

# Leibniz On Substance & Truth

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Here I discuss the basic elements of Leibniz’s view of substance, truth as conceptual containment, and his idealist theory of monads. I show how Leibniz uses the PSR to argue against materialist conceptions of substance, as well as so-called “absolute” conceptions of space.<sup>1</sup>

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## 1 Leibniz – Chronology

Here’s a brief overview of Gottfried Wilhelm Leibniz’s life (1646–1716). For further details see his [SEP](#) entry.

- Born in Leipzig in 1646, trained as a lawyer and defended his degree in law at, 20 in Altdorf in 1666.

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<sup>1</sup> Some useful resources for the discussion below are (Bennett 1984, 2001; Heidegger 1984, 1991; Mates 1986; Hartz and Cover 1988; Rutherford 1992, 1998; Adams 1994; Baxter 1995; Cover 1997; Cover and O’Leary-Hawthorne 1999; Bobro 2004; Jolley 2005; Futch 2008; Hahmann 2009; Look 2010; Newlands 2010; Garber 2011; Levey 2012; Jorati 2017; Arthur 2018; Aitken and McDonough 2020; Pikkert 2021).

- Lived in Paris from 1672-6 where he received much of his training in mathematics and physics, and independently from Newton invented the differential and integral calculus
- Appointed court councilor at Braunschweig-Lüneberg in Hanover in 1667
  - While only publishing one book in his lifetime (the 1710 *Theodicy*) he wrote many important shorter works (e.g. 1684's *Meditations on Knowledge, Truth, and Ideas*, 1686's *Discourse on Metaphysics*, 1695's *New System*, and 1714's *Monadology*)
- Died in Hanover on November 14, 1716
- Some (near) contemporaries:
  - Descartes (1596-1650)
  - Malebranche (1638-1715)
  - Thomas Reid (1710-1796)
  - Christian Wolff (1679–1754)
  - Immanuel Kant (1724-1804)

## 2 Leibniz Against Matter

Motivated by his conception of what a substance must be, Leibniz articulated a variety of criticisms concerning the prevailing notion of matter amongst the scientifically minded intelligentsia of the seventeenth century. We'll look at two criticisms—first, his criticism of Descartes's claim that material bodies are independent substances, and second his criticism of the ultimate reality of matter.

### 2.1 Matter is not a Substance

Recall that in Descartes's metaphysical system, the world consisted of two kinds of thing, material substance and mental substance. As substances, material bodies and minds are supposed to be individual subsistant things that depend on nothing else for their existence (nothing, except God, at any rate).

By *substance* we can understand nothing other than a thing which exists in such a way as to depend on no other thing for its existence. And there is only one substance which can be understood to depend on no other thing whatsoever, namely God. (*Principles* 1.51)

Thus, for Descartes a material substance and a mind are both individual and independent kinds of thing.

Leibniz insists not only on the independence requirement that Descartes articulates, but also that there must be *unity* to an individual substance such that there is some account of its status as *one* (as opposed to many) thing. Leibniz emphasizes this point clearly in the *New System*:

after much reflection, I perceived that it is impossible to find the principles of a true unity in matter alone, or in what is only passive, since everything in it is only a collection or aggregation of parts to infinity. Now, a multitude can derive its reality only from true unities, which have some other origin and are considerably different from mathematical points which are only the extremities and modifications of extension, which all agree cannot make up the continuum. Therefore, in order to find these real entities I was forced to have recourse to a formal atom, since a material thing cannot be both material and, at the same time, perfectly indivisible, that is, endowed with a true unity. (p. 139)

Leibniz argues here that the 'true unity' required to attribute to matter the status of substance (as thus as recognizing individual material bodies as substances) cannot be found in matter itself. Essential to Leibniz's argument here is his distinction between a mere collection or aggregate and a genuine unity. Later in the *New System* Leibniz claims that a mere collection or aggregate could never be a unity.

Such a unity could not occur in the machines made by a craftsman or in a simple mass of matter, however organized it may be; such a mass can only be considered as an army or a herd, or a pond full of fish, or like a watch composed of springs and wheels. Yet if there were no true substantial unities, there would be nothing substantial or real in the collection (142)

Leibniz's point is that however organized an army or flock of birds may be, neither the army nor the flock is anything above and beyond its parts—it is merely an *aggregate*. Since there is nothing to an aggregate individual beyond its parts—in Leibniz's terms, there is no principle of unity for the aggregate (though perhaps Leibniz would change his mind if he knew about the [murmurations of starlings](#))—i.e. there is no sense in which the whole aggregate is *independent* in the way required for it to be a substance.

The obvious move here is to say that some material bodies are indivisible unities—viz., *atoms*. Leibniz anticipates this with his claim that “what is material can't at the same time be perfectly indivisible.” But this isn't, of itself, a convincing argument that Leibniz offers since it is simply the denial of the atomist's thesis that some material bodies are indivisible. The atomist claims that there is a kind of “ground floor” of materiality, where there are

material bodies—atoms—without any parts. Leibniz, however, does provide something in the way of an argument against this.

if there were no true substantial unities, there would be nothing substantial or real in the collection. That was what forced Cordemoy to abandon Descartes and to embrace the Democritean doctrine of atoms in order to find a true unity. But atoms of matter are contrary to reason. Furthermore, they are still composed of parts, since the invincible attachment of one part to another (if we can reasonably conceive or assume this) would not eliminate diversity of those parts. There are only atoms of substance, that is, real unities absolutely destitute of parts, which are the source of actions, the first absolute principles of the composition of things, and, as it were, the final elements in the analysis of substantial things. We could call them metaphysical points: they have something vital, a kind of perception, and mathematical points are the points of view from which they express the universe. But when corporeal substances are contracted, all their organs together constitute only a physical point relative to us. Thus physical points are indivisible only in appearance; mathematical points are exact, but they are merely modalities. Only metaphysical points or points of substance (constituted by forms or souls) are exact and real, and without them there would be nothing real, since without true unities there would be no multitude. (142)

Leibniz claims several things here. First, he argues that the notion of a material atom is “contrary to reason.” Why would that be? One of Leibniz’s fundamental intellectual commitments is to what he calls the “[Principle of Sufficient Reason](#)” (PSR). The PSR states that everything that exists must have an intelligible ground for its existence. Put another way, every fact or entity must have an explanation.

Leibniz’s claim that atoms of matter are contrary to reason, then, is equivalent to the claim that their existence would violate the PSR. Leibniz’s idea here is that the existence of a material atom would mean the existence of an extended being that was not divisible. But Leibniz thinks that it is either arbitrary or it is simply a contradiction to claim that an extended being is not divisible. This is because extended beings are extended in space, and just as it is always mathematically possible to divide the space that an object occupies into further spaces, so too should it be possible to divide the object itself into further parts, each of which is an occupant of this space. This was particularly true of those, like [Descartes](#), who thought of material extension as *identical* with spatial extension (i.e. that there was no distinction between matter and the space that it occupies). To argue, as the atomist does,

that some material bodies are indivisible, is to assert that there is an arbitrary stopping point in the cycle of division, an arbitrariness that goes against the PSR.

Leibniz also provides a second argument against the idea that atoms are genuine unities.

[atoms] are still composed of parts, since the invincible attachment of one part to another (if we can reasonably conceive or assume this) would not eliminate diversity of those parts. (142)

Here his argument again appeals to the claim that things extended in space are going to have parts, presumably corresponding to the different parts of space that they occupy. Leibniz argues that the indivisibility of an atom (assuming, for the sake of argument, that it *is* indivisible) is not enough to show that it lacks parts. The idea here seems to be that even if the attachment of one part to another were “invincible”, still, by virtue of the fact that the being occupies space, and thus has different regions in each part of space, it is thereby composed of a plurality of parts. If the atomist then admits the existence of such parts then Leibniz can appeal to his first argument as given above. Things with parts are dependent on their parts and thus are not independent in the way required of substantial unities. They are, in Leibniz’s terms, ‘accidental’ rather than ‘real’ unities.

## 2.2 Matter is not Ultimately Real

If Leibniz’s arguments against the substantial status of matter are successful then they show that matter is not to be understood as an ultimate, and independent, entity. But Leibniz does not stop with this point. He further argues that the very reality of matter should be called into question.

Let’s look again at the aggregate passage:

Such a unity could not occur in the machines made by a craftsman or in a simple mass of matter, however organized it may be; such a mass can only be considered as an army or a herd, or a pond full of fish, or like a watch composed of springs and wheels. Yet if there were no true substantial unities, there would be nothing substantial or real in the collection (142)

So matter, even understood as an aggregate, would not even be real if there were not substantial unities which grounded it. Leibniz thinks that this substantial entity must be a non-material entity—a “metaphysical point”, or what he would later call a ‘monad’. Leibniz argues that the reality of matter requires the existence of “true unities”, but matter is not the kind of thing that could itself be a ‘true unity’ so there must be something else—a “real

and living point”—whose existence grounds and explains the existence of matter. How does Leibniz’s argument work? Here is one way of fleshing it out:

1. Matter (material body) is nothing but a collection or aggregate of parts
2. Any *real* aggregate must ultimately be composed of parts which are not themselves aggregates—viz., “true unities”
3. True unities cannot be material (b/c they must be indivisible) or mathematical (b/c mathematical points are not real)
4. ∴ Matter depends on a non-material true unity

Would the atomist or ‘corpuscularian’ agree with this argument? Both would agree with the first premise, that material bodies are collections of parts. But why should they endorse premises (2) and (3)? Leibniz does nothing to motivate these premises beyond the kind of analogical arguments surrounding the unreality of aggregates like flocks of birds or piles of stones—aggregates are nothing more than the sum of their parts.

In the background of Leibniz’s argument is something we might call the ‘Principle of Borrowed Reality’ (PBR). Leibniz makes this point quite clearly in a letter to the Jesuit priest and philosopher [Antoine Arnauld](#):

I believe that where there are only beings by aggregation, there aren’t any real beings. For every being by aggregation presupposes beings endowed with real unity, because every being derives its reality only from the reality of those beings of which it is composed, so that it will not have any reality at all if each being of which it is composed is itself a being by aggregation, a being for which we must still seek further grounds for its reality, grounds which can never be found in this way, if we must always continue to seek for them. (To Arnauld (April 30, 1687), p. 85)

Is the PBR plausible? There is certainly something intuitive about it. A building is only as real as the materials that constitute it. A painting is only as real as the flecks of paint that make it up. What’s more, it seems that the corpuscularian is at a disadvantage here because they too would seem to want to endorse the principle, as it is part of the explanatory power of corpuscularianism (or any hierarchical metaphysical theory) that the macroscopic world is built out of, and ultimately depends upon, the features of the microscopic world and interactions between such microscopic entities.

So, just as the finitist or atomist response to the issue of division is unsatisfactory because of its arbitrariness (and thus its violation of the PSR), the infinitist answer to the issue of division violates the PBR. Thus, according to Leibniz, given matter’s composite nature we

cannot countenance matter as substantial or real. Leibniz's positive views on the status of matter seem to change over the course of his life. At the point of writing the *New System* (1695) Leibniz considered matter to be real but not ultimately so, its existence and unity being dependent on the existence of substantial forms or souls.

Only metaphysical points or points of substance (constituted by forms or souls) are exact and real, and without them there would be nothing real, since without true unities there would be no multitude. (142)

By the time he writes the *Monadology* (1714) Leibniz has given up on the reality of matter altogether, arguing that it is only a perception existing in the mind of the perceiver. He states this clearly in a 1712 letter to Bartholomew des Bosses, Jesuit teacher of theology and a professor of mathematics at Cologne.

I consider the explanation of all phenomena solely through the perceptions of monads functioning in harmony with each other, with corporeal substances rejected, to be useful for a fundamental investigation of things...It is true that things which happen in the soul must agree with those which happen outside of it. But for this it is enough for the things taking place in one soul to correspond with each other as well as with those happening in any other soul, and it is not necessary to assume anything outside of all souls or monads. According to this hypothesis, we mean nothing else when we say that Socrates is sitting down than that what we understand by 'Socrates' and by 'sitting down' is appearing to us and to others who are concerned. (Letter to des Bosses, 16 June, 1712)

This position, subsequently called "*phenomenalism*", construes the material world as nothing more than the orderly perceptual appearances of an underlying non-material order of mind-like substances or "monads".

### 3 The Metaphysics of Substance

All of the leading philosophers of the seventeenth century begin from the idea that the most basic kind of being, in terms of which all else is to be explained, is substance. This means that substance must be, in an appropriate sense, causally and explanatorily self-sufficient. Sometimes this is put in terms of predication. Substances are the ultimate subjects of predication, which is to say that we predicate things of substances (e.g. 'The stone is cold', 'John is tall') and never predicate substances of anything else. Substances thus constitute the basic 'furniture' of reality.



### 3.1 The Logical Conception of Substance

One of the central notions in Leibniz's philosophy is that the logical structure of our thought mirrors the real structure of reality. Leibniz thus thinks that there are close connections between the nature of truth and the nature of substance. For example:

He contends that All truth is analytic truth by virtue of containment:

in every true affirmative proposition, whether necessary or contingent, universal or particular, the notion of the predicate is in some way included in that of the subject. *Praedicatum in est subjecto*; otherwise I do not know what truth is. (G II 56; L 337)

So in every true predication the concept of the predicate is contained in the concept of the subject. This corresponds to the fact that substance is the ultimate subject of properties, and that which cannot be a property of anything else.

As a correlary, Leibniz claims that every substance has a “complete individual concept”, such that if  $x$  is a substance then there is a concept of  $x$  that contains all true predications concerning  $x$

it is the nature of an individual substance or complete being to have a concept so complete that it is sufficient to make us understand and deduce from it all the predicates of the subject to which the concept is attributed. An accident, on the other hand, is a being whose concept does not include everything that can be attributed to the subject to which the concept is attributed (DM §8; L 307)

Leibniz thinks that finite beings grasp truths about substances via partial grasp of their complete concepts, while God knows all truths about all substances via a perfect grasp of their complete concepts.

Take, for example, the historical figure [Julius Caesar](#). According to Leibniz, the statement 'Caesar crossed the Rubicon in 49 BC' is analytically true. An '*analytic truth*' is a truth whose predicate does not, in a sense requiring further elaboration, go beyond what is given in stating the subject. There are obvious 'stutter' examples of this — 'all red squares are red' is analytically true since the predicate is so clearly part of the subject. But Leibniz contends that the same phenomenon can occur covertly. For example, the statement 'Bachelors are unmarried men' is analytically true because part of what it is to be (or for the word 'bachelor' to mean) a bachelor is to be an unmarried man, even though this is not obvious just from looking at the words themselves.



Leibniz thinks that *all* truth is analytic. So with our initial example statement 'Caesar crossed the Rubicon in 49 BC', Leibniz thinks that the relation between the subject ('Caesar') and the predicate ('crossed the Rubicon in 49 BC') is relevantly similar to the relation in the case of the 'bachelor' example. For any individual substance, Leibniz thinks there is a singular concept which picks it out and which 'contains' all the predicates of the substance (past, present, and future) in just the same way that 'bachelor' contains 'is an unmarried man'.

Thus, if the world is the totality of individual substances, God possesses a concept of each individual substance, and knows everything that is, has been, or will be true of that individual. This is discussed by Leibniz mostly clearly in his *Discourse on Metaphysics* (see §§8-16). This raises obvious issues for the freedom of rational beings such as ourselves. We'll discuss the issue of freedom later in greater depth.

### 3.2 Leibniz's Objection to Superaddition

According to Leibniz, the proper conception of substance and essence requires that all powers of objects are grounded in the nature of the objects themselves or in God's activity of miraculous intervention. Against Locke, he contends that there cannot be non-miraculous "superaddition" of properties to a substance that do not follow from its essence.

one must above all take into account that the modifications which can come naturally or without miracle to a single subject must come to it from the limitations or variations of a real genus or of an original nature, constant and absolute. For this is how in philosophy we distinguish the modes of an absolute being from the being itself; ... And every time we find some quality in a subject, we ought to think that, if we understood the nature of this subject and of this quality, we would understand how this quality could result from that nature. Thus in the order of nature (setting miracles aside) God does not arbitrarily give these or those qualities indifferently to substances; he never gives them any but those which are natural to them, that is to say, those that can be derived from their nature as explicable modifications. ... This distinction between what is natural and explicable and what is inexplicable and miraculous removes all the difficulties: if we were to reject it, we would uphold something worse than occult qualities, and in doing so we would renounce philosophy and reason, and throw open refuges for ignorance and idleness through a hollow system, a system which admits not only that there are qualities we do not understand (of which there are only too many) but also that there are some qualities that the

greatest mind could not understand, even if God provided him with every possible advantage, that is, qualities that would be either miraculous or without rhyme or reason. (Leibniz 1989, 304–5)

Leibniz hammers away at the point that the reason for accepting a substance-essence ontology is fundamentally one concerning *explanation*. The idea being that reality is, at least in principle, intelligible, in the sense that the ultimate explanation of some property instantiation depends on appealing to the essence or nature of the substance that has that property. Leibniz points out that once this connection between substantial essence and property is rejected we no longer have any basis for construing reality as in principle intelligible to us (or to anyone really, apart from God). Here we see a fundamental difference between Leibniz's approach and Locke's. Leibniz see reality as, in principle, fundamentally rationally intelligible, while Locke either rejects its intelligibility or is at least deeply agnostic about it.<sup>2</sup>

### 3.3 Five Conditions on Substance

In the opening sections of the *Monadology* Leibniz articulates several conditions on his positive conception of substance. Many of these have been more or less explicit in his critique of the Cartesian notion of material substance. Here are Leibniz's five conditions on being a substance:

1. **Independence:** A substance is that in which other things exist, which itself does not exist in anything else. (Here 'in' must mean something other/stronger than merely 'depends upon,' since created substance depends upon God for its existence.)
2. **Persistence:** A substance is that which persists (or endures) as the same thing through change – i.e. it possesses diachronic identity conditions.
3. **Activity:** A substance is necessarily active, or involves a principle of change. Leibniz often refers to this principle as a substance's "entelechy" or "primitive active force."
4. **Unity:** A substance is that which is truly one. A substance cannot be broken down into any collection of simpler beings, themselves satisfying the **Independence** condition. (This is consistent with our being able to distinguish different aspects of a substance, e.g. its active and passive force, or form and matter, so long as these cannot exist independently of the complete substance.) Substances can only come into being via an act of creation (by God) and end by annihilation (again by God).
5. **Individuation:** A substance has a principle of individuation intrinsic to its nature. Thus no two substances can resemble each other completely while yet being distinct.

<sup>2</sup> See (Connolly 2015) for discussion of Locke's epistemic humility.

This condition entails that substances satisfy the principle of the identity of indiscernibles (PII): for any two things, a and b, if a and b are non-identical, there is some property F, such that a has F while b lacks F. If a and b are Leibnizian substances, they satisfy PII by virtue of a property intrinsic to their respective natures.

Conditions (1)-(5) must be satisfied by anything that is to count as a substance for Leibniz, but by themselves they do not comprise a fully worked-out theory of substance. Leibniz experiments with at least two such theories: (i) the corporeal substance theory; (ii) the monad theory.

The corporeal substance theory and monad theory are most plausibly seen as rival accounts of what to include in the category of 'substance,' i.e., the set of actual things that satisfy the necessary conditions for being a substance:

1. According to the **corporeal substance theory**, associated primarily with the middle (1680-1695) period of Leibniz's career, substances are much like Aristotle's "hylomorphic" substances: living bodies, which are composites of form and extended matter.
2. According to the **monadic theory**, associated with late writings such as the *New System* and *Monadology*, the only substances are simple, soul-like entities, endowed with intrinsic properties of perception and appetition.

There is a great deal of dispute as to whether Leibniz ever endorsed (i). It seems clear that he endorses (ii) in the *Monadology*, but whether this was his 'mature' or considered view, or just a view he articulated before his death, is disputed. In his 'middle' period, in which the *Discourse* is written, Leibniz sometimes seems to think that something is a substance just in case it *has* a substantial form or soul. By the 'late' period of the *Monadology*, in contrast, Leibniz seems to think that *only* such souls or substantial forms (i.e. the 'monads') are substances.

### 3.4 Monads

Leibniz articulates the fundamental characteristics of monads as follows (M §1-15):

1. Monads are *simple* – i.e. without parts.
2. Monads are *immaterial* – they lack extension, shape, etc. (This is required by their being simple).
3. Monads are *indestructible* – there is no natural way for a monad to come into or go out of existence, they must be created or destroyed by an act of God. Indestructibility is also a result of simplicity.
4. Monads are *windowless* – there is no interaction, causal or otherwise, between monads.

5. No parts which may be rearranged, so no causation.
  - No 'influx' of properties, since the concept of 'wandering' properties is incoherent.
6. Monads *differ* from one another in virtue of their *perceptions* - each monad has a unique point of view on the universe
7. The order in which a monad's perceptions proceed is in accordance with its *appetite*. - "Appetite" here is not to be understood in terms of hunger but rather in terms of a striving or motive force – the primitive active force that Leibniz some times refers to as an "entelechy".

These seven features of monads help them satisfy the five conditions on being a substance. Indeed, Leibniz seems largely to reason from his abstract conception of substance *to* his particular conception of substance-as-monad.

## 4 Leibniz's Third Reply to Clarke

The PSR figures prominently in Leibniz's Third Reply to Clarke. Here Leibniz argues against space as an absolute substance (presumably the argument applies *mutatis mutandis* to time).

Space is absolutely uniform, and without the things placed in it one point of space absolutely does not differ in anything from another. Now, from hence it follows (supposing space to be something in itself, besides the order of bodies among themselves) that it is impossible there should be a reason why God, preserving the same situations of bodies among themselves, should have placed them in space after one certain particular manner and not otherwise—why everything was not placed the quite contrary way, for instance, by changing east into west. But if space is nothing else but this order or relation, and is nothing at all without bodies but the possibility of placing them, then those two states, the one such as it is now, the other supposed to be the quite contrary way, would not at all differ from one another. . . . Consequently there is no room to inquire after a reason for the preference of the one to the other. (AG 325)

Jonathan Bennett provides a clean reconstruction of Leibniz's argument.<sup>3</sup>

1. Space is an infinitely extended thing (for reductio)

<sup>3</sup> (Bennett 2001, 349–51).

2. Space is absolutely uniform
3. Space is composed of distinct regions whose identity does not depend upon any facts about their contents (from 2)
4. There is a fact of the matter about where in space the material world is (from 3)
5. God chose to put the world in one place rather than another (from 4 & Leibniz's theology)
6. There can be no reason for God to prefer one location for the world rather than another (from 1 & 2)
7. God made a choice for which He had no reason (from 5 & 6)

Since Leibniz believes (7) is absurd he must reject one of the premises – and he rejects (1). *Why* does Leibniz believe (7) is absurd? It is a violation of the PSR, for it would mean that God acts without reason or further explanation. This would be fine for Descartes's voluntarist conception of God, but not Leibniz's.

Bennett calls the rejection of (7) “extravagantly rationalistic”.<sup>4</sup> Such a rejection is tantamount to denying that God would ever do the following:

1. I want it to be the case that either P or Q, but not both
2. There is no reason for preferring the one over the other
3. I choose Q

Is this really “extravagant”? It seems to heavily depend on whether one finds it plausible that (free) choice requires or entails a complete lack of determination. Bennett does find this plausible, and correspondingly implausible its contrary. Whether he is justified in this thus depends on more than just an evaluation of the PSR itself, but also its consequences.

In addition to the argument from Sufficient Reason, Leibniz also adduces an argument, in the Fourth letter, from his Principle of the Identity of Indiscernibles (PII). Suppose that absolute space exists. Then the world oriented in one way with respect to space would have to be a distinct possibility from the world oriented in another way with respect to absolute space. But, according to Leibniz, given that space is entirely qualitatively homogeneous two such purported possibilities would be indiscernible since no being – not even God or an angel – could recognize any difference between them. Leibniz thus concludes that since the supposition of absolute space leads to a violation of the PII, the supposition itself must be rejected. By essentially the same reasoning, Leibniz argues similarly that the apparent possibility of absolute time is also inconsistent with the PII and so too must be rejected as chimerical or confused (37).

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<sup>4</sup> (Bennett 2001, 351).

## References

- Adams, Robert Merrihew. 1994. *Leibniz: Determinist, Theist, Idealist*. Oxford: Oxford University Press.
- Aitken, Allison, and Jeffrey K. McDonough. 2020. "Somethings and Nothings: Srigupta and Leibniz on Being and Unity." *Philosophy East and West* 70 (4): 1022–46. doi:10.1353/pew.2020.0074.
- Arthur, Richard T. W. 2018. *Monads, Composition, and Force: Ariadnean Threads through Leibniz's Labyrinth*. Oxford: Oxford University Press.
- Baxter, Donald. 1995. "Corporeal Substances and True Unities." *Studia Leibnitiana* 27 (2): 157–84.
- Bennett, Jonathan. 2001. *Learning from Six Philosophers: Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume*. Oxford: Clarendon Press.
- Bennett, Jonathan Francis. 1984. *A Study of Spinoza's Ethics*. Indianapolis: Hackett.
- Bobro, Marc Elliot. 2004. *Self and Substance in Leibniz*. Dordrecht: Kluwer Academic Publishers.
- Connolly, Patrick J. 2015. "Lockean Superaddition and Lockean Humility." *Studies in History and Philosophy of Science* 51: 53–61.
- Cover, J A, and John O'Leary-Hawthorne. 1999. *Substance and Individuation in Leibniz*. Cambridge: Cambridge University Press.
- Cover, Jan A. 1997. "Non-Basic Time and Reductive Strategies: Leibniz's Theory of Time." *Studies in History and Philosophy of Science Part a* 28 (2): 289–318. <https://www.sciencedirect.com/science/article/pii/S0039368196000167>.
- Futch, Michael. 2008. *Leibniz's Metaphysics of Time and Space*. Springer Science & Business Media.
- Garber, Daniel. 2011. *Leibniz: Body, Substance, Monad*. Oxford University Press.
- Hahmann, Andree. 2009. *Kritische Metaphysik der Substanz: Kant im Widerspruch zu Leibniz*. Berlin: Walter de Gruyter.
- Hartz, Glenn A., and J. A. Cover. 1988. "Space and Time in the Leibnizian Metaphysic." *Noûs* 22 (4): 493–519. doi:10.2307/2215454.
- Heidegger, Martin. 1984. *The Metaphysical Foundations of Logic*. Indiana University Press.
- . 1991. *The Principle of Reason*. Bloomington: Indiana University Press.
- Jolley, Nicholas. 2005. *Leibniz*. Oxford: Routledge.

- Jorati, Julia. 2017. "The Contingency of Leibniz's Principle of the Identity of Indiscernibles." *Ergo, an Open Access Journal of Philosophy* 4 (20181115). doi:10.3998/ergo.12405314.0004.031.
- Leibniz, Gottfried Wilhelm. 1989. "Preface to New Essays on Human Understanding." In *Philosophical Essays*, edited by Roger Ariew and Daniel Garber, 291–306. Hackett Publishing.
- Levey, Samuel. 2012. "On Unity, Borrowed Reality and Multitude in Leibniz." *Leibniz Society Review* 22: 97–134.
- Look, Brandon C. 2010. "Grounding the Principle of Sufficient Reason: Leibnizian Rationalism and the Humean Challenge." In *The Rationalists: Between Tradition and Innovation*, 201–19. Dordrecht: Springer Netherlands. doi:10.1007/978-90-481-9385-1\_12.
- Mates, Benson. 1986. *The Philosophy of Leibniz: Metaphysics & Language*. Oxford: Oxford University Press.
- Newlands, Samuel. 2010. "The Harmony of Spinoza and Leibniz." *Philosophy and Phenomenological Research* 81 (1): 64–104. <https://www.jstor.org/stable/20779549>.
- Pikkert, Owen. 2021. "Leibniz on the Grounds of the Principle of Sufficient Reason." *Archiv Für Geschichte Der Philosophie* 0. doi:10.1515/agph-2019-0026.
- Rutherford, Donald. 1998. *Leibniz and the Rational Order of Nature*. Cambridge: Cambridge University Press.
- Rutherford, Donald P. 1992. "Leibniz's Principle of Intelligibility." *History of Philosophy Quarterly* 9 (1): 35–49. <https://www.jstor.org/stable/27744002>.