactions, much of Leibniz’s effort focuses on convincing De Volder that there is a deep connection between extension and plurality, an effort that, unfortunately for Leibniz, does not ultimately succeed.23 However, this effort is extremely helpful for present purposes, since it explicitly displays how Leibniz sees this connection.

While trying to convince De Volder that extension cannot constitute the essence of substance, Leibniz attempts to motivate the claim that extension involves or relies on the notion of plurality. He writes,

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23 See Lodge 1998 and 2001a for a discussion of the ways in which Leibniz’s correspondence with De Volder was a failure.
I do not think that there is a substance constituted from extension alone, since the concept of extension is incomplete. Nor do I think that extension is conceived through itself, but that it is a resolvable and relative notion. For it is resolved into plurality, continuity, and coexistence, i.e., the existence of parts at one and the same time. (3 April 1699; A 2.3, 546 = Lo 73)

This observation is the beginning of a striking, multi-pronged line of argument against material substance from the concept of extension itself. This argument is broader than Leibniz's Argument From Unity, but it does appear to contain Leibniz's Argument from Unity as one of its prongs. I will here focus only on the claim that extension is partially resolved into plurality, since this is most relevant to the present investigation.

According to this text, plurality is part of the very concept of extension. But why is the concept of extension partially resolved into plurality? Leibniz has this to say:

I think that that which is extended has no unity except in the abstract, namely when we divert the mind from the internal motion of the parts by which each and every part of matter is, in turn, actually subdivided into different parts, something that plenitude does not prevent. (3 April 1699, A 2.3, 546 = Lo 73)

Leibniz continues this argument as follows: "But from this it appears that something must always be assumed that is continued or diffused, such as whiteness is in milk, color, ductility, and weight are in gold, and resistance is in matter. For, in itself, continuity (for extension is nothing but simultaneous continuity) no more completes a substance than multitude or a number, where there must be something numbered, repeated, and continued" (3 April 1699, A 2.3, 546 = Lo 73). Thus, as in the other instances of Leibniz's Argument from Unity, the ultimate conclusion will be that matter (or extension) requires a foundation in non-material (or non-extended) substances.

Some commentators have been rather dismissive of this line of thought. See, for example, Hartz 2006, 64-65, who describes this as "armchair psychology". I am inclined to think that the argument is more powerful than this remark suggests, though I will not develop my own assessment here.
As in the texts above, Leibniz’s conception of the plurality of matter or extension relies on the fact that matter is actually divided into different parts. But this text also provides a helpful contrast between “extension in the abstract” and “that which is extended”. This is illuminating. Extension does have unity in the abstract; however, when we consider extension as it actually exists we are forced to accept that the parts of extension are in motion and matter is actually subdivided. So there are two different notions of extension in play here:

Abstract Extension: homogeneous, undifferentiated, unity

Concrete Extension: actually divided, parts with different motions, plurality

This analysis of extension is slightly different from the one found in the 1679 text considered above. There, the divisibility of extension seemed like it was enough to entail plurality. Has that changed here? I don’t think so. There is a difference between merely divisible matter on the one hand and abstract extension on the other. While abstract extension might be a unity, and thus not sufficient to entail plurality, it is merely an abstraction. In order to conceive of extension in this way, the mind has diverted itself from the actual variation present in any extended thing. Extension subject to the conditions of physical existence (i.e., concrete extension or matter) is a plurality. Therefore, as I understand it, the Plurality Thesis is a claim about what matter must be like, regardless of the particular configuration of the actual world. This ensures that every material thing is a plurality simply in virtue of its materiality.
3.4 The Argument from Unity

Now that I have surveyed a variety of instances of Leibniz's Argument from Unity, I am in a position to make some general remarks. Since a variety of different conceptions of matter figure in Leibniz’s thought, it is important to consider which notion of matter Leibniz engages in his Argument from Unity. At least the following three conceptions of matter should be identified and distinguished:

(1) Cartesian matter or *res extensa*: Descartes’s conception of matter—matter consisting in extension alone.

(2) Primary Matter or *materia prima*: What Leibniz characterizes as “primitive passive power” (i.e., the capacity to be affected or to be limited).

(3) Secondary Matter or *materia secunda*: What Leibniz characterizes as an aggregate (or, at least, the result of an aggregate) of substances.26

Which conception of matter is Leibniz concerned with in the Argument from Unity? One might be tempted to suggest conception (3): Leibniz rejects that secondary matter is a substance precisely because it is an aggregate. This is not without plausibility. As Leibniz writes to Bernoulli in 1698 (already quoted above): “secondary matter, i.e. mass, is not a

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26 I cannot provide a detailed treatment of the variety of texts in which these notions are developed and engaged. However, they all appear in a single letter to Arnauld from 9 October 1687 and associated drafts (A 2.2, 238ff.). For more detailed discussion of this text see R. Adams 1994, 341-349. For an excellent recent discussion of Leibniz’s conception of primary matter, which interprets it as a privation, see Antognazza 2014.
substance, but substances” (A 3.7, 885 = Lo 9). But this notion of secondary matter is part of Leibniz’s considered metaphysics. In other words, Leibniz’s statement to Bernoulli is the conclusion of a much longer line of reasoning, one that follows from the conclusion of the Argument from Unity, not one that functions as a premise in that argument.

When looking at Leibniz’s Argument from Unity over the course of many decades, it is clear that Leibniz engages conception (1). This is the case in the early text An Corpora Sint Mera Phaenomena, in which Leibniz provides a characterization of matter as consisting in extension alone, and runs the Argument from Unity on this basis. It is also clear in Sleigh’s reconstruction on Leibniz’s arguments to Arnauld: anything whose essence is extension is a plurality. And, I think, it is also clear in the New System, in which matter is characterized as purely passive: a characterization that applies to Cartesian matter but not to secondary matter. In fact, thinking that Leibniz’s Argument from Unity engages conception (3) would be to mistake the order of Leibniz’s argument.27

The order of Leibniz’s argument is aptly displayed in his exchange with De Volder. Since, in this correspondence, Leibniz is trying to motivate the need for an active principle in matter by relying on the claim that extension involves plurality, he cannot appeal to the presence of substances in matter to motivate the plurality in the first place—in other words, his argument cannot be concerned with secondary matter.28 Clearly, then, the conception of matter Leibniz is engaging with here is Cartesian matter. To be sure, his

27 In other words, Leibniz’s Argument from Unity is dialectically committed to the Cartesian conception of matter, from which it argues for the insufficiency of that conception. Subsequent to this argument, Leibniz develops a positive theory of substance on which monads or simple substances are true beings, while composite things or things with parts are merely aggregates. The same commitment—Mereological Nihilism—plays a role in both stages of Leibniz’s project.

28 The exchange on this point spans a number of letters. See, for example, A 2.3, 546 = Lo 73 and A 2.3, 563 = Lo 93 for Leibniz’s attempt to appeal to the presence of entelechies and De Volder’s reaction. For further discussion of the structure of Leibniz’s argument to De Volder, see Harmer 2018.
engagement is dialectical—he is only taking Descartes’s and De Volder’s conception of matter on board to display the difficulties involved in characterizing it as a substance—but it shows that in Leibniz’s view even Cartesian matter, insofar as it is material at all, is a plurality.

In a 1699 letter to De Volder, Leibniz writes, “I certainly had not believed that plurality could be denied in that which is extended, especially if we admit actual parts, as you do—unless we were to deny plurality even in a herd and an army, i.e., everywhere” (6 July 1699; A 2.3, 576 = Lo 99). Notice the two distinct claims being made here: (i) extension entails plurality and (ii) extension entails plurality, especially if we admit actual parts. Thus, although it is easier to see that extension entails plurality once matter is actually divided, concrete extension entails plurality either way. This unites Leibniz’s claims about the plurality of matter from the short 1679 piece An Corpora Sint Mera Phaenomena, to the 1686 Letters to Arnauld, to the New System of 1695, and, finally, to the Letters to De Volder, this one from 1699. In each case, matter is a plurality because every material thing has many different parts, which may also be actually divided from one another. Material things are more like logpiles, herds, or armies than like individuals. Subsequent to his Argument from Unity, Leibniz will draw the further conclusion that if matter is to exist in any sense, even as a plurality, it needs to be grounded on non-material substances and their active forces. But this subsequent line of thought needs to be kept separate from the one I am engaging here, if clarity is to be achieved concerning either one.

7. Actual Parts
One way of expressing the Plurality Thesis might be to say that, for Leibniz, matter has actual parts. A common way of explicating the notion of actual part, as it is employed in the 17th & 18th century, is to say that actual parts are \textit{ontologically prior} to the wholes they compose. Notice that this claim can be upheld even if the parts are not in fact divided, even if the parts are merely divisible. This seems to fit nicely with Leibniz’s Plurality Thesis as I have articulated it above. Could we, therefore, simply say that Leibniz’s Plurality Thesis is equivalent to the claim that matter has actual parts?

In Leibniz’s case, it is not clear that this is the best way to characterize material parts. Although material parts are prior to material wholes in some sense, there are at least two important senses of “actual part” that need to be distinguished:

- **Actual Part (Division):** parts that are actually divided and different.
- **Actual Part (Existence):** parts that are fundamental (i.e., whose existence needs no further ground).

It is clear that, for Leibniz, material parts are actual parts in the first sense. Are they also actual parts in the second sense?

29 The seems to be the route taken by, for example, Levey 1998, Rutherford 1995, and Arthur 2012.
30 For discussion of the notion of actual part in the early modern period and the different ways in which this notion was understood, see, for example, Holden 2004, especially Ch. 2.
31 For a discussion of the ways in which early readers of Leibniz have mistakenly characterized monads as actual parts, see Arthur 2018, pp. 32-39. I agree with Arthur’s analysis of the mistakes of previous commentators. However, I differ in that although I do not think that monads are not parts in Leibniz's sense of “part”, they nevertheless play the philosophical role of actual parts in the following sense: they are fundamental constituents of reality.
32 This distinction roughly tracks Holden (2004)'s distinction between physical part and metaphysical part, respectively. See Holden 2004, 9-14.
33 See, for example, Arthur 1989 & 2018, Ch. 1, Levey 1998. Both Arthur and Levey identity the source of Leibniz’s doctrine of actually infinite division as his attempt to make sense of motion in the plenum. See Descartes’s \textit{Principles} II.33-36 and Leibniz’s comments on these articles at A 6.3, 214 = Ar 24-25 and GP IV,
The answer is clearly "no". This is one central implication of Leibniz’s rejection of matter as a substance. The only candidates, within Leibniz’s metaphysics, for actual parts in the second sense are non-material substances. These substances play the relevant role: they provide a foundation for the existence of material things. But, according to Leibniz, substances are not, strictly speaking, parts of material things. As he writes to De Volder, “substantial unities are not parts, but the foundations of phenomena” (GP II, 268 = Lo 303).

Thus, the crucial sense of “part” for Leibniz’s Argument from Unity is Actual Part (Division), not Actual Part (Existence). But there is still an important type of priority at play in the notion of Actual Part (Division), which Leibniz’s argument needs, even though the type of priority at stake is not absolute priority or fundamentality.

To exist and be material requires, on Leibniz’s analysis, that material parts are prior to the wholes they compose. Why is this? If things were otherwise, then material things would be indeterminate, their structures would not be entirely specified or determined at any given time. But this, according to Leibniz, is inconsistent with concrete material existence. As Leibniz writes in a late draft letter to De Volder,

Of course, the continuum involves indeterminate [indeterminatas] parts, but, nevertheless, nothing is indefinite [indefinitum] in actual things. Indeed, any division that can be made in actual things has been made. Actual things are composed as a number is composed from unities, ideal things as a number is composed from fractions. There are actual [acti] parts in a real whole, but not in an ideal whole.

370 = L 393. I agree with Arthur’s and Levey’s analysis if the actual parts of matter are understood in terms of Actual Part (Division). Thus, my framework provides a way to say that Arthur and Levey are correct, but also to say that monads play the philosophical role usually assigned to actual parts (i.e., Actual Parts (Existence)).
Indeed, when we—confusing ideal things with real substances—seek actual parts \([\textit{partes actuales}]\) in the order of possible things and indeterminate parts in an aggregate of actual things, we entangle ourselves in the labyrinth of the continuum and in inexplicable contradictions. (GP II, 282-283 = Lo 333)

Even though material parts are not absolutely fundamental, they do enjoy a relative priority when considered in relation to wholes they compose. In fact, they must, if the material world is to meet a crucial requirement of existence: to exist is to be \textit{determinate}.

One further question: why can’t we think of substances as Actual Parts (Existence)? Is Leibniz’s hesitation to call substances “parts” merely terminological quibbling? I don’t think so. Leibniz avoids the use of the term “part” when characterizing substances in order to avoid what he calls—in the passage to De Volder above—“the labyrinth of the continuum and in inexplicable contradictions”. Substances are not parts because they cannot \textit{compose} bodies, much in the way that points cannot compose a line. Thus, the idea that the parts of matter could be Actual Parts (Existence) is, for Leibniz, the path to confusion and paradox. The distinction between Actual Parts (Division) and Actual Parts (Existence) is not philosophically inert: Leibniz thinks it is the only way to develop a coherent philosophy of matter.

In light of this result about actual parts, I think it is helpful to distinguish two different theses about the plurality of matter, which will be familiar from Section 2 above, but now have more philosophical force:

\textbf{Plurality Thesis:} Material things are pluralities (i.e., pluralities of parts).
**Aggregate Thesis**: Material things are pluralities (i.e., pluralities of substances).

As I see it, the Plurality Thesis is involved in Leibniz’s rejection of material substance. In that argument, Leibniz is making claims about matter, not the substances underlying it, and this version of the Plurality Thesis is important for Leibniz’s inference to a monadological metaphysics, not a consequence of such a metaphysics. The Aggregate Thesis is Leibniz’s positive view (or, at least, one aspect of it) concerning what we should think about material things in light of the fact that a material thing is not a substance (but *substances*), yet still enjoys a certain type of existence as a *phenomenon bene fundatum*.34

Thus, Leibniz’s view has a complicated connection with the fairly common 17th & 18th century view that material things have actual parts. In Leibniz’s hands, this commitment amounts to the claim that material parts are actually divided and that they enjoy a relative priority to wholes they compose. However, what material things ultimately depend on, for Leibniz—what is absolutely fundamental—are not material parts at all, but non-material substances. In Leibniz’s hands, then, the philosophical role of actual parts is subject to a division of labor: there are actual material parts, which are prior to the wholes they might compose in the sense that they are already divided from their neighbors. But there are actual substantial parts (though Leibniz avoids the term “part” in this connection), which provide the ultimate foundation for the existence of the material world.

**8. Conclusion**

34 Thanks to Donald Rutherford for helpful challenges to this characterization of Leibniz’s argument.
Leibniz’s Argument from Unity is equally an argument from plurality. As I have shown above, the question of plurality is as important to Leibniz’s argument as the question of unity is. However, even though a great deal of attention has been paid to the question of unity, which has led to a very rich, but also very longstanding disagreement about Leibniz’s metaphysics, much less attention has been paid to the question of plurality. I offer a corrective to this trend. By focusing on the role of plurality in Leibniz’s argument, I have been able more fully to develop the structure of his argument as well as the commitments driving it. This, in turn, helps to identify the target of Leibniz’s argument, which exemplifies the dialectical power of this line of thought. Leibniz’s argument is conceived to be so broad as to apply to any conception of materiality whatever.

I have argued that there are two commitments vis-à-vis plurality that are relevant to Leibniz’s Argument from Unity. On the one hand, there is Mereological Nihilism: Leibniz clearly asserts that once you have a plurality of parts, there is no way to put them together to form a true being (i.e., an unum per se). On the other hand, there is the Plurality Thesis: matter is a plurality of different parts, which need to somehow be put together in the first place. Crucially, both of these commitments are needed for Leibniz’s argument to go through. Still, the Plurality Thesis is in some sense the most important part of the argument, since it provides the way in. The more familiar parts of the Argument from Unity apply only if it can first be established that matter is a plurality in need of unity. The Plurality Thesis is, therefore, the gateway into Leibniz’s powerful Argument from Unity.

Leibniz is not alone among the early moderns in claiming that matter consists in in actual parts, but the particular conception of the plurality of matter that he connects with the actual parts doctrine is unique. Furthermore, Leibniz divides the philosophical role of
actual parts between the actual parts of matter on the one hand, and the foundation of the material world, namely non-material monads, on the other. Leibniz’s conception of the plurality of matter is, therefore, the entry point into Leibniz’s powerful line of thought that pluralities must be grounded in individuals, and that those individuals must be in some sense prior to the pluralities they populate, a line of thought that is of enduring interest.

Bibliography


