Leibniz, Acosmism, and Incompossibility

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Abstract

Leibniz claims that God acts in the best possible way, and that this includes creating exactly one world. But worlds are aggregates, and aggregates have a low degree of reality or metaphysical perfection, perhaps none at all. This is Leibniz's tendency toward acosmism, or the view that there this no such thing as creation-as-a-whole. Many interpreters reconcile Leibniz's acosmist tendency with the high value of worlds by proposing that God sums the value of each substance created, so that the best world is just the world with the most substances. I call this way of determining the value of a world the Additive Theory of Value (ATV), and argue that it leads to the current and insoluble form of the problem of incompossibility. To avoid the problem, I read "possible worlds" in "God chooses the best of all possible worlds" as referring to God's ideas of worlds. These ideas, though built up from essences, are themselves unities and so well suited to be the value bearers that Leibniz's theodicy requires. They have their own value, thanks to their unity, and that unity is not preserved when more essences are added.

1   Introduction

At the end of Leibniz's life, an anonymous author criticized him for holding "that there is a single substance for all things, and that this substance is mind" (GP.VI.625/AG.227). Leibniz dismissed the criticism:

> there are as many completely distinct substances as there are monads, and not all the monads are
> minds, and these monads do not make up a whole that is truly one, and the whole, were they to
> make one up, would not be a mind. [GP.VI.625/AG.227]

These reasons will not surprise contemporary interpreters, who agree that Leibniz broke with Spinoza on the number of substances. It is perhaps more surprising that Leibniz made an effort to show how close the criticism came to the truth. The passage continues:

> I am also far from saying that matter is a *shadow* and even a *nothing*. These expressions go too far. Matter is an aggregate, *not a substance but a substantiatum* as would be an army or a flock; and, insofar as it is considered as making up *one* thing, it is a phenomenon, very real, in fact, but a thing whose *unity* is constructed by our conception. [ibid.]

The matter that Leibniz mentions is elsewhere identified as secondary matter, or infinitely many coexisting substances insofar as they are coperceived.[1] This definition, though metaphysically accurate, does not tell us what secondary matter is like. For this, we look to the phenomena directly: secondary matter is what populates our experience, the bodies around us, and ultimately the world *as we experience it*.[2] The critic must have suggested that Leibniz found no reality in matter and all of reality in a single mind. Leibniz untangles the criticism: the completely distinct substances of Leibniz's fundamental metaphysics do not jointly compose a mind, but they do compose this secondary matter and the manner of composition depends on mental activity.

In this passage and throughout his work, Leibniz offers two ways of understanding the actual world. Whereas contemporary interpreters focus on the independence of Leibnizian substances and so understand that the actual world is an aggregate and not a substance or a "true unity," the anonymous critic focused on the mind-dependent way in which the actual world is a phenomenal or even a conceptual unity. Considered just in terms of its components, the actual world is not one thing but infinitely many things. These infinitely many things, however, may be experienced as a continuous whole and even grasped under a single concept by a suitably powerful mind. For such a mind, whose perceptions are not confused and so not phenomenal, the world would have the unity of a single idea.

Contemporary interpreters have given significant attention to Leibniz's idealist ontology of aggregates,[3] but much less attention to what this implies about the actual world and what it means for that world to have some degree of metaphysical perfection. If unity is the mark of reality and a prerequisite for metaphysical perfection, then aggregates must lack reality and lack

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[1] On the connection between secondary matter and aggregates, see FB.26-27/AG.274.

[2] On the connection between matter and phenomena, see LDV.302-303.

[3] See, for example, Rutherford 1994; Adams 1994, 244-247; Lodge 2001, and Palkoska 2010.

metaphysical perfection.[4] Also, as the opening passage implies, the world is an aggregate. Leibniz states this directly throughout his work. For example, the world is the "collection of finite things" (GP.VII.302/AG.149) and "the whole assemblage of contingent things" (GP.VI.107/H.130). It follows that the created world lacks reality and metaphysical perfection.

Yet, Leibniz writes that "God has only to make decrees in order that a real world come into being" and that "God has chosen the most perfect world" (A.VI.iv.1538-1539/AG.39). Somehow, the world is real and to some degree perfect. Not only this, but creating an aggregate must be the best that God can do, because creating "the best of all possible worlds" (GP.VI.210/H.232) amounts to acting "in the most perfect manner, not only metaphysically, but also morally" (A.VI.iv.1531/AG.35). In order to make sense of these theodician commitments about the world, we must integrate Leibniz's value theory with the idealist aspect of his ontology of aggregates. The former demands unity of the world and only the latter supplies it.

With the notable exceptions of Catherine Wilson and Ohad Nachtomy (Wilson 2000; Nachtomy 2001), whose arguments I address in Sect. 2, most contemporary interpreters have not understood Leibnizian worlds as mind-dependent wholes with their own intrinsic value. Instead, they have relied, often implicitly, on what I will call the Additive Theory of Value (ATV):

the value of an aggregate is the sum of the values of its components.

The ATV provides a function from the values of each of the created substances to a single value, which in turn may be attributed to the aggregate. The theory does not require that the world itself be a unity or the source of its own value. Just as the world is nothing over and above its parts, the ATV implies that the value of the world is nothing over and above the sum of the values of its parts.

The ATV respects the status of the world as an aggregate, but it also renders the problem of incompossibility insoluble. If God aims to create the world of greatest value, then God aims to create the aggregate with the greatest sum of perfections. Putting aside for the moment some difficulties with infinite sums, this implies that God aims to create every substance. If Leibnizian substances are metaphysically independent (see, for example, A.VI.iv.1550/AG.47), then there is nothing in the substances themselves to stop God from doing just this. Interpreting Leibniz's talk

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[4] I support the connection between reality and perfection in Sect. 3.2. For the connection between unity and reality, see especially A.II.ii.174-193/LA.113-129.

of incompossibility becomes the search for some *tertium quid* in addition to the substances themselves and the sum of their values that might keep God from carrying out this aim. There is no such *tertium quid*.[5]

I do not defend that negative claim, but I do reframe the problem of compossibility by rejecting the ATV, or rather, by rejecting the underlying notion that God chooses among aggregates. God's choice of the best world should not be understood as a choice among different aggregates, for these are plural and the ATV is perhaps our best chance at assigning them a degree of value, and the ATV, in turn, pushes us to assign the highest value to the world in which everything possible is actual. Instead, God chooses among ideas or concepts, each of which would supply the unity for a different aggregate of substances were God to create them.

These ideas include or encompass the ideas of specific substances, but are nevertheless unities in their own right, and so have their own degree of metaphysical perfection. The contribution a substance makes to the perfection of its world depends on how that substance's idea relates to the ideas of all the other substances included in its world. So, a substance may contribute something other than its own intrinsic degree of perfection.[6] On this view, one world is more choiceworthy than another if and only if its concept or idea has a greater degree of metaphysical perfection.

Similarly, substances are compossible if and only if their ideas are included within one more encompassing idea that has some degree of metaphysical perfection, or some degree of attraction to the divine will. That is, several substances are compossible if God has one reason to create *all* of them. Otherwise, they are incompossible. I build up to a more detailed presentation of this view in three steps: (1) a discussion of what Leibniz means by "world," (2) a more sympathetic presentation of the ATV and its relation to the incompossibility problem, and (3) an indirect proof that Leibniz's God evaluated ideal wholes and not aggregates.

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[5] Jeffrey McDonough provides an excellent example of such a search. His *tertium quid* is the structure of space and time as a short of receptacle for extended substances. No substance rules out any other by its nature, but only certain combinations will fit into the available space. See McDonough 2010.

[6] This point and the whole discussion of the ATV owes much to a similar argument in Shelly Kagan 1988.

The discussion in Sect. 2 reveals two senses of "world" in Leibniz, one leaning toward acosmism (the view that there is no world) and the other pulling back from this extreme. Section 3 shows how the ATV draws its strongest support from Leibniz's acosmist tendency, while Sect. 4 describes a way around the ATV rooted in Leibniz's way of resisting acosmism. Leibniz's explanation of the world's unity also explains incompossibility.

2   The Many Senses Of "World"

Contemporary modal metaphysics relies on context to distinguish between two different meanings of "the world." The world may be the universe or all of what God creates. The world may also be the way that everything is. On the latter meaning, the world is just one world among however many other ways things could have been. Leibniz uses the term with just this ambiguity, in a passage from the *Theodicy*:

> I call 'World' the whole succession and the whole agglomeration of all existent things, lest it be said that several worlds could have existed in different times and different places. For they must needs be reckoned all together as one world or, if you will, as one Universe. And even though one should fill all times and all places, it still remains true that one might have filled them in innumerable ways, and that there is an infinitude of possible worlds among which God must needs have chosen the best, since he does nothing without acting in accordance with supreme reason. [GP.VI.107/H.131]

At the beginning of the passage, Leibniz argues that there can only be one world: there can be only one collection that includes everything (created), and the world is that collection. At the end of the passage, he states that there are infinitely many possible worlds. How can there be infinitely many worlds (of any sort) and also at most one world? "World" in "possible world" must refer to something different in kind from "world" used without qualification. Just before introducing possible worlds, Leibniz mentions an infinite number of ways of filling all time and space. I propose that we identify these ways with possible worlds. "World" may refer to the maximal collection of created substances, or to the ways that God can create.

One might object that Leibniz, as a nominalist, would not quantify over ways for God to create, because ways are universals. The objection is misplaced, because Leibniz's nominalism has room for particular divine ideas and even for combinations of divine ideas. These are modes of God, but would also represent or express some particular substance or collection of substances

were God to create such. Conversely, for every substance that God can create, there is an idea in God's mind that expresses it or its nature. It is in this sense that divine ideas are ways for God to create: they are the models for any possible creation.[7]

The ideas or ways are not themselves created. They are independent of what God creates, for nothing about creation itself affects the options God faced in deciding what to create. But they are not independent of what God knows, because they are what God knows. As the passage from the *Theodicy* states, for God to create a world is for God to create a certain collection of substances. If the unique way that a substance is its essence, then an uncreated world is constructed from essences. Essences, in turn, either are divine ideas or they are the intentional content of divine ideas.[8] Either way, they have their ground in God's intellect, as Leibniz states in this passage from *On the Ultimate Origination of Things*:

> […] neither those essences nor the so-called eternal truths pertaining to them are fictitious; rather, they exist in a certain region of ideas, so to speak, in God himself, the source of every essence and of the existence of the rest. [GP.VII.305/AG.151-152]

This quote is drawn from Leibniz's essay on the ultimate origin of things. This is appropriate, because the two sorts of world have distinct ultimate origins. The sort composed of essences is generated eternally in God's intellect; the sort composed of substances comes to be through an act of God's will. Departing from Leibniz's own usage, I will distinguish between *the created world* and the infinite number of *uncreated worlds*.

Though they are eternal, there is a sense in which God brings the uncreated worlds into being from the ideas of particular substances. God does this not through a creative act of will, but through a timeless and necessary act of intellect, or more specifically, of divine wisdom. In an extended passage from the *Theodicy*, Leibniz describes this non-temporal process in a narrative mode:

> The infinity of possibles, however great it may be, is no greater than that of the wisdom of God, who knows all possibles. One may even say that if this wisdom does not exceed the possibles

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[7] Why should God have such models? There is a story to tell about the origin (but not the creation) of divine ideas in God's self-reflection. On this, see especially Nachtomy 2007.

[8] For a dispute about whether essences are best seen as the intentional content of divine ideas, or as identical to those ideas, see Nachtomy 2007, 14-16 and Newlands 2013, 165n26.

extensively, since the objects of the understanding cannot go beyond the possible, which in a sense is alone intelligible, it exceeds them intensively, by reason of the infinitely infinite combinations it makes thereof, and its many deliberations concerning them. The wisdom of God, not content with embracing all the possibles, penetrates them, compares them, weighs them one against the other, to estimate their degrees of perfection or imperfection, the strong and the weak, the good and the evil. It goes even beyond the finite combinations, it makes of them an infinity of infinites, that is to say, an infinity of possible *sequences* of the universe, each of which contains an infinity of creatures. By this means the divine Wisdom distributes all the possibles it had already contemplated separately, into so many universal *systems* which it further compares the one with the other. The result of all these comparisons and deliberations is the choice of the best from among all these possible *systems*, which wisdom makes in order to satisfy goodness completely; and such is precisely the *plan* of the universe as it is. [GP.VI.252/H.271; my emphasis]

Identifying the essences of substances with divine ideas (or with their intentional content) already implies that essences are intelligible. In this passage, Leibniz describes another class of entities, here called sequences, systems, or plans—that are constructed from the essences by God's wisdom. Since the members of this class also have their being as objects of an intellect, they must be intelligible too. In other words, sequences, systems, or plans are ideas. They are all ideas of the same type, because they are all uncreated worlds, or ways that God might create.

For Leibniz, intelligibility implies unity, and unity requires the priority of the whole to its parts (see, for example, A.VI.iv.1622/MP.81). This is why aggregates are not themselves intelligible. It might seem to follow that the sequence, system, or plan of the created world is also not intelligible, because it is constructed from its parts, and so posterior to those parts in some sense. Indeed, Leibniz adds immediately after the extended *Theodicy* passage that "all these operations of the divine understanding, although they have among them an order and a priority of nature, always take place together, no priority of time existing among them" (GP.VI.252/H.271). The essences, which come first in the narrative analogy of God's deliberation, in fact come first by a priority of nature. God's contemplation of possible substances grounds God's construction of uncreated worlds.

The posteriority of uncreated worlds to their parts seems to undermine the unity and full intelligibility of uncreated worlds, and ultimately to undermine the present account of incompossibility, which relies on that unity. This line of objection cannot be right, however, because Leibniz claims that "the *a priori* knowledge of complexes arises from the understanding

of that which is not complex" (A.VI.iv.1515/MP.96), which implies that there is *knowledge* of complexes and therefore some sense in which complexes are prior to their parts.

Leibniz does sometimes describe uncreated worlds as *prior* to their parts. In contrast with the extended quote from the *Theodicy* above, Leibniz describes a mental operation in which God extracts the ideas of particular substances from uncreated worlds. For example:

> For God, so to speak, turns on all sides and in all ways the general system of phenomena which he finds it good to produce in order to manifest his glory, and he views all the faces of the world in all ways possible, since there is no relation that escapes his omniscience. The result of each view of the universe, as seen from a certain position, is a substance which expresses the universe in conformity with this view, should God see fit to render his thought actual and to produce this substance. [A.VI.iv.1538/AG.46-47]

Here we again meet the system, or uncreated world, as well as divine thoughts about particular possible substances in the system—but the priority relation points in the opposite direction. God extracts the essences of particular substances from the general system by a sort of perspectival contraction.

Leibniz is apparently committed to a symmetrical priority relation: uncreated worlds are somehow both prior and posterior to the essences they contain. To explain this, I argue that Leibniz has certain paradigmatic cases of part-whole priority, and that he uses the language of priority loosely in non-paradigmatic cases. Non-paradigmatic cases have much in common with paradigm cases, but differ in some crucial respects. The commonalities justify Leibniz's use of priority language to describe the relation between essences and uncreated worlds, and the differences explain how essences may be both prior and posterior to uncreated worlds. Essences are prior to uncreated worlds, but only in a loose sense that does not undermine their unity and intelligibility.

The first paradigm case is the relation between the secondary matter mentioned in the first quote and an aggregate of substances. In an aggregate of substances, the parts are prior to the whole because the whole is irreducibly plural. There is no whole at all except insofar as the parts are related by some mental operation. The second paradigm case is the relation between a line and its points. Here, the reverse is true. There is only the whole, no parts at all unless the line

is divided by some mental operation.[9] In both paradigm cases, there is a unique direction of priority, either from part to whole or from whole to part. Also in both cases, the mental operation required to move from prior to posterior generates a new type of entity, secondary matter or phenomena from an aggregate and limit points from a continuous line. The generated item, in both cases, belongs to a type of entity that is less unified and so less intelligible than its ground(s).[10]

In the relationship between essences and uncreated worlds, neither of these commonalities apply. There is no unique direction of priority, and the mental operation by which God moves from essences to uncreated worlds (or back again) does not produce an item of a less unified and so less intelligible ontological type. Dividing or uniting ideas may yield more entities of the same type: ideas. The idea of the world is prior to its parts insofar as it is an idea, fully intelligible on its own, and the starting point for a mental operation that produces those parts. Likewise, the ideas of individual substances are prior to their uncreated worlds insofar as they are ideas, fully intelligible on their own, and the starting point for a mental operation that produces the whole, or the uncreated world.

Of course, it is somewhat paradoxical to call anything prior to X if it is also posterior to X. The paradox is resolved if we recognize that Leibniz is using the language of priority loosely, based on the similarity between his paradigm cases and the case at hand. Both the essences and the uncreated worlds are intelligible on their own in unique mental acts and both may be the source of the other through operations of the divine mind. The relations running between essences and uncreated worlds have this much in common with the more traditionally named priority relations between aggregates and substances, or between continua and their limits. The crucial difference is that neither mental operation, from essences to uncreated worlds or back

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[9] See Leibniz's early dialogue on continua, *Pacidius Philalethi* (RA.180-181) and the letter to De Volder of 30 June 1704 (LDV.302-303).

[10] Leibniz presents the two paradigms together in *Remarques sur les objections de M. Foucher* (GP.IV.491-492/AG.147).

again, moves from a more unified (and more intelligible) entity type to a less unified (and less intelligible) entity type.[11]

Leibniz does not acknowledge the two senses of "world" explicitly, but the distinction between created and uncreated worlds does play a crucial and underappreciated role in his metaphysics, value theory, and cosmology. It is well recognized that, for Leibniz, there is at most one created world, and that God could have created in infinitely many different ways by selecting differently from the trove of essences in the divine mind. Catherine Wilson and Ohad Nachtomy go further, and recognize that essences combine into uncreated worlds in a very different way than substances combine into created worlds. Unfortunately, they do not take the next step, and recognize that this difference makes uncreated worlds into unified bearers of value in a way that created worlds cannot match.

Wilson develops a worlds-first theory of compossibility, drawing on the worlds-to-essences operation described above. She writes,

> [. . .] our world, and every possible world, is in a sense, given in advance. To make a puzzle,
> we start with a photograph or drawing, glue it to a backing and the cut it up with a jigsaw.
> And this, I submit, is what Leibniz's theory of the striving possibles comes to. The notion
> of a "world" conceptually precedes the notion of a substance, even though ontologically
> substances precede worlds [. . .] [Wilson 2000, 10]

Her theory is motivated by the problem of premature worlds, or the thought that if Adam and Eve are compossible, then just Adam and Eve should constitute a world. If God starts out with complete worlds, then it makes sense that Adam and Eve can coexist only if they are joined by every other substance in the actual world. As will become apparent, my own view resolves this problem as well.

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[11] There is another way to resolve this tension. Leibniz states immediately after the extended *Theodicy* passage that the *operations* of the divine mind are ordered by priority. The extraction operation is available only after God contemplates the individual possibles and constructs systems from them. This ordering of operations does not directly imply, however, that the objects operated upon are themselves ordered by priority relations in Leibniz's paradigmatic sense.

Wilson's theory does not explain, however, why God creates exactly one world. As she writes, "substances can be incompossible, while their worlds are compossible." To make matters worse, she adds that "a plurality of anything is *prima facie* a good in Leibniz's system" (Wilson 2000, 13). She concludes that Leibniz would have been more consistent if he had thought that there are multiple worlds, packing creation with more essence or perfection. Despite having the resources to reject it in her worlds-first theory, Wilson accepts the ATV and so faces the insoluble form of the problem of incompossibility, described more fully in Sect. 3.

In reply to Wilson, Nachtomy presents a theory in which uncreated worlds are prior to complete essences (including all relational predicates) but posterior to incomplete essences (including only monadic predicates) (Nachtomy 2001). His theory may be better equipped than Wilson's to explain why God creates only one possible world, but Nachtomy does not use his theory to address this question. The answer I defend below uses the unity of each uncreated world to explain its appeal to the divine will. A group of uncreated worlds would lack this unity and so lack appeal; furthermore, willing the existence of such a group would require that God will multiple times, which Leibniz describes as unworthy of God's wisdom. Nachtomy, in contrast, treats the creation of even a single world as a collection of distinct events: "Since the creation of the world reduces to actualizing the individuals that belong to the best world, the question of the actualization of the world can be narrowed down to that of individuals" (Nachtomy 2007, 124). Like Wilson, Nachtomy has the resources to explain compossibility, but unlike Wilson, he does not use these resources to take a position on why God does or does not create multiple worlds.

3   Acosmism

So far, I have argued that Leibniz conceives of worlds in two quite different ways, corresponding to the distinction between created substances and their essences, and that the uncreated worlds constructed from essences are intelligible unities in their own right and thus well suited to be the alternatives among which God chooses. In this section, I begin by putting aside the uncreated worlds in order to describe what divine choice would have to be like if God did in fact choose on the basis of the expected value of created worlds.

I will argue that Leibniz's ontology of aggregates commits him to a sort of acosmism, which in turn makes it puzzling why a God that chooses among created worlds would create more than one substance. The Additive Theory of Value (ATV) provides a way around this puzzle, but also requires that Leibniz's notion of incompossibility fill a role that it cannot fill. The assumption that God chooses between aggregates provides strong support for the ATV, but at too high a cost.

3.1   The Created World Is Not Real

Acosmism is the view that there is no cosmos, or no world. The term "acosmism" was coined by Hegel to describe his non-atheistic interpretation of Spinoza. In the Hegel/Spinoza literature, it refers to the view that finite things have no reality.[12] Leibniz's acosmism is weaker, but closer to the etymological sense of the term. For Leibniz, finite substances are real, but the cosmos they compose is neither real nor a substance. More precisely, the cosmos they compose is not real through itself, but depends for its reality on a mind that coperceives its parts, or more precisely, on that mind's one idea of the many substances—but this is what we are putting aside for the moment.

A quick route to acosmism is to adopt a limiting answer to the question, under what conditions is the union of some objects itself an object? If we take the view that there are only substances, and that the union of more than one substance is never itself a substance, we would answer, "Never." Leibniz seems to have held this view about what is, and to have given the corresponding answer, at least outside of the Des Bosses Correspondence (1706–1716).[13] Since God creates only substances, the only condition under which the union of these could itself be a substance is the limit case in which God creates exactly one—and Leibniz does say that each substance is like a world apart (A.VI.iv.1550/AG.47).

Leibniz's substances are not dependent on each other. In fact, Leibniz holds that intersubstantial relations are not real, or at least not fully real: "Strictly speaking, one can say that *no created substance exerts a metaphysical action or influx on any other thing*"

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[12] For more on the Hegelian sense of the term, see Hegel 1984, 1:432 and Melamed 2010, 80.

[13] See Brandon Look and Paul Lodge's introduction to their translation of the correspondence with Des Bosses (LR.xxxviii-lxxl).

(A.VI.iv.1647/AG.33). This island-like quality of substance is enough to keep the world itself from being a substance. If its parts are not really related, then it lacks the unity characteristic of substances. Alternately, if substances are independent of other substances, and if the world depends on its substantial parts, then the world cannot be a substance.

So perhaps Leibniz was an acosmist. He was at least pulled in that direction, and he does argue that the world is not a substance, that it lacks unity, that it is a phenomenon, and that it is not fully real. Leibniz writes in the lead-up to the *Discourse on Metaphysics* that

> A particular being is either a single substance, which is a complete being, one through itself (for example: God, a certain mind, a self), or else a real phenomenon (for example: a body, the world, the rainbow, or a pile of wood). We conceive of these on the model of a single complete substance [. . .] [A.VI.iv.559-560; my translation]

It is striking that Leibniz includes the created world in this list. Piles of wood are a good example not only of aggregates, but of the type of being subject to sorites problems.[14] Rainbows have an even more tenuous hold on reality, and Leibniz describes them as imaginary even when writing at an ontological register in which bodies, such as the sun, are taken as fully real (A.VI.iv.1506).

Nevertheless, Leibniz seems to grant the created world some ontological heft. At least in this passage, it appears under the genus of particular being. It is not merely an aggregate, but rather a real phenomenon, not a substance but conceived of on the model of substance. Even this, though, does not accord the aggregate its own reality, as though the world were a real phenomenon *through itself*. If the world has any reality at all, it is only through the constructive act of some mind to which it appears as a unity. In this passage, Leibniz assigns this work to human beings: we conceive of the aggregate on the model of a single complete substance.

This introduces some extra nuance to the term, "created world." In the strict sense, it refers to more than one thing at once. In another, it refers to that plurality insofar as it has been conceived or experienced phenomenally as a unity, that is, insofar as the plurality has been unified by an idea (its corresponding uncreated world). In both senses, however, the created world has less unity and hence less reality than any one substance.

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[14] Leibniz tended toward an eliminativist or nihilist position on such entities. See Levey 2002.

3.2   Why Create More Than One Substance?

If the created world is less real than any substance, it is also less perfect, because degree of metaphysical perfection is at least directly correlated with degree of reality. In some formulations it just is reality: "perfection [is] nothing but the magnitude of positive reality considered as such, setting aside the limits or bounds in the things which have it" (GP.VI.613/AG.218). Given this and the divine aim to maximize the perfection of creation, it is difficult to see why God is concerned about worlds at all, or how it is that creating an aggregate of substances is an optimal course of action for God.

This difficulty may be sharpened into a puzzle. Say God creates the best of all possible worlds, indeed, this very world. This world is an aggregate of substances, and so less perfect than any single substance. God would have created something better, then, by creating just one substance, Adam, rather than by creating Adam and Eve as well. The puzzle is that, apparently, God cannot maximize the perfection of creation by creating the best world, or that God loses out by creating more than one thing.

3.3   The ATV And Who Accepts It

There appears to be an easy, Leibnizian way around this puzzle. Do not take Leibniz's phrase "best of all possible worlds" literally. That is, do not insist that the created world itself has some superlative value. Instead, find value in what God actually creates: substances. If God creates one substance, then God has created one thing of great value. If God creates two, then God has created two things of great value and so done twice as well, etc. According to this way of avoiding the puzzle, the mistake is to assume that when God creates two substances God thereby creates one further thing of low value: a world, or the aggregate composed of those sub- stances. Since aggregates are plural, God creates exactly as many things as there are created substances, and the only way to compute their total value is by addition.

This approach follows the most accessible model of value combination, and it clearly works for the simplest cases, such as the monetary value of a heap of currency or the caloric value of a bag of chips. Also, Leibniz does seem to assume this model when he writes that "God makes the maximum of things he can, and what obliges him to seek simple laws is precisely the

necessity to find place for as many things as can be put together" (A.II.i.725/L.211). Here, picking the best possible world just seems to be a matter of picking the most heavily populated world.

Olli Koistinen and Arto Repo (Koistinen and Repo 1999, 197), Jeffrey McDonough (McDonough 2010, 137), and Michael Griffin (Griffin 2013, 109) all make this assumption about how to compute the value of the world from the value of its components. They suggest that it is Leibniz's version of the medieval view that goodness and being are convertible. It appears most explicitly, however, in two other interpreters. Lloyd Strickland writes, "I would concur with George Gale's analysis that the total perfection of the world at any given moment is the sum of the perfection of every substance in the world at that moment" (Strickland 2006, 115). Gale, in turn, offers a precise mathematical formula for calculating the perfection of worlds (Gale 1976, 75).

I have already introduced this way of determining the value of an aggregate as the Additive Theory of Value (ATV): *the value of an aggregate is the sum of the values of its components*. The ATV does have intuitive appeal and textual support, as well as a nice chiastic structure: the perfection of a mereological sum is the sum of its constituents' perfections. Also, it appears to explain why Leibniz's God would create a world of many substances rather than just one substance, even given Leibniz's tendency toward acosmism.

Really though, the ATV sits poorly with Leibniz's acosmist tendencies, because the independence of substances that supports acosmism is relevant in a way that the independence of bills or chips is not. In determining the caloric value of the bag of chips, we need not respect the separateness of the chips. They may as well be one big chip, or a crushed mess. Something similar is true of the bills, although they cannot be physically combined in the same way as the chips. How the bills divide up the total value of the heap makes no difference to that value. These cases have in common a measure of value from the point of view of which it does not matter where one unit begins and another ends. The chips and the bills may be loose and separate, but this is irrelevant to their caloric or monetary value.

This measure allows the value of a part to be transferred to the whole, for the whole shares with its parts the relevant value making properties. This is not so for Leibnizian substances and the aggregates they compose. Substances are valuable precisely because of their independence, or because of their *per se* unity, which in turn explains their independence. The

mereological sum of these units lacks that independence, and so it lacks value. For Leibniz, there can be no measure of metaphysical perfection that is indifferent to the distinctions between value contributors, or that allows the transfer of value from part to whole.

The point about independence is the principal argument against the ATV, but there is another, more speculative, argument as well. Chips and bills are fungible.[15] So far as their value is concerned, they are interchangeable without loss with equally valuable items of the same kind. One should be indifferent between two bills of the same value, and so long as caloric value is the only consideration, between two chips of the same caloric value. If the ATV is true and if God chooses among aggregates, then God should be similarly indifferent between two created worlds that differ only through the exchange of substances of like intrinsic value. That is, the ATV implies that substances are fungible. But there is reason to think that at least some paradigmatic Leibnizian substances are not fungible. Some substances, in particular human persons, are worthy of the sort of love that involves particular attachment, and this sort of particular attachment is not compatible with indifference in a choice between persons, even if they have the same degree of intrinsic value.

This is perhaps controversial, but Leibniz does describe God as having a particular relationship to at least created minds. For example, at the close of the *Monadology*, he writes that the capacity of created minds to mirror God directly

> makes minds capable of entering into a kind of society with God, and allows him to be, in relation
> to them, not only what an inventor is to his machine (as God is in relation to the other creatures)
> but also what a prince is to his subjects, and even what a father is to his children. [GP.VI.621/AG.
> 223-224]

There is too little here to fully support the fungibility argument against the ATV, but we have at least a strong suggestion that the sort of value God finds at least in minds is not compatible with indifference between substances of like intrinsic value, and hence not compatible with indifference between created worlds that differ only through the substitution of such substances.

The broader point is that evaluating uncreated worlds rather than created worlds may enable God to form more intimate relationships with particular created substances. If God evaluates uncreated worlds, then God would be in a position to delight in the created world by

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[15] The argument from fungibility is adapted from Richard Yetter Chappell 2013.

considering it insofar as it is unified by a divine idea and to delight directly in each created substance, valuing each as its own perfection requires. Substituting one substance for another would be a double loss, first by confusing the ideal relations between substances that secure the unity of the uncreated world, and second by removing a particular object of divine love.

The full development of this argument from fungibility would require an interpretation of Leibniz on love. The first question would be: is particular attachment of the sort described above compatible with the Principle of Sufficient Reason (PSR), and in particular, with the Identity of Indiscernibles? There is some indication that Leibniz thought substances were individuated by their degree of metaphysical perfection (see, for example, A.VI.iv.1352). If this is so, then there is a reason, independent of all question of fungibility, why God cannot be indifferent between substances of like value. Even if there can be substances of like value, it would still need to be explained why the PSR does not require indifference between them.[16]

In addition to these arguments, there is direct textual evidence against the ATV. Leibniz is well known for arguing, in an aesthetic key, that a beautiful whole might require ugly or jarring parts. We should take this as a serious metaphysical possibility as well, and as a challenge to the ATV. A given substance may contribute to the perfection of the world not by adding its own portion of perfection, but by way of its imperfection. That is, the contribution that any given substance makes to the perfection of its world may be distinct from that substance's own perfection, and depend instead on that substance's relations to its worldmates.

Leibniz says this, though without mentioning substances, in what may be the clearest rejection of the ATV:

> For one unimportant thing added to another can often produce something better than can two things added together which are in themselves more precious than either of the others. [Guh.I.412/L.368]

In a more familiar context, in which the relation between substances and worlds is more clearly at issue, he comes almost as close:

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[16] For a guide to some of Leibniz's thoughts on love relevant to this argument, see Parkinson 1994, 211.

> But one might have added that God has produced indeed the most perfect whole that was possible, one wherewith he had full cause for satisfaction, the imperfections of the parts serving a greater perfection in the whole. [GP.VI.407/H.414]

Those who attribute the ATV to Leibniz cannot take these passages to be making a fundamental metaphysical point about value. But there is no reason to assume that Leibniz restricted his point to phenomena and aesthetic experience.

3.4   Incompossibility And Its Problems

Worse still, the ATV has a strange consequence when combined with a best possible world theodicy. At the very least, it supplies God with a decisive reason to create infinitely many substances, and with suitable adjustment to distinguish between the value of two aggregates each with infinitely many members,[17] it supplies God with a reason to create every possible substance. Not surprisingly, the interpreters who implicitly or explicitly endorse the ATV also ask why God creates a world at all or just one world, if creating just one world means not creating some things God could have created.[18]

For example, Griffin proposes this as a problem for his own interpretation: "If substances are intrinsically compossible and each is possessed of some quantity of essence, and the greatest quantity of essence must exist, then it seems that all possibles must exist" (Griffin 2013, 108). Several other recent authors on incompossibility conclude with exasperated questions addressed to Leibniz or to other interpreters. Koistinen and Repo ask, "Leibniz clearly regards as absurd the

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[17] Leibniz thought that there were infinitely many possible substances, and there are infinite subsets of infinite sets. On the assumption that each substance in any given infinite set has a value greater than some specified lower limit, it would be impossible to compare two created worlds each with infinitely many substances using the ATV. Probably, there is way to put the summing view that avoids this problem. For a discussion of the difficulty in comparing worlds each with infinitely many substances, see Brown 2006, 108-109.

[18] Leibniz does forcibly and repeatedly assert and argue that there are merely possible substances. For example, "there are an infinity of possible things which, nevertheless, do not exist" (A.VI.iv.1445/AG.19).

suggestion that God could choose more than one world and give existence to them all. But why" (Koistinen and Repo 1999, 214)? Jeffrey McDonough as well as Jan Cover and John O'Leary-Hawthorne use the same question to reject rival accounts of incompossibility (Cover and O'Leary-Hawthorne 1999, 140). As McDonough puts the question: "Why doesn't God create other worlds as well as the actual world? [. . .] Why does God realize a world instead of some more inclusive creation" (McDonough 2010, 142n12)?

Interpreters answer this question in various ways, though most often without full satisfaction in their own answers, especially if they have interpreted incompossibility as a world-making relation, a relation that rules out the coexistence of certain substances within one world but does not rule out the coexistence of multiple worlds.

For example, Griffin develops what I take to be a very nearly correct account of incompossibility, but then notes that his account fails to fully explain why God does not create multiple worlds. He proposes an unexplained (and so not Leibnizian) coincidence between distinct sources or sorts of value as the answer:

> For it to be the case, on this reading, that God has created just one world—the best of all possible worlds—it would have to be the case that the creation which brings about the optimal balance of richness of phenomena to the simplicity of decrees exactly coincides with the maximal collection of harmonizing substances. Recent scholarship suggests that Leibniz accepted this coincidence. [Griffin 2013, 110]

Other interpreters develop an account of incompossibility from the available sources, then note that the account fails to explain why God creates just one world, and conclude by raising this as a problem *for Leibniz*. Koistinen and Repo do this. McDonough does too, though his case is more subtle. The notion comparable to "world" in his theory is the receptive capacity of a given spatiotemporal structure. If this sort of structure drops out of Leibniz's late, more thoroughly idealist metaphysics, then there would be nothing to keep God from realizing the aim to create every possible substance (McDonough 2010, 161).

Still other interpreters ignore the question and the assumption behind it, assuming instead that God creates exactly one world and arguing that only certain aggregates of substances compose a world. But without an alternative to the ATV, they remain vulnerable: why create a world if that is not the best way to create maximally? Rutherford and Messina's article is the

clearest instance of this strategy, and the target for McDonough's question cited above (Messina and Rutherford 2009).

The ATV, if true, would explain why God creates an aggregate less perfect than any one substance, but it overshoots by implying that God creates every possible substance. The only way to save the ATV and incompossibility together would be to uncover some factor that either blocks or restricts God's aim, something in addition to the mutually independent created substances and their individual values. At the beginning of the paper I called this factor the *tertium quid* and denied that there is any such thing. Here I will be more careful: there is no need to continue the search if that search is driven by the ATV and if the ATV is not relevant to God's choice at creation.

Without the ATV, we need a new explanation for why God creates an aggregate, or a new way of relating the value of a world to the values of its parts. I propose that we read "possible worlds" in "God has chosen the best of all possible worlds" (GP.VI.210/H.232) as referring to uncreated worlds or ways God could create, because God may perceive their value directly, without addition. The value of an uncreated world takes into account the values of the individual substances God would create, but only indirectly, because the independently valued idea of the world includes the ideas of these substances. On this proposal, God creates an aggregate rather than a single substance only if the idea expressing the aggregate has greater perfection than the idea expressing the single substance. This may be true even if the single substance has greater perfection than the aggregate, because as already described, there is a significant gap in unity and in metaphysical perfection between an aggregate and the idea of that aggregate.

Since Leibniz has another way to explain why God would create an aggregate rather than a single substance, the ATV loses its strongest support. By avoiding the ATV, Leibniz also avoids the problem of incompossibility, or at least the insoluble version of that problem that calls for a *tertium quid*. God aims to create in the most perfect way, and that way is the most perfect uncreated world. Since each uncreated world is itself a subject of perfection, there is no reason to assume that adding another essence would yield another uncreated world of greater perfection. On the summing view, W plus S is better than W alone, because the value of W plus S is just the value of W plus the value of S. That is the best we can do if "W" and "S" range over created worlds and substances, respectively. If, instead, they range over uncreated worlds and essences,

there is no such principle. The value of W plus S may be greater or lesser than the value of W, depending on which substance S expresses and on which substances W expresses.

The alternative to the ATV may be called the Unitary Theory of Value. This theory is less readily captured in a formula, because any such formula could not refer to value without circularity. The ATV provides a function from the value of many things to the value of one thing without providing a metaphysical account of why the many are valuable. Rejecting the ATV and other similarly structured theories (for example, a multiplicative theory of value) amounts to requiring that valuable things be the source of their own value. That is, unlike the ATV, the Unitary Theory of Value would have to actually be a theory of value, or of metaphysical perfection.

It is sufficient for present purposes to claim that the formula for the Unitary Theory of Value would appeal to unity-in-variety, or to harmony.[19] The value of an uncreated world would depend on the way in which a variety of essences is unified, or on the specific manner in which the component essences relate to each other in forming a single encompassing idea. This would explain the gap in value between an aggregate and its idea: the idea is many-in-one and the aggregate is just many.

Understanding world evaluation in this way renders God's aim to maximize perfection compatible with Leibniz's insistence that there are merely possible substances, and it does this without supplying an obstacle to God's creative aim. The simplest reason why this is so is just that maximizing perfection turns out not to mean maximizing the number of substances. More deeply, the problem of incompossibility does not arise, at least in its difficult contemporary form, because there is no need to treat existing substances as the ground of the world's perfection, and so no need to treat *them* as a unity, which Leibniz's acosmism disallows.

4   Acosmism Resisted

In the previous section, I argued that the ATV would be relevant if God did choose on the basis of the expected value of created worlds, and that if the ATV is relevant, then incompossibility relations must function as an obstacle to God's creative aim. I also argued that incompossibility

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[19] I discuss the relation between harmony and perfection in Section 4.1.

relations would not have this problematic role if God chooses among uncreated worlds. This final section offers a positive account of divine deliberation between uncreated worlds, and sketches the alternative approach to incompossibility based on this account.

The fundamental insight is that divine wisdom requires God to will exactly once in creation. So, taking divine wisdom into account, God can create both Adam and Eve only if God's reason to create Adam (or Eve) is also a reason to create Eve (or Adam). Adam and Eve are compossible if and only if there is one reason to create them both. Since divine reasons to create arise from the value of divine ideas, or from their capacity to attract God's will, Adam and Eve are compossible if and only if there is one idea—or one uncreated world—that includes the essence of Adam and the essence of Eve.

This interpretation of incompossibility avoids the search for a *tertium quid* that restricts God's aim, because it construes the wisest or most appealing way to create as a limited whole, not as an unlimited sum of independent wholes. However, the interpretation does raise some problems of its own. *First*, it may seem to present Leibniz as concerned more about the perfection of God's action in creating and less about the perfection of what God chooses—but divine wisdom should guide God to create the greatest amount of reality or perfection possible, not place restrictions on the number of times that God wills. *Second*, if the divine will is attracted by the value of an idea, it may seem that God lacks a motive to create. Why not just enjoy the idea? Would the created world, being an aggregate, not be a disappointment compared to its ideal image? *Third*, certain passages from the mid-1680s suggest that there is a divine idea corresponding to any combination of essences whatsoever, and so a reason to create for every combination of substances. If true, then my interpretation would be vacuous, implying that every combination of substances is compossible.

After presenting the interpretation directly, I address these objections in turn, and conclude (1) that Leibniz considers ways to create as themselves objects of divine choice, (2) that for an omnipotent will to be maximally attracted to a way to do something involves doing that thing, and (3) that the passages in question are best read in a way compatible with the present interpretation.

4.1   Wisdom and Willing Once

In a letter to de Volder, Leibniz is careful to distinguish between substances, which are loose and separate, and the ideas or concepts of substances, which are mutually dependent:

> In my opinion, of course, there is nothing in the universe of created things that does not need the concept of every other thing in the universe for its perfect concept, since each thing influences every other in such a way that, if it were imagined that that thing were removed or different, everything in the world would be different from what it is now. [LDV.208–209]

The problem of incompossibility has proven so difficult because any substance can coexist with any other substance, so far as the substances themselves are concerned. They are causally and metaphysically independent. The solution is to consider incompossibility as a relation that holds in virtue of two factors: the relations among concepts or essences of substances, and God's wisdom, which groups essences into ideal unities held together by just these relations. These ideal unities, constructed by divine wisdom, appeal directly to God's will. A groups of essences that does not constitute such a unity does not appeal to the divine will, or rather, each of the essences appeals separately as a distinct way to create.

This solution involves taking certain divine features into account and excluding others. If only God's power is taken into account, then all substances are compossible, because it is within God's power to create one substance, and another, and so on without limit. If every aspect of God is taken into account, then only the substances in the actual world are compossible with each other, because God can create only the best, or what God has in fact created. Leibniz reserves the term "incompossible" and its opposite for some middle ground, in which we take into account more than just divine power and less than everything about God.[20]

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[20] This strategy was inspired by Robert Adams's note that understanding hypothetical necessity involves drawing "the right line between attributes of God that are, and that are not, to be taken into account in the basic concepts of possible worlds" (Adams 1994, 20). Samuel Newlands richly develops a similar idea in Newlands 2010.

I propose that the right middle ground takes into account just divine power and divine wisdom, but not the full extent of divine goodness. It is worth repeating part of the extended quote from the *Theodicy*, though with different words emphasized:

> By this means the *divine Wisdom* distributes all the possibles it had already contemplated separately, into so many universal systems which it further compares the one with the other. The result of all these comparisons and deliberations is the choice of the best from among all these possible systems, *which wisdom makes in order to satisfy goodness completely*; and such is precisely the plan of the universe as it is. [GP.VI.252/H.271; my emphasis]

God's wisdom is responsible for the mental operation described above that moves from separate essences to uncreated worlds. It also responsible for choosing the best of these uncreated worlds, though this responsibility arises only in relation to the full extent of God's goodness.

Each of the uncreated worlds is a way to create that satisfies divine wisdom, but only one of them satisfies divine wisdom and fully satisfies divine goodness. That is, God could be faulted for a lack of wisdom if God were to create a set of substances that is not unified by an idea that includes the essences of all and only those substances. But God could not be faulted for creating the substances corresponding to any one of the uncreated worlds except by pointing out that a different uncreated world has greater value. A conceptually disorganized creation may be found lacking internally, but a conceptually organized creation may be found lacking only through comparison with something external. The distinctions between wisdom and goodness and between internal and comparative criticism ground an exhaustive distinction between sets of essences or substances. Those without internal faults satisfy wisdom and are compossible; those with internal faults do not and are incompossible.[21]

The internal fault in question is a lack of unity, which is a fault because having unity is a necessary condition for being metaphysically perfect. This is so because unity is one aspect of harmony,[22] and harmony, in turn, is metaphysical perfection insofar as the subject of perfection

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[21] Both internal and external faults would be grounded in relations, either among the essences that compose an uncreated world or between two uncreated worlds. These relations would be ideal or mind-dependent, as per Leibniz's theory of relations, but then again the relata would be as well.

[22] See, for example, GP.VII.87/L.426.

relates to a mind. As Leibniz writes, "[h]armony is the perfection of thinkable things insofar as they are thinkable" (A.VI.iv.1359/SLT.191). Since we are considering uncreated worlds, which are ideas in the mind of God, harmony is the relevant sort of metaphysical perfection. If I am right so far about divine choice, God compares uncreated worlds not insofar as they express an aggregate, but insofar as they are thinkable, for this is the respect in which they have a degree of unity-in-variety, or harmony, or metaphysical perfection adequate to explain why creating a world is the optimal course of action for God. Being unified in an intelligible way is a necessary condition for any set of essences to satisfy divine wisdom, and so to count as a compossible set, or an uncreated world.

Taking into account divine wisdom but not divine goodness amounts to asking which creation scenarios would display a unified plan, or a single reason to create, without asking which of these plans is best. There are numerous passages throughout Leibniz's work in which he asserts that each created substance expresses every other created substance, and so expresses the universe as a whole. [23] These passages provide weak but persistent support for this interpretation of incompossibility, because they require that at least the best world enjoys a sort of ideal unity, in which a single mind could generate one idea of the whole by noting the coordination of the parts.

Occasionally, Leibniz asserts the unity of God's idea of the world even more explicitly:

> [if] we could express by a formula of a higher Characteristic some essential property of the universe, we could read from it all the successive states of every part of the universe at all assigned times. [. . .] Therefore I think I have good reasons for believing that all the different classes of beings whose assemblage forms the universe are, in the ideas of God who knows distinctly their essential gradations, only like so many ordinates of the same curve. [BC.II.557-558/W.185-187]

> For me, nothing is permanent in [substances] except the very law that involves [their] continued succession, which in individual things corresponds to the law that is in the whole universe. [LDV.288-289]

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[23] See, for example, *Discourse on Metaphysics* Sect. 9, Leibniz's letter to De Volder of 20 June 1703 (LDV.266-267), and the *Monadology* Sects. 56–58.

Leibniz is explicit in the first passage that the idea of the world as a whole is a unity that includes the ideas of every particular substance. In creating, God need not respond separately to the perfection of each individual essence, but only once to the perfection of one more encompassing idea. The second passage enforces this thought: the unchanging law which lays out the pattern of change in any one substance corresponds to a broader unchanging law that determines change throughout the universe, or in every created substance. If Leibniz remained true to his acosmist tendency, then this law does not make the created world into a substance. Rather, the universal law is an idea in God, an aspect of the uncreated world. To have (or to be) a single law, the uncreated world must be something more than just a collection of essences; it must enjoy a unity at least analogous to the unity of any substance.

The strongest support for this view of divine choice comes from passages in which Leibniz links the unity of uncreated worlds with divine wisdom. Here is the pithiest such passage:

> it is obvious that God chose from an infinite number of possible individuals those he thought most
> in accord with the supreme and hidden ends of his wisdom [. . .] [A.VI.iv.1646/AG.32]

Adam is created along with Eve, and not along with some other first woman, because, considered together, Adam and Eve satisfy divine wisdom—not because Adam himself or his essence somehow prevents the existence of all first women except Eve. A few years later, in the correspondence with Arnauld, Leibniz presents the same thought in much greater detail.

Early in their correspondence, Arnauld misread Leibniz. Leibniz had claimed that the existence of any one substance in the actual world requires the existence of every other substance in the actual world. This distressed Arnauld, and to refute Leibniz he presented him with a dilemma. Either this requirement holds in virtue of the substances themselves (in which case Leibniz would have to give up on the independence of substances), or else it holds in virtue of God's free decrees (in which case it is not really a requirement). Arnauld writes:

> one must still ask (and this is the source of my difficulty) if the connexion between these objects
> (namely, Adam on the one hand, and everything that was to happen to him and his posterity on the
> other) exists as such of itself, independently of all the free decrees of God, or if it was dependent
> upon them [. . .] [A.II.ii.34/LA.27-28]

The connection Arnauld singles out is hypothetical necessity, whatever it is about the creation of Adam that guarantees the rest of the universe will be one way and not another. As Arnauld

protests to Leibniz in the same letter: "For on the contrary I never talk about anything there except hypothetical necessity" (A.II.ii.33/LA.26; Leibniz twice wrote "NB" in his copy beside this sentence).

With the added Leibnizian assumption that God creates every substance compossible with any substance that God creates, Arnauld's relation turns out to be extensionally equivalent with, if not identical to, the compossibility relation.[24] Say the existence of Adam hypothetically necessitates the existence of Eve. It follows that Adam and Eve are compossible. Going in the other direction we call on our extra assumption: if Adam and Eve are compossible, then if Adam exists so does Eve. With this in mind, we can reformulate Arnauld's question. Does the compossibility relation between any two compossible substances exist as such of itself, independently of all free decrees of God, or is it dependent upon those decrees?

Leibniz rejects both approaches to compossibility: "I believe, then, that the dilemma of the double explanation which you propose allows of some middle way [. . .]" (A.II.ii.72/LA.56). Leibniz's middle way appeals to the ideal relations between substances, and so to the relations between essences in God's mind, and so ultimately to the unity of God's ideas of certain collections of essences. As he concludes his reply to Arnauld, "[t]here is then only *the hypothesis of the concomitance or harmony between substances* which explains everything in a conceivable manner and one worthy of God" (A.II.ii.82/LA.65). The relations of fit among substances do not themselves ground hypothetical necessity, but they do provide the structure for God's single concepts of multiple substances, which in turn explains why only certain groups of substances are worth creating.

Leibniz goes on to explain that the harmony or concomitance that explains hypothetical necessity (and so compossibility as well) is harmony among the free decrees that God would enact in creating certain collections of substances. That is, it is a harmony that unifies certain groups of essences into uncreated worlds and that would unify God's will if God were to create the substances corresponding to such a group. In one striking sentence, Leibniz explains this to Arnauld:

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[24] See, for example, *Principium meum est, quicquid existere potest, et aliis compatibile est, id existere* (A.VI.iii.581-582/L.168-169).

> Thus all human events could not fail to occur as in fact they did occur, once the choice of Adam is assumed; but not so much because of the individual concept of Adam, although this concept contains them, but because of God's plans, which also enter into this individual concept of Adam, and which determine that of this entire universe, and consequently both that of Adam and those of all the other individual substances of this universe, each individual substance being an expression of the whole universe, of which it is a part in accordance with a certain relationship, through the connexion that exists between all things, because of the interrelationships between God's decisions or plans. [A.II.ii.73-74/LA.57]

As the very end of this passage suggests, the connection between Adam and everything else is not generated by Adam directly, or even by Adam's essence, but by the unity that God's intentions would have only if, in creating Adam, God also creates certain other substances and no others. The interconnection between substances in the world is a consequence of the unity of God's plan. As an approximation of Leibniz's account of compossibility, two substances are compossible if and only if God can enact the free decrees associated with the complete concept of each by a unified act of will.

Arnauld might well ask, at this point, how Leibniz's middle way is not just the second horn of his dilemma, that the hypothetical necessitation connecting Adam and Eve is a consequence of God's free decrees. To reply, Leibniz could explain that God does not will Adam's existence and then will, in addition, that Eve exist if Adam does. The harmony of divine volitions is not built piecemeal in this way, but is rather a direct response to a unity already fashioned by divine wisdom. Leibniz writes:

> one can even say that these particular acts of will differ from the will in general only by a simple relationship, and more or less as the situation of a town looked at from a certain viewpoint differs from its ground plan [. . .] [A.II.ii.18-19/LA.15]

This is the "perspectives" analogy in a fresh form.[25] Here it is not directly about the created substances themselves and their place in the created world, or about essences as parts of an uncreated world, but about the acts of will involved in creating multiple substances. This use of the analogy highlights the way in which each uncreated world, in virtue of its conceptual unity, elicits one response from the divine will. The collection of metaphysically independent existing substances form a whole with some degree of reality only because God conceives of them within

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[25] Compare, for example, *Monadology* Sect. 57 (GP.VI.616/AG.220).

one concept, which in turn enables God to will the free decrees associated with each in a single but multi-aspected act.

One might object that this account still allows God to make many different acts of will, each one exhibiting this sort of unity. If God can do this, then substances with essences in distinct uncreated worlds are compossible and I am wrong about compossibility. This objection does not succeed, because, on Leibniz's view, God cannot do this and remain wise. God wills once because God is maximally wise and

> indeed the wiser one is, the fewer separate acts of will one has and the more one's views and acts of will are comprehensive and linked together. And each particular act of will contains a connexion with all the others, so that they may be harmonized to the greatest possible degree. [A.II.ii.19/LA.15]

If God is wise, then God wills once and whatever God creates displays the unity of a single idea. There are many ways for God to do this, corresponding to the many sets of essences assembled by divine wisdom—but choosing more than one such way would defeat the purpose.[26]

The same point may be put in terms of the object of choice. The value of uncreated worlds does not sum for the reason that the value of substances does not sum, because the value attractive to God derives from unity. The value of several uncreated worlds would sum only if there were some unity composed of these uncreated worlds, but in this case, that whole would itself would be an uncreated world, a collection of essences thinkable in one idea. The object of divine choice cannot be multiple without decreasing its value, and the act of divine willing cannot be multiple without diminishing divine wisdom.

We now have a more detailed answer to the question that plagues interpretations of compossibility based on the ATV: "Why doesn't God create other worlds as well as the actual world? […] Why does God realize a world instead of some more inclusive creation" (McDonough 2010, 142n12)? God chooses among uncreated worlds not because God's will to perfection is constrained, but because uncreated worlds are unities, and so have harmony or metaphysical perfection, which appeals to the divine will. God creates exactly one of these because creating two or more would involve two different acts of will, in response to two distinct

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[26] For more on the wisdom and the economy of volitions, see the *Conversation sur la liberte et le destin* (Grua.481-482/SLT.99) and the *Theodicy* (GP.VI.240/H.206).

sources of value—and this would be unwise. Put in terms of the object of value, the essences taken from two or more uncreated worlds do not compose a unity with its own value.

Certain essences combine into wholes with at least as much unity, and therefore at least as much metaphysical perfection, as their parts. These wholes, or the uncreated worlds, define the sets of compossible substances because they are the ways to create that would display God's wisdom.

4.2   Objection: Ways as Objects

Leibniz is very clear about his approach to the *Euthyphro* dilemma:

> Someone will say God is the cause of things, and therefore is the cause of the goodness which is in them. Therefore his will is prior to the goodness of things. The response is easy: God is the cause of the existence of things, but not of their essence, and to that extent he will also be the cause of the existence of the good, but not of the goodness which he discovers in the essence itself when thinking about it. [A.VI.iv.1362/SLT.193-194]

God's will is not prior to the goodness of things, rather, God's will responds to found goodness. Leibniz even strengthens this, by implying in his account of freedom that the goodness of an act of will depends on the ideal goodness of its object:

> From this it is evident that an absolute will, not dependent on the goodness of things, is monstrous. On the contrary, there is no permissive will in an omniscient being, except insofar as God conforms himself to the ideality itself of things, i.e., to what is best. [CP.4-5]

Leibniz again very clearly applies this to the evaluation of the world:

> the excellence of God's works can be recognized by considering them in themselves, even when we do not reflect on this empty external denomination which relates them to their cause. This is all the more true, since it is by considering his works that we can discover the creator. His works must therefore carry his mark in themselves. [A.VI.iv.1532/AG.36]

The goodness or desirability of creation is to be explained in terms of the perfection of the things created, or more accurately, in terms of the joint perfection of their essences in God's intellect. That goodness should not be explained in terms of any relation to God's will.

This seems to contradict the interpretation of incompossibility offered above. We started out evaluating objects of will as candidates for creation, as required by the Euthyphro dilemma, but found ourselves taking into account formal features of the way in which God wills. Given the passages just quoted, it seems that the number of times that God wills should not enter into any determination of the value of what God wills. That value is fixed prior to any volitional engagement.

A full response to this objection would carefully delimit the activity of wisdom, which bridges that of will and intellect. My interpretation defines compossibility as the relation between substances that can coexist if we take into account only God's power, intellect, and wisdom. Taking wisdom into account led us to discuss ways in which God might will, either wisely in a single act or unwisely in multiple acts. To avoid the objection, I must explain the structure and corresponding wiseness of divine acts of will entirely in terms of God's intellect and its contents. Such an explanation would allow us to use the unity of God's will as a guide to the value of what God creates, but would remove any implication that the unity of God's will explains the value of what God creates. The objects of God's will would ground their own value, and the will's response to various objects would merely be a reliable guide to that value.

I will only make two restricted points toward this full response. First, as argued in Sect. 2, Leibniz sometimes treats ways to will as objects of the intellect. The individual essences and the uncreated worlds are firmly located in the divine intellect, but nevertheless may be considered as ways for God to create. They express what it would be for particular substances or whole created worlds to exist, and so function as plans for creation. Whether God wills once or multiple times is therefore a function of the unity of God's plan. Since the unity of God's plan is also an aspect of that plan's perfection, it makes sense to say that the wisdom of God's willing is a function of the perfection of what God wills—and not the reverse.

Second, Leibniz defines wisdom as the intellectual power most directly relevant to the will. That is, wisdom is knowledge about good and evil:

> The end of goodness is the greatest good. But to recognize this we need wisdom, which is merely
> the knowledge of the good [. . .]. Thus wisdom is in the understanding, and goodness is in the will.
> [. . .] [M.48/L.564]

Leibniz cannot literally mean that goodness is in the will, as we have just read his firm declaration that the will responds to the goodness of essences. Instead, he seems to mean that achieving the good is proper to the will. Goodness is the will's end. The intellect's end, however, is knowledge, including knowledge of the good. Wisdom is this knowledge of the good, or the intellect insofar as it orients the will to particular goods. Taking only divine power and wisdom into account should not *require* us to use God's will to determine the value of anything creatable—but if wisdom steers the will, it should *allow* us to use the structure of God's willing as a guide to the value of worlds. That the will responds to an object in a certain way is a criterion of its goodness, but not the essence of its goodness.

4.3   Objection: Why Create at All?

A perhaps more devastating objection concerns God's motivation to create anything at all. The created world is an aggregate unsuited to explain why creating a world is the optimal course of action for God. Only the uncreated world, or a divine idea, has the unity that metaphysical perfection requires, and so only an uncreated world can explain why creating a world is God's best option. But why should God bother with created worlds at all? Why not simply respond to the best uncreated world by admiring it? After all, the created world would be something of a disappointment compared to God's motivation for creating it.

To begin, the created world would not be a disappointment, because, if God creates at all, God could not have done any better than create an aggregate of substances. This would come as no surprise to God, and without surprise there is no disappointment. This beginning only deepens the problem, though, because God may be expected to have known better than to create an aggregate. If the aggregate's value does not compare with the value of its ideal image, then there is apparently no reason to create. Indeed, Leibniz wrote fairly early in his career that "[t]he harmony of things is something ideal, i.e., it is already to be seen in the possibles" (CP.100-101). The possibles seem to need no supplement from actuals.

I am not sure how best to answer this objection. At worst, I might conclude that Leibniz would have been more consistent if he had claimed that God does not create at all. In Sects. 2 and 3.4, I objected to various interpreters—including Wilson, Koistinen, Repo, and (perhaps) McDonough—who conclude that Leibniz would have been more consistent if he had allowed for

the creation of multiple worlds. They fault Leibniz for failing to adequately address a glaring trilemma: commitment to unactualized possibles, the independence of substances, and God's will to maximize perfection. My own interpretation shows that Leibniz did address this trilemma, by replacing the ATV with a unified theory of value for worlds. The present objection attributes a slightly more subtle inconsistency to Leibniz: God's way of selecting a best world seems to leave God with no reason to create, but Leibniz insists that God does create and with reason. If this inconsistency is indeed more subtle, it would be more charitable to say that Leibniz should have rejected creation than to say that he should have accepted the plurality of worlds.

But rather than accept the objection, I would suggest that it carries too far the restriction on divine attributes suggested above. Taking into account only divine power and wisdom partitions the individual essences into groups, each of which satisfies wisdom. If power and wisdom were God's only attributes, then God would be content simply to admire these groups and to admire one of them the most. God also has a will, though, and the will responds to value through action. As Leibniz writes, "[…] the will is the thinking about good and evil together with the endeavour to act […]" (A.VI.iv.1361/SLT.193). This definition of will seems to encroach on the act of divine wisdom described in Sect. 4.2, but Leibniz is quick to add that

> if anyone should prefer to say that the will is not the judgement of good and evil, but is the very endeavour to act which follows immediately from the judgement, I shall not dispute with him provided that he recognizes that the endeavour arises from the judgement. [ibid.]

Divine wisdom makes a judgment concerning the content of God's intellect, but this admiring judgment does not exhaust God's capacity to engage with the good. Since the uncreated worlds are plans, or ways for finite things to be, God also engages with the good by acting according to plan.[27]

This response relies only on God's nature and does not appeal to the value that God produces by creating. A reply based on produced value would be problematic, because that value would be the value of an aggregate and therefore greater if God creates more substances, as the ATV predicts. Still, it is worth noting that sharing is a praiseworthy response to excellence and that individual created substances share God's vision of the uncreated world.

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[27] Elizabeth Anscombe elaborates a similar conception, in which paradigmatic willing involves acting: "The primitive sign of wanting is *trying to get* […]" (Anscombe 2000, 68).

Leibnizian substances are perceivers and, in a sense, omniscient perceivers. To be a Leibnizian substance is to be the subject of a unified series of perceptions, each one following from its predecessor in a lawlike way. The perceptions are (as) of the rest of the created world, and so grant the perceiver a sort of omniscience about the rest of the world. This falls short of true omniscience only because the perceptions are confused (see, for example, A.VI.iii.524/DSR.85). The law generating these perceptions is unique to each substance insofar as each substance's perceptions are confused in a unique way. The law is common to all substances insofar as each is a member of the same created world. That law, insofar as it is common to all substances, corresponds to the uncreated world, or to the idea of the created world. God shares the best uncreated world by creating substances which imperfectly express that world by perceiving it in a unique but limited way (see, for example, A.II.ii.312/LA.170-171).

Some of these perceiving substances are rational perceivers. The rational members of the best of all possible worlds have the privilege of being, by nature, imperfect thinkers of the best of all possible ideas. Since thinking something involves some grasp of its ground, the rational perceivers have some recognition and appreciation of God. Creating the best of all possible worlds is a way of multiplying the idea of the world, of sharing its splendor, and of meriting the praise of its most perceptive members.[28]

4.4   Objection: Vacuity

The most troubling objection arises from two passages composed in 1686. These passages seem to imply that God has an idea corresponding to any combination of essences whatsoever, or that every collection of essences is an uncreated world. If the passages should be interpreted this way, then my account of compossibility is vacuous. Every set of essences would have unity and satisfy divine wisdom.

The first is in *A Specimen of Discoveries about Marvellous Secrets*:

> […] just as no line can be drawn, with however casual a hand, which is not geometrical and has a certain constant nature, common to all its points, so also no possible series of things and no way of

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[28] On these issues, see especially the *Discourse on Metaphysics* Sects. 14 & 35–36 (A.VI.iv.1549–1550 & 1584–1587/AG.46–47 & 66–68).

creating the world can be conceived which is so disordered that it does not have its own fixed and determinate order and its laws of progression […] [A.VI.iv.1619/MP.78–79]

To sustain the troubling interpretation, we would have to read "possible series of things" and "way of creating the world" maximally broadly, to include every combination of substances that divine power could bring into existence. The rest of the passage would go on to say that each of these combinations has its "own fixed and determinate order" and its own law. Needless to say, I think that we should not read "series" and "way" this broadly. If these expressions refer to uncreated worlds, then the passage merely states that every uncreated world is well ordered or unified by a law.

On the narrow reading, the passage is less substantive than it seems. Leibniz is not making the striking claim that order is inevitable given just divine power. Instead, Leibniz only claims that God groups essences into ordered collections and never into disordered collections. Nevertheless, context demands the narrow reading, because the passage follows an extended discussion of the relationship between a single substance and "the whole series of things of which it forms a part." As in the letters to Arnauld from the same period, that relationship is hypothetical necessitation. The broad reading does not fit, because it implies that Adam may be conceived as Eve's worldmate or as Evelyn's, which is not compatible with Adam's existence hypothetically necessitating Eve's. The narrow reading, however, contributes to the discussion by broadening Leibniz's claim: God would have created many substances expressed by a single idea even if God had created something other than this world.

The second passage is better known:

[…] not only does nothing completely irregular occur in the world, but we would not even be able to imagine such a thing. Thus, let us assume, for example, that someone jots down a number of points at random on a piece of paper, as do those who practice the ridiculous art of geomancy. I maintain that it is possible to find a geometric line whose notion is constant and uniform, following a certain rule, such that this line passes through all the points in the same order in which the hand jotted them down. [Leibniz offers further examples.] Thus, one can say, in whatever manner God might have created the world, it would always have been regular and in accordance with a certain general order. […] I use these comparisons to sketch an imperfect likeness of divine wisdom and to point out something that can at least elevate our minds to conceive in some way what cannot be sufficiently expressed. But I do not claim to explain in this way the great mystery upon which the entire universe depends. [A.VI.iv.1537-1538/AG.39]

As with the previous passage, the troubling interpretation is broad and substantive, because it reads "whatever manner God might have created the world" to include every combination of essences or substances and concludes that any of these combinations would "have been regular." Again, I argue that we should prefer a narrow and less substantive reading, on which "whatever manner" refers only to the uncreated worlds.

This passage provides further support for the narrow interpretation, by highlighting a way in which it is substantive after all, not metaphysically but epistemologically. At least for those who are struck by the descriptive power of mathematics, as Leibniz and his most likely readers were, the examples "sketch an imperfect likeness of divine wisdom." The amazing but humanely intelligible way in which algebraic functions express geometrical figures prepares us to accept the amazing but mysterious way in which the entire universe depends on a single idea.[29]

5   Conclusion

Though composed of infinitely many substances, the created world expresses only an infinitesimal fraction of the essences in God's mind. In one way or another, incompossibility relations explain this difference in scale between the created world and the divine ideas.

The standard approach has been to ground incompossibility relations in something other than harmony or metaphysical perfection, so that they might limit how much perfection God can pack into creation. This approach rests on the thought that God would have created more had it not been for incompossibility, because each additional substance created adds to the total perfection of the created world. That is, the standard approach rests on the ATV, on which the value of the world is the sum of the values of its parts.

The ATV finds its strongest support in the apparent mismatch between Leibniz's ontology of aggregates and his theodicy. The ontology of aggregates assigns (almost) no value, reality, or metaphysical perfection to aggregates. Since the created world is an aggregate, Leibniz must be an acosmist, denying the reality and perfection of the world. On the other hand, the theodicy implies that creating a world is God's best option and displays God's own perfection in

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[29] For an alternative interpretation of these passages, see Carlin 2000, 102-106.

an excellent way. A natural way to reconcile this tension is to assign value to the world only indirectly, by summing the values of what God does create, or substances.

This use of the ATV is at odds with Leibniz's more holistic statements about the value of the world, and more importantly, it conflates intuitive cases of value summation, in which the whole shares the value making properties of its parts, with the special case at hand, in which value depends on unity and metaphysical independence, exactly what the created world lacks.

Fortunately, there is an alternative, supplied by the notion of an uncreated world, or in Leibniz's terms, the series, system, or plan of the created world, the way it is, its law, or the one reason God creates all of it. An uncreated world, though constructed from essences, is intelligible on its own and in terms of itself. It is a unity, and thus suited to bear the high degree of value required by Leibniz's theodicy. An essence contributes to the value of an uncreated world only indirectly, by way of its ideal relations to other essences, the very relations by which God grasps these essences in one thought. Variety within these unities may provide a basis for comparing uncreated worlds, but it does not follow that any particular uncreated world would be improved by the addition of another essence.

This unified theory of value is enough to replace the ATV and to open a new approach to incompossibility. The new approach defines compossibility as the relation between substances expressed by a single uncreated world. The uncreated worlds, in turn, are the ways that God can create if we take into account divine power and divine wisdom, but not (the full extent of) divine goodness. At one extreme, every substance is compossible with any substance, because substances are metaphysically independent, and so God has the power to create any combination. At the other extreme, only the substances in the actual world are compossible, because God's goodness leads God to create the best. Between these extremes, we have the ways to create that are, in themselves, expressions of divine wisdom, the ways that have unity and hence perfection. Substances are compossible if and only if they are components of an aggregate, *the idea of which* is a unity that appeals to the divine will in virtue of its unity.

The middle way captures Leibniz's use of the term "incompossible," and the sense in which God *cannot* create incompossible substances. God cannot without being unwise. Moreover, the account iterates: the values of uncreated worlds fail to sum for the same reason that the values of substances do not sum. If several uncreated worlds had some combined value,

then there would be a unity comprising these uncreated worlds, in which case that unity would itself be an uncreated world with its own value.

This account of incompossibility exhibits a sort of unity that Leibniz perhaps found appealing. The account based on the ATV grounds the value of substances in their exemplary unity, independence, and intelligibility—but then adds a further principle, a function from the values of substances to the value of a world. This is a *deus ex machina* to make up for the created world's lack of value grounding features. It would be simpler to explain the value of worlds and essences and substances all in the same way, in terms of unity. The critic from the opening quote mistook Leibniz for a Spinozist, who held "that there is a single substance for all things, and that this substance is mind." The critic was wrong but almost right: there is a single idea for all things and this idea in God's mind has value the way substances do.

References (Leibniz)

A:
G. W. Leibniz: *Sämtliche Schriften und Briefe*. Ed. by the Academy of Sciences of Berlin. Series I-VIII. Darmstadt - Leipzig - Berlin, 1923 ff. Cited by series, volume, and page.

AG:
G. W. Leibniz: Philosophical Essays. Ed. and trans. by R. Ariew and D. Garber. Indianapolis: Hackett, 1989.

BC:
G.W. Leibniz (1924). *G.W. Leibniz Philosophische Werke: Hauptschriften zur Grundlegung der Philosophie*. Ed. By Artur Buchenau and Ernst Cassirer. Trans. By Arthur Buchenau. 2 vols. Leipzig: Verlag der Durr'schen Buchhandlung.

CP:
Leibniz, G. W. *Confessio philosophi: papers concerning the problem of evil, 1671-1678*. Ed. and trans.by Robert C. Sleigh, Jr. New Haven: Yale University Press, 2005.

DSR:
G. W. Leibniz: *De Summa Rerum: Metaphysical Papers, 1675-1676*. Trans. by G.H.R. Parkinson. New Haven: Yale University Press, 1992.

FB :
G.W. Leibniz. *Refutation Inedite de Spinoza*. Ed. By A. Foucher de Careil. Paris : Auguste Durand. 1854.

GP:
Die Philosophischen Schriften von G. W. Leibniz. Ed. by C. I. Gerhardt. 7 vols. Berlin: Weidman, 1875-90. Reprint, Hildesheim: Olms, 1965. Cited by volume and page.

Grua:
G. W. Leibniz: Textes inédits d'après les manuscrits de la Bibliothèque Provinciale de Hanovre. Ed. by G. Grua. 2 vols. Paris: PUF, 1948. Reprint, New York: Garland Publishing, Inc., 1985.

Guh:
Leibnitz's Deutsche Schriften. Ed. by G. E. Guhrauer. 2 vols. Berlin, 1838.

H:
Theodicy: Essays on the Goodness of God, the Freedom of Man, and the Origin of Evil. Trans. by E. M. Huggard. LaSalle, Ill.: Open Court, 1985.

L:
Leibniz, G. W. *Philosophical Papers and Letters.* Ed. and trans. by Leroy E. Loemker. 2nd ed. Dordrecht and Boston: Reidel, 1969.

LA:
The Leibniz-Arnauld Correspondence. Ed. and trans. by H. T. Mason. Manchester: Manchester University Press, 1967; New York: Garland, 1985.

LDV:
The Leibniz-De Volder Correspondence. Ed. And trans. by Paul Lodge. New Haven: Yale University Press, 2013.

LR
The Leibniz-Des Bosses Correspondance. Ed. And trans. by Brandon C. Look and Donald Rutherford. New Haven: Yale University Press, 2007.

M:
G.W. Leibniz. Mittheilung aus Leibnizens Ungedruckten Schriften. Ed. By Georg Mollat. Leipzig: Verlag von H. Haessel. 1893.

MP
Leibniz: Philosophical Writings. Ed. by G. H. R. Parkinson and trans. by Mary Morris and G. H. R. Parkinson. London: J. M. Dent & Sons, 1973.

RA:
The Labyrinth of the Continuum: Writings on the Continuum Problem, 1672-1686. Ed. And trans. by R. T. W. Arthur. New Haven: Yale University Press, 2001.

SLT
The Shorter Leibniz Texts: A Collection of New Translations. Ed. and trans. by Lloyd Strickland. London: Continuum, 2006.

W:
Leibniz Selections. Ed. and trans. by Philip P. Wiener. New York: Scribners, 1951.

References (Secondary)

Adams, R. M. (1994). *Leibniz. Determinist, theist, idealist*. Oxford: Oxford University Press.

Anscombe, G. E. M. (2000). *Intention* (2nd ed.). Cambridge, MA: Harvard University Press.

Breger, H., Herbst, J., & Erdner, S. (Eds.). (2006). *Einheit in der Vielheit: Vortäge des VIII. Internationaler Leibniz-Kongress*. Hannover: Gottfried Wilhelm Leibniz Gesellschaft.

Brown, G. (2006). Does the best of all possible worlds contain the (absolute) most?. In Breger et al. (2006) (pp. 106–110)

Carlin, L. (2000). On the very concept of harmony in Leibniz. *Review of Metaphysics, 54*(1), 99–125.

Chappell, R. Y. (2013). Value receptacles. *Noûs, 49*, 322–332.

Cover, J. A., & O'Leary-Hawthorne, J. (1999). *Substances and individuation in Leibniz*. Cambridge: Cambridge University Press.

Gale, G. (1976). On what God chose: Perfection and God's freedom. *Studia Leibnitiana, 8*, 69–87.

Griffin, M. (2013). *Leibniz, God and necessity*. Cambridge: Cambridge University Press.

Hegel, G. W. F. (1984). *Lectures on the philosophy of religion* (Vol. 1, P. C. Hodgson, Ed., R. F. Brown, P. C. Hodgson, J. M. Stewart, Trans., with the assistance of H. S. Harris). Berkeley: University of California Press.

Kagan, S. (1988). The additive fallacy. *Ethics, 99*, 5–31.

Koistinen, O., & Repo, A. (1999). Compossibility and being in the same world in Leibniz's metaphysics. *Studia Leibnitiana, 31*, 196–214.

Levey, S. (2002). Leibniz and the Sorites. *The Leibniz Review, 12*, 25–49.

Lodge, P. (2001). Leibniz's notion of an aggregate. *British Journal for the History of Philosophy, 9*, 467–486.

McDonough, J. K. (2010). Leibniz and the puzzle of incompossibility: The packing strategy. *Philosophical Review, 119*, 135–163.

Melamed, Y. Y. (2010). Acosmism or weak individuals?: Hegel, Spinoza, and the reality of the finite. *Journal of the History of Philosophy, 48*, 77–92.

Messina, J., & Rutherford, D. (2009). Leibniz on compossibility. *Philosophy Compass, 4*, 962–977.

Nachtomy, O. (2001). Individuals, worlds, and relations: A discussion of Catherine Wilson's 'Plenitude and Compossibility in Leibniz'. *The Leibniz Review, 11*, 117–124.

Nachtomy, O. (2007). *Possibility, agency, and individuality in Leibniz's metaphysics*. Dordrecht: Springer.

Newlands, S. (2010). The harmony of Spinoza and Leibniz. *Philosophy and Phenomenological Research, 81*, 64–104.

Newlands, S. (2013). Leibniz and the ground of possibility. *Philosophical Review, 122*, 155–187.

Palkoska, J. (2010). *Substance and intelligibility in Leibniz's metaphysics* (Studia Leibnitiana Supplementa, Vol. 35). Stuttgart: Franz Steiner Verlag.

Parkinson, G. H. R. (1994). Review of Leibniz: Sämtliche Schriften Und Briefe Reihe I: Allgemeiner, Politischer Und Historischer Briefwechsel Bd 14: Mai-Dezember 1697. *Studia Leibnitiana, 26*, 210–214.

Rutherford, D. (1994). Leibniz and the problem of monadic aggregation. *Archiv für Geschichte der Philosophie, 76*, 65–90.

Strickland, L. (2006). *Leibniz reinterpreted*. London: Continuum.

Wilson, C. (2000). Plenitude and compossibility in Leibniz. *The Leibniz Review, 10*, 1–20.