Chapter 11
Monads on My Mind

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Monads were very much on Leibniz's mind in the late 1690s. In these crucial years between about 1695 and 1700, Leibniz was beginning to work out the details of the monadology, what monads are, and how they are to function as the ultimate building-blocks of his metaphysics. In this essay, I would like to look carefully at the development of the argument in those years, as Leibniz's view was undergoing what has to be regarded as a major shift. I will begin by reviewing what I take to be Leibniz's position in what I have called his middle years, the years between the late 1670s and the mid-1690s, before monads, when Leibniz's view of the world was grounded in corporeal substances. Then I will try to trace out at least one of the paths by which monads came into Leibniz's world during those important years of transition.

Inevitably I will have to go over some of the ground that I covered elsewhere, where I have discussed the transition from the corporeal substance view of the middle years (still somewhat controversial) to the monadological metaphysics of the later years.[1] I was moved to reconsider the question in part because of later thoughts I had, not altogether consistent with what I thought earlier, but mostly because of the new availability of some texts. I am becoming increasingly convinced that the second half of the 1690s was a period of Leibniz's philosophical life as fertile as the late 1670s and early 1680s, when the doctrines characteristic of his middle years emerged. As new texts from this period are edited and published, I expect that new insights about the emergence of the monadological metaphysics of his mature period will be revealed. In that respect, I take this to be only a preliminary report on a crucial issue in Leibniz's philosophical development.

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[1] See Garber (2009), Chap. 8.

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1 The Back Story: Leibniz Before 1695

Leibniz's earliest conception of the world was strictly mechanist, with a distinctly Hobbesian influence.[2] In the physics of the *Theoria motus abstracti* and *Hypothesis physica nova* of 1671, bodies were just geometrical, and so offered no resistance. For a variety of reasons, Leibniz found this unsatisfactory. For one, the physics that resulted from this conception of body violated the principle of the equality of cause and effect, a conservation principle, discovered by Leibniz in the summer of 1676, in accordance with which the ability to do work is conserved. If bodies offer no resistance, then the smallest body in motion could set into motion a larger body at rest, without losing any of its own motion, causing a violation of the conservation principle. But in addition, if a body were just extension, then it would be infinitely divisible: one could find no level at which there genuine individuals with genuine unity. In the late 1670s, these two problems led Leibniz to revive the dreaded substantial forms of the scholastics. And so, Leibniz wrote in 1679, in a famous letter to the Duke Johann Friedrich, his employer in Hannover, "I reestablish substantial forms with demonstrative certainty…" (A I, 2, 225).[3] And in a contemporary passage from an outline of a book Leibniz never got to write, he remarked:

> There follows now a discussion of incorporeal things. Certain things take place in body which cannot be explained from the necessity of matter alone. Such are the laws of motion, which depend upon the metaphysical principle of the equality of cause and effect. Therefore we must deal here with the soul and show that all things are animated. Without soul or form of some kind, a body would have no being, because no part of it can be designated which does not in turn consist of more parts. Thus nothing could be designated in a body which could be called 'this thing,' or a unity. (A VI, 4, 1988 (L 278–9))

The reestablishment of substantial forms meant, for Leibniz, the reestablishment of an Aristotelian conception of substance, corporeal substance understood as a union of form and matter. This addressed both of the problems with his earlier view. From the matter arises passivity, resistance, which will enable bodies to resist the acquisition of new motion and thus satisfy the principle of the equality of cause and effect. And from the substantial form, came the individuation of bodies, genuine individuals, genuine unities, something "in a body which could be called 'this thing,' or a unity."

An important exposition of Leibniz's metaphysics of corporeal substances can be found in his correspondence with Arnauld in the late 1680s. Central to the correspondence is what might be called the aggregate argument:

> I believe that where there are only entities through aggregation, there will not even be real entities; for every entity through aggregation presupposes entities endowed with a true unity. . . .I do not grant that there are only aggregates of substances. If there are aggregates of substances, there must also be genuine substances from which all the aggregates result.

[2] For a fuller development of the early years and the transition to his middle period discussed in this section of the paper, with full references and documentation, see Garber (2009), Chap. 1.

[3] References to Leibniz's writings are generally given in the main text. When available, the English translation is given in parentheses following the original language citation.

> One must necessarily arrive either at mathematical points from which certain authors make up extension, or at Epicurus's and M. Cordemoy's atoms (which you, like me, dismiss), or else one must acknowledge that no reality can be found in bodies, or finally one must recognize certain substances in them that possess a true unity.[4]

These "certain substances" are, like us, organic bodies united by souls, corporeal substances:

> I accord substantial forms to all corporeal substances that are more than mechanically united . . . .If I am asked for my views in particular on the sun, . . . the earth, the moon, trees and similar bodies, and even on animals, I cannot declare with absolute certainty if they are animate or at least if they are substances or even if they are simply machines or aggregates of many substances. . . .[E]very part of matter is actually divided into other parts as different as the diamonds [of the Grand Duke and the Grand Mogul]; and since it continues endlessly in this way, *one will never arrive at a thing of which it may be said: 'Here really is an entity,' except when one finds animate machines whose soul or substantial form creates substantial unity independent of the external union of contiguity*. And if there are none, it follows that apart from man there is apparently nothing substantial in the visible world.[5]

In this period, it seems, the ultimate entities that make up the world are corporeal substances, animate creatures understood on the model of human beings, organic bodies and souls, in Aristotelian terms, matter and form. The objects of everyday experience are either corporeal substances, such as us, fellow human beings, and likely animals, or aggregates of corporeal substances, like tables and chairs.[6]

2 Monads Emerge: 1695–1696

This is Leibniz's view of the world in the middle years, I would claim. The view that Leibniz saw extended corporeal substances and not non-extended and mind-like monads as the ultimate ground of reality in this period, indeed the whole idea of a middle period in Leibniz's philosophy is increasingly accepted in the literature, though it is still rather controversial. I shall not defend that reading here.[7] But if we can assume that the constituents of reality were corporeal substances in his middle years, by in the mid-1690s, things are beginning to change. The changes, though, are subtle, and it is not obvious when exactly they happen.

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[4] Leibniz to Arnauld, 30 April 1687, A II, 2, 169. See also A II, 2, 82; A II, 2, 114–15; A II, 2, 186; A II, 2, 248.

[5] Leibniz to Arnauld, 28 Nov/8 Dec 1686, A II, 2, 121–22. See also A II, 2, 115–16; A II, 2, 119; A II, 2, 120–21.

[6] For a fuller account of the aggregate argument and the account of the unity of substance with which it is connected, see Garber (2009), Chap. 2. I am leaving aside here the theme of force, which is also important to Leibniz's metaphysics in this period. See Garber (2009), Chaps. 3 and 4.

[7] My main defense of this thesis is Garber (2009), where I present a developmental account of Leibniz's philosophy that shows the place that the middle years occupy in the larger development of Leibniz's thought. The most substantial attack on the "middle years" thesis of a corporeal substance metaphysics is found in part III of Adams (1994).

There are a couple of texts from the mid-1690s where it appears as if Leibniz is considering grounding reality is something non-extended and analogous to minds, though he doesn't there call them monads. Consider, for example, the *Système nouveau* of 1695. At the end of the first part of the essay, Leibniz writes:

> 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 substances* [*les premiers principes absolus de la composition des choses, & comme les derniers élemens de l'analise des substances*]. 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 [*constituez par les formes ou ames*]) are exact and real, and without them there would be nothing real, since without true unities there would be no multitude.[8]

It is tempting to read this passage as asserting that that the ultimate constituents of reality are not corporeal substances, but something more like souls. And it suggests a stronger notion of unity than we found in the Correspondence with Arnauld. On this view, it would appear, corporeal substances are not sufficiently unified to count as genuine individuals: on this view the *real* unities are something more like souls or forms. But this reading is not forced on us. Souls or forms are certainly central here, one might argue, insofar as they transform mere aggregates of matter, organic bodies, into genuine corporeal substances. But, one might argue, the "true unities" in the last line are the corporeal substances as a whole, and not just their souls. A crucial term here is "*constituez*": Leibniz writes that the "metaphysical points or points of substance" are "constituted by" forms or souls. In seventeenth century French, as in modern French, the word is ambiguous. It *can* mean that these "points of substance" *are* just "forms or souls". But it can *also* mean that the forms or souls *create* or *establish* genuine unities, in the way in which souls transform an organic body, an aggregate of parts, into a genuine corporeal substance.[9]

Closely related to this is another important text, where Leibniz makes crucial use of the idea of a simple substance, a term that is just at this moment entering his technical vocabulary.[10] The text is Leibniz's remarks on some criticisms that Simon Foucher had made of the *Système nouveau*. In this important text, Leibniz discusses the difference between mathematical extension and real bodies. Mathematical extension is not composed of parts, but is divisible into parts; in mathematics we are dealing with the ideal world and we don't have to worry about how extension can be

[8] Leibniz (1695, 300; AG 142), emphasis added. Note that I am citing the original publication of the *Système nouveau* since the standard text, given in GP IV is from a version with later additions.

[9] On this see the *Dictionaire de L'Académie française* (1694), s.v. "*constituer.*" For further reflections on the notion of constitution in Leibniz, see Nita (2008, 191–193).

[10] Before 1690, there are only a handful of occurrences of the term "simple substance" in the Leibniz texts that we have. For a discussion of the evolution of Leibniz's vocabulary, see Garber (2009, 331f).

grounded in something smaller or more basic. But the situation is different with concrete things. Leibniz writes:

> [I]n actual substantial things, the whole is a result or coming together of *simple substances*, or rather of a multitude of real unities. … Those who make up a line from points have looked for the first elements in ideal things or relations, something completely contrary to what they should have done; and those who found that relations like number or space … cannot be formed by the coming together of points were wrong, for the most part, to deny that substantial realities have first elements, as if the substantial realities had no primitive unities, or as if there were no simple substances. … [I]n realities in which only divisions actually made enter into consideration, the whole is only a result or coming together, like a flock of sheep. It is true that the number of *simple substances* which enter into a mass, however small, is infinite, since besides the soul, which brings about the real unity of the animal, the body of the sheep (for example) is actually subdivided—that is, it is, again, an assemblage of invisible animals or plants which are in the same way composites, outside of that which also brings about their real unity. Although this goes on to infinity, it is evident that, in the end, everything reduces [*revenient à*] to these unities, the rest or the results being nothing but well-founded phenomena. (GP IV, 491–2; AG 146–7)[11]

It is tempting to suppose that the "unities" to which things reduce are the "simple substances" mentioned a few lines earlier, and that these are to be understood as the mind-like monads of the later monadology. But though suggestive, that reading is not inevitable: the unities to which everything reduces might also be things like the sheep or the "invisible animals or plants" which Leibniz mentions, corporeal substances united by souls.

It is at just about this time that the term "monad" enters Leibniz's vocabulary as well. The first occurrence of the word in Leibniz's texts that can plausibly be linked with his later monadological doctrine occurs in a letter to L'Hospital dated 12/22 July 1695.[12] The context is a brief discussion of the *Système nouveau,* which had just come out in the *Journal des sçavans* in the June and July issues. Leibniz writes:

> The key to my doctrine on this subject consists in the consideration of that which is genuinely a real unity, a monad [*une unité reelle, Monas*]. (A III, 6, 451; WF 57)

It is interesting, though, that as defined, the monad could be either the corporeal substance of the Correspondence with Arnauld, or the mind-like simple substance of the later monadology.

The same is true of the next occurrence of the term, about a year later, in a letter to Michelangelo Fardella, a close correspondent, from 3/13 September 1696. There he writes:

> It seems to me that the nub of the matter consists in the true notion of substance, which is the same as the notion of a monad or real unity and, so to speak, a formal atom or essential

[11] For a fuller discussion of this passage and Leibniz's account of continuity, see Garber (2015).

[12] It should be noted that the word 'monad' or the adjective 'monadicus' appear earlier in Leibniz's 1663 theses, *De principio individui* (A VI, 1, 7), in the 1666 *De arte combinatoria* (A VI, 1, 173, 185, 220, 222), in notes on Martianus Capella in 1673 (A VI, 3, 199) and in notes on Henry More in 1676 (A VI, 3, 356). Later the term appears in discussions of John Wilkins in 1686 (A VI, 4, 31), John Dee in 1688 (A VI, 4, 919), and Ralph Cudworth in 1689 (A VI, 4, 1946). But none of these uses seem to have any substantial connection with the later metaphysical use of the term.

> point. For there are no atoms of matter, whence in vain do we seek unity in matter; and a mathematical point isn't essential but modal, whence the continuum is not made up out of points, and yet something substantial comes about from unities. (A II, 3, 192–93)

In a letter to Fardella from 5/15 June 1697, Leibniz replies to a request for further clarification by noting that "what you ask about the nature of monads and substances can easily be satisfied if you indicate what in particular you would like explained about the matter." (A II, 3, 325) But again, it is not clear whether 'monad' is another word for the corporeal substance, or whether it designates a mind-like simple substance.

These initial uses of the term are relatively thin; when first introduced, 'monad' may well be identical with what he used to call a unity in his earlier vocabulary, that is, a corporeal substance. But in the years that immediately follow, things become somewhat clearer.

3 Monads Aplenty: 1697–1698

At this point, I would like to turn to a number of later documents in which Leibniz deals with monads. While in some of these texts it is very difficult to say exactly how Leibniz is thinking about monads, in others we see some of the familiar and characteristic features of the monadological metaphysics revealed for the first time. In these letters, and perhaps in other texts of these years that we have not seen yet, Leibniz seems to be working out the details of his new theory.

Conrad Barthold Behrens was a physician and scholar in Lower Saxony who had a fairly extensive correspondence with Leibniz, beginning in 1692 and extending through to the end of Leibniz's life. The letter I would like to discuss, dated 24 December/3 January 1697/8, is a response to an earlier letter in which Behrens had sent him an outline of his monograph on the soul, *Pneumatologia medica*, which was to appear a few years later, in 1702 in the *Miscellanea curiosa*, a publication of the German *Academia Naturae Curiosorum*. Leibniz replied, as he often did, by taking the opportunity to inform his correspondent about his own ideas. In the course of this explanation, Leibniz wrote about monads:

> By the word 'substance' I here understand a substance, and not substances, that is, not some aggregate but a true one, which I call a monad, because it differs from an aggregate (such as every material mass is) just as a flock of sheep differs from a sheep, or a fish pond from a fish.

Leibniz adds:

> Therefore in every substance endowed with a body there is a dominant monad and an organic mass which it dominates.

And so, he concludes:

> …everything is full of souls, or, if you prefer, of monads analogous to souls, though not every soul is a mind, but only those which are endowed with an intellect. (A I, 15, 153)

It is tempting here to read 'monad' as in the later canonical monadological texts, as something non-extended and analogous to the soul. But it is not so clear. Leibniz does say that everything is full of monads analogous to souls, and that in every substance endowed with a body there is a dominant monad, which seems to function something like a soul with respect to an organic mass. But, on the other hand, earlier in the same passage Leibniz suggests that a true substance or monad is *like a sheep or a fish*, suggesting that 'monad' applies not only to the soul but to the whole composite, body *and* soul. Insofar as everything is full of these living (but extended) substances, he might say that everything is full of monads analogous to souls, while, at the same time holding that everything is *also* filled with extended corporeal substances which have non-extended dominant monads as constituents. It is not absolutely clear that this is what Leibniz has in mind, but it is certainly a possible reading.

Monads also come up in a similarly inconclusive way in Leibniz's *De ipsa natura*, the first published text in which the term appears. Though the essay appeared in print in September 1698, there is good reason to believe that Leibniz was probably working on it in the second half of 1697. Starting as early as June or July 1697, there is an epistolary exchange with Johann Christoph Sturm, the target of the essay, on themes that will come up in the published essay, suggesting that the essay was in progress at that time, even before the letter to Behrens.[13]

The letters to Sturm contain some brief mentions of the monad, but nothing that would allow us to say much definite about how Leibniz understood the term. In a letter that the Akademie Edition dates as having been written before 5 July 1697, Leibniz refers to monads in connection with the distinction between natural and artificial machines that he drew in the *Système nouveau.* Here Leibniz notes that every natural machine is endowed with a "substantial monad or … a spirit." (A II, 3, 341) In this context the term "monad" is just equivalent to soul, it would seem. But the term also comes up in a later letter to Sturm, from the end of October 1697. In one place, which Leibniz ultimately struck, he characterizes a monad as "something truly one and invisible." (A II, 3, 387n) Later in the same letter monads come up again, this time in a passage that Leibniz actually sent. He wrote:

> Also we differ in the notions of matter. With regard to extended mass, that for me it is not one substance, but an aggregate of many substances, as a flock. Moreover, substance itself is to be sought in the monad, where we cannot conceive of anything except the power [*potentia*] of acting and being acted upon [*patiendi*]. (A II, 3, 392)

Here it isn't clear whether included among the monads are corporeal substances, or whether Leibniz's intention is to replace corporeal substances with monads as the metaphysical ground of things. That is, it isn't clear whether 'monad' is intended as a general word for unity or substance, including corporeal substance, or whether monads are the nonextended unities that ground corporeal substances.

[13] See Leibniz for Sturm, prior to 5 July 1697, A II, 3, 335–344; Sturm for Leibniz, 10–15 October 1697, A II, 3, 384–385; Leibniz for Sturm, end of October 1697, A II, 3, 386–393.

There are a number of passages in the published *De ipsa natura* where the term 'monad' is just used in passing. (See, e.g., §§10 and 13.) But two passages are more substantive. In one passage, Leibniz argues that there must be like a soul in material bodies. He writes:

> And this substantial principle itself [*ipsum substantiale principium*] is what is called the soul in living things and the substantial form in other things; insofar as, together with matter, it constitutes a substance that is truly one, or something one per se, it makes up what I call a monad [*id facit quod ego Monadem appello*], since, if these true and real unities were eliminated, only entities through aggregation, indeed (it follows from this), no true entities at all would be left in bodies. For, although there are atoms of substance, namely monads lacking parts [*monades partibus carentes*], there are no atoms of bulk [*moles*], that is, atoms of the least possible extension, nor are there any ultimate elements, since a continuum cannot be composed out of points. (*De ipsa natura* § 11, GP IV, 511; AG 162)

When Leibniz says that "it makes up what I call a monad," it isn't clear whether the "it" in question is the soul that creates the unity in the corporeal substance, or whether it is the substance as a whole, perhaps even a corporeal substance. But there is something suggestive in his statement that the "monads lacking parts" are the "atoms of substance": here Leibniz might well be asserting that monads, understood on the model of the soul constitute the ultimate ground of reality. But when Leibniz writes that "nor are there any ultimate elements [in extension]," we are back to wondering how exactly he is thinking of the monad. There are certainly ways of interpreting that consistently with the later metaphysical view, on which the monads are taken to ground bodies without being "elements," that is constituents of bodies, but it is not at all clear whether or not we are entitled to read those later views into Leibniz's text at this moment.[14]

Interesting also is a later passage in the essay. Leibniz writes:

> Spirit [*spiritus*] is to be understood, not as an intelligent being … but as a soul or as a form analogous to a soul, not as a simple modification, but as something constitutive, substantial, enduring, what I usually call a monad, in which there is something like perception and appetite. (*De ipsa natura* § 12, GP IV, 512; AG 163)

Here the monad seems to be identified with "a soul or … a form analogous to a soul." In this passage it is very difficult to interpret the monad as anything like the corporeal substance of the middle years: here it seems that *all* monads are clearly intended to be souls or something analogous to souls. But, at the same time, it is not clear whether or not monads exhaust reality: once again it is not clear whether the monad in question is simply one constituent of a corporeal substance, together with matter, or whether it is itself the ultimate metaphysical ground of all reality.

In the passages we have been examining, it is very difficult to say what exactly Leibniz thought a monad was, whether the monad is just a new term for some elements of the earlier corporeal substance view, or whether they introduce a genuinely new metaphysics. But in a letter that Leibniz wrote to Johann Gebhard Rabener in January 1698 he is much clearer and more explicit.

[14] For a discussion of some later views on the relation of monads, understood as nonextended and mind-like, to the extended world, see Garber (2009, Chap. 9).

Rabener was a court counselor and interested in medical matters. He was hardly a regular correspondent of Leibniz's; very few letters passed between them. Rabener had sent Leibniz a treatise on migranes (*Historia de hemicrania*), which Leibniz had passed on to Behrens. In his reply, he notes that Rabener seems to have encouraged him to share his thoughts about the nature of the soul. Leibniz was only too happy. In the course of that answer, Leibniz wrote the following:

> Furthermore, since matter is nothing but a real phenomenon of many aggregates, and, as they commonly say, an entity through aggregation, and, moreover, since an aggregate is constituted by simples, I later discovered that we must arrive at monads. Not, indeed, corporeal or spatial [monads], since the continuum is not composed of indivisibles, nor are there any material atoms, but, however, substantial [monads]. Therefore *every true monad is a simple substance, and is in some sense analogous to a mind*, and that hence it follows that [every monad] is coeval with the world, unless it was created by God in the course of time. (A I, 15, 260)

Here it is clear that for Leibniz, monads are not extended, not corporeal substances, but simple substances, "analogous to a mind". And it is strongly implied that these mind-like monads are the ultimate constituents of bodies: one can safely presume that they are the simple substances that constitute the aggregate that is matter.

4 Leibniz and Wagner

Though the doctrine of monads is suggested in some of these shorter texts we have been examining, in these years it is developed at greatest length in a very curious document, the exchange between Leibniz and Gabriel Wagner, also known by his pen name, Realis de Vienna.[15] Wagner was an interesting person, though apparently somewhat unstable. He seems to have drifted from job to job, writing pamphlets against his teacher Christian Thomasius. Wagner was reputed to be a materialist, and held views sympathetic to those of Spinoza, particularly on the issue of necessitarianism. Despite that, Leibniz seems to have enjoyed disputing with him, and even seems to have enjoyed his personal company. Leibniz also helped Wagner to obtain a position cataloging the library at Wolfenbüttel, for at least a time.[16] It must have been during the time he was at Wolfenbüttel that Wagner entered into this particular exchange. Starting in December 1697 and going until March of 1698, Leibniz and Wagner met and corresponded about issues in Leibniz's philosophy. The exchange, recently published in its entirety for the first time in of the Akademie Edition, is very interesting and illuminating, and offers the first extended exchange on monads in Leibniz's corpus.[17]

[15] Note that there is a collection of Wagner's writings and documents, with an extensive introduction with biographical information and background, Wagner (1997).

[16] For a brief account of Wagner's life and adventures, see Israel (2006, 173–175). For a fuller account, see Wollgast's introduction to Wagner (1997).

[17] The full dossier is found in A II, 3, 673–739. A small portion of the exchange was published earlier in Leibniz (1948, 389–399).

The exchange grew out of Leibniz's and Wagner's contrasting reactions to Christian Thomasius's views on the notion of substance. For Wagner, the reaction against Thomasius seems to have been at least in part very personal. Though Wagner had been a student of Thomasius, the latter disowned him in 1693, following Wagner's troubles over a failure to pay his rent that led to time in jail. For Leibniz, the differences were more strictly philosophical. Indeed, much of Leibniz's interest in the notion of substance in the early 1690s, culminating in the important "*De prima philosophiae emendatione, et de notione substantiae*" of 1694, seems to derive from his reaction to Thomasius. Thomasius, in turn, replied to Leibniz in print, of which Leibniz took notice in a series of private notes, probably from mid or late 1696.[18] While monads don't come up in the discussion of substance in response to Thomasius, they do come up at some length in the exchange with Wagner.

The exchange resembles the now well-known exchange between Leibniz and Fardella in 1690.[19] Like the exchange between Leibniz and Fardella, the exchange between Leibniz and Wagner begins with Wagner stating what he takes to be Leibniz's position and offers objections, to which Leibniz then offers responses. Unlike the Fardella exchange, though, these exchanges involve Leibniz and Wagner sparring on the same sheet of paper, either in one another's presence, or with the paper passed from the one to the other for comments to be added. And unlike the Fardella exchange, the exchange with Wagner extends over a period of time. Three papers are exchanged in December 1697, a fourth which is dated as sometime between January and March 1698, followed by a fifth and sixth paper in the middle and end of March 1698. By the sixth paper, Leibniz seems to have lost interest in the project – or become annoyed with Wagner's comments. It contains only very brief and occasional responses to Wagner's questions and objections. The series of documents ends with a letter by Leibniz, written at the end of March, setting out his position on geometrical matters, with a complaint about the lack of exact definitions in the dispute, and a reply by Wagner, at the beginning of April, setting out some definitions. The documents are capped off by a note that Leibniz wrote 28 May/7 June 1698 summarizing his impressions of this curious character and his dealings with him.

The exchange begins in the first paper (December 1697) with Wagner proposing five "Leibnizian" theses for discussion, or at least five theses that he attributes to Leibniz:

1. The extended or the continuous quantity has no parts.
2. No point is next to another.
3. One or substance is an entity in motion, or is moved. And it is universal, or God, and particular, or a creature.

[18] On the debate over substance between Leibniz and Thomasius, see Utermöhlen (1979) and Garber (2009, 321–322, 329–331). For an account of the exchange between Leibniz and Wagner that emphasizes the roots of the discussion in Thomasius, see Pelletier (2011). Pelletier is also at work on a monograph on Leibniz and Wagner (see Pelletier, forthcoming).

[19] See A VI, 4, 1666–1671; AG 101–105.

4. The state of the world could have been otherwise, and indeed in as many ways as don't imply a contradiction.
5. Everything always becomes more perfect (A II, 3, 675–77).
   The second paper (also December 1697) adds another thesis:
6. There is no empty space (A II, 3, 682).
   In the last of the December 1697 exchanges, a seventh thesis is added for discussion:
7. Joy [*laetitia*] is the sense of perfection (A II, 3, 691).

But this last topic drops out pretty quickly. The first two topics concern Leibniz's views on the labyrinth of the continuum and mathematical extension. The third topic (and in some of its exchanges the sixth, on empty space) relate most directly to the issue of substance, though occasionally monads and substance will come up in other contexts in the exchange. The fourth thesis deals with Leibniz's views on necessity and contingency, and the fifth on issues relating to theodicy.

Monads come up in the second paper, which is a somewhat expanded version of the first. (The first paper has Leibniz's responses in the margins of Wagner's comments; in the second paper, Wagner presents his views in the left column, and Leibniz in the right.) Wagner presented what he took to be Leibniz's thesis: "A unity or a substance is a being in motion, that is, moved. And it is universal, that is, God, or particular, that is, a creature." Leibniz responded: "This thesis is also not mine. A monad, that is a substance is an active entity, nor is it necessary that it move. God certainly doesn't move, even though he acts" (A II, 3, 680). Notice here that the term comes up in Leibniz's reply, and not in Wagner's representation of Leibniz's theses. This suggests that monads were not a part of the earlier discussions that lead up to the exchange, or, at least, that they were not very salient in the earlier discussions: this was probably the moment in which Leibniz first introduces Wagner to his theory. But once monads are made part of the discussion, they remain. In the third paper there is the following exchange about the third thesis:

α I believe that all action takes place through motion;* if not, it must be said, how** therefore can an action happen; this thesis is affirmed without sufficient exegesis and explanation, but not defended. …	*all action is joined to motion, but not every action happens through motion. **We can easily understand that in monads there is no internal motion, since there is no extension in them, and all motion is in extended things. However, in monads there is an internal action through which their internal state is changed. (A II, 3, 686)

Here it is absolutely clear that monads are understood to be nonextended, and change not through motion, which involves extension, but through some "internal action." The fourth paper is just about theses 1 and 2 and the problem of the mathematical continuum, but in the fifth paper he returns to theses 3 through 6. In his response to Leibniz's remarks on thesis 3, Wagner re-organizes the dispute under a number of headings, including "In monads there is no extension", "In monads there is action through which their internal states are changed." (A II, 3, 704) (There are other headings too, but none relevant to the questions at hand.)

Under the first heading, there is one of the only jokes I know of in the corpus of Leibniz's writings:

Therefore they aren't divisible to infinity, since even if the extended and the divisible are not synonyms, they are reciprocal and convertible. And yet a monad must be able to exist in isolation [*solitaria*], otherwise it couldn't be called a monad.	Monads are clearly not divisible. Furthermore, monads don't exist in isolation. They're monads, not nuns. [*Sunt Monades non Monachae.*] (A II, 3, 704)

Monads come up later in the fifth paper, not under thesis 3, but under the heading of thesis 5, that everything becomes more perfect. To Wagner's materialistic comment that in death, our perceptions are disbursed, Leibniz responds:

> This is really mistaken. Every 'I', every this, that is every monad persists perpetually. I'm not a body, but a mind or monad which is now the ruler of this body. And perfection once acquired remains to any monad whatsoever as an indelible stamp, even if it can't always be perceived distinctly, just as the conatus impressed on a body is never destroyed, but only combined with others. The only thing missing is that death destroys perceptions insofar as it lacks what is needed for increasing them. (A II, 3, 711)

At the end of the fifth paper, Leibniz returns to monads now as they relate to the problem of the continuum. Wagner tries to link the two by relating monads to the "tiny lines [*lineolae*]" (perhaps infinitesimal?) with which he attempts to answer Leibniz's thoughts on points and the continuum.[20] Leibniz responds impatiently:

> I … wonder about 'tiny line' and 'monad' being joined here. These things sufficiently show that the one can't be understood from the other. The monad and the tiny line are entirely different for me, indeed also a monad and a point. A monad is a substance and therefore it is endowed with action, and except for the primary one [i.e. God] with passion as well. Points and lines are really modal beings, just like place, time, motion. Namely, they are limits or negations of continuous extension, that is, of the order of coexistences. (A II, 3, 713)

And finally, the monad comes up in the connection with Wagner's further comments on the continuum. Leibniz writes:

> In a continuum there isn't an element or a minimum indivisible existing independently of everything else [*solitarie*]. Monads aren't elements of the continuum but the source [*fontes*] of all power [*potentia*] and perfection in it, insofar as the source of the limits of those monads is the Most Perfect Monad [i.e. God], which they express, each in its own way. (A II, 3, 714)

At this point, with the sixth paper, the conversation peters out.

5 Whither Monads?

Where are we with monads in late 1697 and early 1698? As a term of art, 'monad' seems to have entered Leibniz's vocabulary. While some of the uses are difficult to pin down, in other cases he is pretty explicitly outlining a view that looks like the

[20] See, e.g., A II, 3, 676, where Wagner, in the context of proposing that points can be contiguous, considers an alternative, that tiny lines are next to one another, and so a circle might turn out to be a polygon, properly speaking. The discussion of this issue extends over a number of letters.

monadological metaphysics that he will later adopt in at least some of its features. In the exchange with Wagner, Leibniz has asserted quite positively and absolutely unambiguously that monads are nonextended, that they are endowed with an internal action and passion through which their internal states are changed. And in the letter to Rabener in January 1698, at exactly the same time of the exchange with Wagner, he wrote that "every true monad is a simple substance, and is in some sense analogous to a mind." Furthermore, each monad expresses "the Most Perfect Monad" each in its own way. Unfortunately, though, these texts are relatively short on argument. Texts like the *Système nouveau* and the note to Foucher, though they don't use the term 'monad', suggest that Leibniz was concerned about the metaphysical issue of unity and the need for a simple and indivisible ultimate element in things. Recall here the formulation in the *Système nouveau*:

> 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 substances.* (Leibniz 1695, 300; AG 142, emphasis added)

One can presume that at this point it was the need for ultimate metaphysical simples that was driving the push for monads. But the texts which introduce the term explicitly are hardly argumentative, and don't give us a lot of insight into why he introduced the term and, if I am right, the concept into the discussion. Even so, it seems clear that monads understood not merely as genuine substances of any sort, but as the ultimate nonextended simples made familiar in later texts, have entered Leibniz's metaphysics.

But there are already complications: Leibniz doesn't seem altogether clear about the relation of these monads, understood as nonextended and mind-like, to the world of extended bodies. In the letter to Rabener, it seems clear that nonextended monads are meant to replace the corporeal substances of the earlier view in the Correspondence with Arnauld. The same kind of aggregate argument that had earlier led to the positing of corporeal substances is now taken to lead to nonextended and mind-like monads: it is because aggregates require genuine unities that, he claims, there must be monads, where monads are understood on analogy with minds. The position in the replies to Wagner suggests something a bit more complicated: "Monads aren't elements of the continuum but the source [*fontes*] of all power [*potentia*] and perfection in it…" (A II, 3, 714). But it isn't altogether clear what to make of this statement. We must remember here that throughout this period Leibniz had very sharply distinguished the continuum, which is ideal, from concrete bodies, which must be made up of substances.[21] But if the continuum is ideal, that is, something that does not itself exist in nature, what sense can be made of saying that monads are the "source of all power and perfection in it"? Are monads, then ideal? Or is Leibniz talking here about the material continuum, which, for him, isn't properly speaking a continuum at all? Understood in this way, it looks as if Leibniz's statement to Wagner is inconsistent with what he said to Rabener, where the monads seem to be genuine constituents of bodies. How, then, are nonextended monads related to extended bodies?

[21] See Leibniz's response to Foucher, GP IV, 491–492 (AG 146–147), cited in part earlier.

This is just the question that Johann Bernoulli put to Leibniz on 16/26 August 1698, just months after Leibniz's exchange with Wagner ended and just before the term 'monad' appears in print for the first time in the *De ipsa natura*, published in September. After a series of letters in which Leibniz was trying to explain to Bernoulli his new theory of monads, Bernoulli asked the embarrassing question:

> However, if you say that the body is composed out of infinite monads, then each monad must be characterized as either extended or not extended. … If they are not extended, they are … useless, since an extended thing cannot be composed from nonextended things. (A III, 7, 873)

On 20/30 September, a few weeks later, Leibniz answers the objection as follows, in a way very distant from the view that Leibniz was suggesting in his letter to Rabener and his exchanges with Wagner:

> What I call a complete monad or individual substance is not so much the soul, as it is the animal itself, or something analogous to it, endowed with a soul or form and an organic body. (A III, 7, 909; AG 168)

Already, so soon after first articulating it at some length to Wagner, Leibniz seems to be giving up on his view of a world of nonextended monads, and returning to the world of the Correspondence with Arnauld: 'monad,' Leibniz tells Bernoulli, is just another term for corporeal substance. One might wonder whether Leibniz is just hiding his true views from Bernoulli here. But given how willing he was to share his views with others, including a number of others with whom he had more distant relations than he had with Bernoulli at that moment, it would seem strange that he would hold back from someone with whom he was on such close terms. One has got to take seriously the possibility that at that moment, in response to Bernoulli's question, Leibniz wondered about the wisdom of the new path on which he had set out.

Leibniz's answer to Bernoulli seems completely inconsistent with what he had told others, like Wagner and Rabener about the nature of the monad. But before too much longer he will return to the understanding of the monad, the ultimate unity and the new building-block of his universe, as nonextended and understood on analogy with the soul. In a letter to the Electress Sophie of Hannover on 12 June 1700, Leibniz argues, again, for a world of nonextended monads:

> Everyone is agreed that *matter* has parts, and consequently it is a *multitude* of many substances, as a flock of sheep would be. But since every multitude presupposes *true unities*, it is obvious that these unities cannot be material, otherwise they would, again, be multitudes, and not true and pure unities, as are needed to make up a multitude. And thus the unities are substances apart [*substances à part*], which are not divisible, nor, as a consequence, perishable, since everything which is divisible has parts that one can distinguish there before separating them. (A I, 18, 113–114)

At this moment Leibniz is also beginning his correspondence with de Volder, where he is working out a metaphysics based on nonextended monads. But Leibniz continued to struggle with the problem of how to relate nonextended monads to the extended bodies of our experience for the rest of his life.[22]

[22] On this theme, see Garber (2009) Chap. 9.

6 Monads Behind the Veil

A striking feature of the theory of monads at this moment in the late 1690s is Leibniz's openness to expressing it. He seems quite willing to volunteer his views on monads to Fardella, Behrens, Rabener, Sturm, and Wagner. Indeed, he seems to be willing to go on at quite some length with Wagner on the subject. It is also interesting to note the context of the letter in which he first talked about monads with Fardella in September 1696. In it, Leibniz was recalling that the Bernoullis and L'Hospital had developed the details of his calculus, and had helped disseminate it through Europe by way of their writings. Indeed, L'Hospital had just published his Leibnizian textbook, *Analyse des infiniment petits…*, giving a public exposition of Leibniz's mathematics. Leibniz had hoped that Fardella could be persuaded to do something similar for his theory of monads, develop its details and make it public (A II, 3, 193). Leibniz must have been disappointed when Fardella demurred. Similarly, when Wagner complained that Leibniz was hiding his views on monads, that he was presenting his hypothesis as a "veiled virgin" and that he, Wagner, felt that arguing with Leibniz was "like the groping around of a blind gladiator," Leibniz responded with a bit of pique: "I don't see why you think it is "veiled". If there were any uncertainty anywhere, one could always ask, nor would an appropriate answer be lacking." (A II, 3, 704)

But despite Leibniz's initial intentions to publicize his new view, it didn't happen. More than 15 years later, in 1714, Nicolas Remond remarked that a friend "spoke rightly when he compared the knowledge we have of your system of monads to that which one would have of the sun by the single rays that escape the clouds that cover it."[23] And if all you knew then of Leibniz is his published writings, then Remond's friend was certainly right. It is striking how little the monadological metaphysics that we now associate with Leibniz's name can be found in the published writing. Our knowledge of the monadology comes largely from writings that were not published during Leibniz's lifetime, from his correspondences with de Volder and Des Bosses, and, of course, from the *Principes de la nature et de la grâce* and the *Monadologie*, the latter of which remained uncirculated so far as we know during Leibniz's lifetime.[24]

No doubt part of the reason that he didn't go public with the monadology has to do with the fact that his thoughts about monads "are quite distant from the received imaginations," and for that reason, perhaps not suitable for general circulation, as he noted in 1714 in a passage he wrote about the monadological metaphysics for Remond, but never sent (GP III, 624). But I also suspect that this question about the relation between the world of monads and the world of extended bodies was one

[23] GP III, 616; cf. Leibniz to Hugony, 14 March 1714, GP III, 682.

[24] Although the *Principes de la nature et de la grâce* were sent to various correspondents by Leibniz and are known to have circulated, we have no direct knowledge of anyone to whom Leibniz sent a copy of the *Monadology*. For a history of its posthumous publication in 1720 and 1721, see Lamarra et al. (2001), and esp. p. 59 for some speculations on the transmission of the manuscript to Christian Wolff and Heinrich Köhler, its first editors and translators.

that nagged at Leibniz until the end of his days, one that he was never able to solve to his complete satisfaction. And for that reason, perhaps, despite his early intention to spread the news of the new metaphysics of monads as widely as he had spread the news of his new calculus, the theory of monads was to remain behind a veil for most of his readers during his lifetime.

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