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The Monadology

In the summer and autumn of 1714, during the tail end of a two-year stay in Vienna, Leibniz wrote not one but two seminal philosophical texts, the “Monadology” and the “Principles of Nature and Grace.” While both texts are about the same length – about as long as a modern-day journal article – and both cover similar ground, it is the former that has attracted the lion’s share of philosophers’ attention, becoming the focus of numerous books and commentaries since its first publication in 1720, four years after Leibniz’s death. More than a century ago, George Martin Duncan (1908: 407) claimed of the “Monadology”: “It is the most complete statement of Leibniz’s system and merits the most careful study.” More recently, Stuart Brown and N. J. Fox (2006: xvii) have described the text as “a masterful condensation ... of the book he [Leibniz] never wrote.” Indeed, the “Monadology” encapsulates a considerable proportion of Leibniz’s mature philosophy in a mere 90 numbered paragraphs, together totalling around 6000 words. Yet it is not a complete account of Leibniz’s mature philosophy by any means. It contains, for example, nothing at all about Leibniz’s doctrines of free will, space and time, or dynamics/force. Moreover, it contains only a very small part of Leibniz’s ethics and philosophical theology, both of which are crucial for understanding Leibniz’s thought as a whole.¹ Despite these lacunae, the “Monadology” is a rich account of much of Leibniz’s mature philosophy, especially his metaphysics, and for that reason has become one of the standard texts through which students new to Leibniz are introduced to his thought. We shall begin our survey of the text by considering its origins and publication history.

1. Origins and publication

As far as we can tell, the “Monadology” was written for one of Leibniz’s correspondents, Nicolas-François Remond (1638-1725), councillor to the Duke of Orleans. It may have been intended simply to give Remond greater insight into Leibniz’s philosophy. Certainly, in the first months of 1714 Leibniz received word through a mutual acquaintance that Remond desired some clarification of Leibniz’s doctrine of monads, about which there was precious little information in the writings Leibniz had published at the time.² A second possibility is that the “Monadology” may have had a more exotic purpose, to serve as a framework for a Latin poem about Leibniz’s philosophy that one of Remond’s acquaintances in Paris, Abbé Claude-François Fraguier (1666-1728), wished to write. Remond explained to Leibniz that, in order for Fraguier to write the poem, he would need a systematic presentation of Leibniz’s philosophy that would enable him to master all of its doctrines and so put it into verse (see GP III, 616).³ When composing a letter to Remond in July 1714, Leibniz acknowledged both Remond’s and Fraguier’s requests, and even sketched out a summary of his doctrine of monads as an appendix (see GP III, 622-24/LM 278-79), but ultimately did not enclose the

¹ The same is true of the cognate text, “The Principles of Nature and Grace”.

² Brief remarks on monads can be found in Leibniz’s essay “On nature itself” (1698) and the *Theodicy* (1710); see GP IV, 511/PPL 504 and GP VI, 352/H 360.

³ Early in 1714 Remond sent Leibniz a poem about Homer that had been composed by Fraguier, which inspired Leibniz to compose a poem of his own, appending it to his letter to Remond of 14 March. Leibniz’s poem consists of sixty hexameters, almost a third of which are devoted to summarising some of his key doctrines; the “Leibnizian” part of the poem begins with God, the “greatest author”, who scatters his rays onto the Earth and into the stars, creating minds in his image, as well as all souls, which enclose all things. Leibniz then claims that monads alone subsist, and the harmony between them is a testimony to God’s omnipotence; that the natural laws, fashioned in such a way that better ones cannot be imagined, are in harmony with final causes; and that atoms do not exist, and instead particles are divisible into ever smaller worlds, with nothing left empty. The Leibnizian part of the poem ends with the claim that God, the ruler of the best world, has arranged things in such a way that actions bring about their own punishments and rewards. See GP III, 613-15.

appendix with his letter. Nevertheless, around this time Leibniz was crafting a much longer and more detailed text on monads; this is the text we now know as the “Monadology”. Whether this was intended simply as the “clarification” of the doctrine of monads that Remond had wanted, or as the basis for Fraguier’s projected poem, is unclear, and it is possible that the “Monadology” was designed to serve both ends. Whatever Leibniz had in mind, from the extant manuscripts it is clear that he devoted a great deal of time and energy to the text, polishing it through many drafts. Ultimately, however, he decided not to send it to Remond. Instead, on 26 August 1714 Leibniz sent him a different work, the “Principles of Nature and Grace,” which had been written for Prince Eugene of Savoy (1663-1736). While Leibniz worked on both the “Principles of Nature and Grace” and the “Monadology” during the summer of 1714, the former was completed first, with the latter likely being completed only after Leibniz returned to Hanover, in mid-September of that year. Despite the work that Leibniz had put into the “Monadology,” which included the addition of numerous cross-references to his *Theodicy* (1710) for the benefit of any reader looking for a greater explanation of certain doctrines, he did not send it to the person for whom it had apparently been written, Remond, nor did he seek to publish it. Nevertheless, Leibniz was clearly not so dissatisfied with the text as to keep it from everyone, as he allowed certain of his confidantes in Vienna to have access to early drafts of the text, and it was because of this that the text came to be published soon after his death.

The “Monadology” first appeared in print in 1720, in an edition by Heinrich Köhler (1685-1737), who opted to publish a German translation of the text rather than present it in the language in which Leibniz had originally written it, namely French (see Leibniz 1720: 1-46). Köhler’s translation was made not from Leibniz’s final draft but from an earlier one that he may have obtained from Leibniz in person in the summer of 1714.⁴ The title “Monadology” was coined by Köhler. Leibniz did not give the piece a title, though on one of the surviving manuscripts a copyist wrote “The principles of philosophy, by Mr Leibniz”; whether this title was added in accordance with Leibniz’s wishes we do not know. Nevertheless, “The principles of philosophy” was used as the title of the Latin translation of the text that appeared in 1721 in a supplement to the *Acta eruditorum* journal (see Leibniz 1721). The source used for this translation was a different early draft of the text, which is now lost.⁵ The Latin translation from the *Acta eruditorum* appeared in several other publications throughout the eighteenth century, most notably in a six-volume anthology of Leibniz’s writings edited by Ludovic Dutens in 1768 (see Dutens II: 20-31). Each time, the title used was “The principles of philosophy”. The title by which we now know it, “Monadology”, devised by Köhler in 1720, became popular only much later, following the first publication of the original French text in 1840 in an anthology of Leibniz’s writings edited by Johann Eduard Erdman (see OP 702-12). For reasons that are not known, Erdman elected to use Köhler’s title of “Monadology”, and in so doing he relegated “The principles of philosophy” to a mere subtitle. This decision caught the imagination of later editors of Leibniz’s works, such as Jacques (Leibniz 1842, 391-404), Janet (Leibniz 1866, 594-608), and Gerhardt (GP VI, 607-22), each of whom not only elected to use the title of “Monadology” for the text, but also deemed it sufficient in itself, thus omitting “The principles of philosophy” altogether. Since Erdman, the text has become a staple in anthologies of Leibniz’s works, whether in the original language or in translation to another language, and the title of “Monadology” has stuck.

⁴ The copy of the “Monadology” from which Köhler made his translation is now lost. Evidently it consisted of 92 sections rather than the 90 found in all surviving manuscript copies of the text, but is otherwise very similar to one of the surviving early draft manuscripts.

⁵ The copy of the “Monadology” used for this translation consisted of 93 sections, but is otherwise similar to one of the surviving early draft manuscripts.

Although Leibniz did not choose or approve of the title, since it was coined after his death, it is nevertheless an apt one since the text offers a detailed study of Leibniz's doctrine of monads, that is, the most fundamental substances in Leibniz's mature philosophy, though it covers much else besides, as we shall see. It will be instructive to consider the text as dealing with three distinct realms, the metaphysical (§§1-60), the physical (§§61-82), and lastly the moral (§§83-90). We shall work through each of these in turn.

2. The metaphysical realm (§§1-60)

In the first two-thirds of the "Monadology", Leibniz is concerned with the metaphysical realm, about which he makes a number of claims, chief among them that the universe ultimately consists of indivisible, immaterial substances – monads – that do not causally interact with each other but nevertheless perceive or mirror each other. Leibniz identifies three kinds of monads, namely minds, souls, and bare monads, which are distinguished from each other by virtue of their different internal qualities: while bare monads have only perceptions, souls are capable of sensation, and minds of sensation and thought, being endowed with reason. After outlining the principles of reasoning available to minds, and showing how they can be used to prove the existence of God, Leibniz argues that by creating an infinite variety of monads that mirror the universe from their own unique perspective, God thereby created the best possible world. In this section, we shall see how he arrives at these views.

Leibniz begins by defining a monad as "a simple substance which enters into compounds, 'simple' meaning 'without parts'" (§1, LM 14). There follows in §2 an argument for monads, which is this: "there must be simple substances, because there are compounds; for the compound is nothing but an accumulation or *aggregate* of simples" (LM 14). By "compounds" Leibniz means that which has constituents into which it can be broken down, like our bodies. But why should he think that such compounds are aggregates of simple substances rather than aggregates of other compounds, which are in turn aggregates of other compounds, and so on without end? Either option seems possible. In the "Monadology" Leibniz does not indicate why he thinks compounds cannot be aggregates of other compounds *ad infinitum*, but an argument to be found in other writings offers a clue. For example, in a letter to Antoine Arnauld, Leibniz states:

Every being by aggregation presupposes beings endowed with a true unity, since it secures its reality only from that of those it is composed of, so that it will have none at all [sc. reality] if each being of which it is composed is again a being by aggregation or another foundation of its reality must again be sought (A II 2, 169/LAC 181).

Much the same argument can be found in Leibniz's later writings (e.g. A I 18, 113-14/LTS 198, LDV 285-87), which makes it not unreasonable to suppose that his argument for monads in §2 of the "Monadology" is to be understood in the same way.

Having secured the existence of monads, Leibniz proceeds to tell us more about them, and in §3 he argues that "where there are no parts, neither extension, nor shape, nor divisibility is possible" (LM 15). Leibniz here assumes that only that which has extension has shape, and only that which has shape is divisible, and only that which is divisible has parts. Consequently monads, which have no parts, cannot be divisible, and hence cannot have shape, nor be extended. The implication is that monads cannot be corporeal. Although Leibniz does not explicitly say as much, by insinuating that monads are not corporeal while compounds are, he has now effectively divided reality into two distinct realms. On the one hand there is the (corporeal or physical) realm of compounds, or bodies, while on the other there is the (metaphysical) realm of monads, which are without shape, size, and extension. On

the basis of what Leibniz has said thus far we can meaningfully talk of these two realms as being different levels of reality, with monads being the fundamental or base level from which the secondary level of compounds is derived. Leibniz's recognition of two levels of reality brings with it a problem for his readers inasmuch as it is not clear how the two levels are connected, that is, how compounds are derived from monads. In §2 Leibniz seems to offer a straightforward explanation through his statement that a compound "is nothing but an accumulation or *aggregate* of simples", which if taken at face value might suggest that a compound is literally a grouping or massing together of a number of monads. But we also know (from §3) that a monad has no shape or size, from which it follows that the grouping of any number of monads would fail to produce something which does have shape and size, as the compounds of our experience invariably do.

How, then, do compounds result from monads? Unfortunately, no answer to this question can be found in the "Monadology" itself, which has led some readers to suppose that Leibniz's position makes no sense. This is true of influential readers also. In the mid-eighteenth century, the great mathematician Leonhard Euler (1707-1783) argued that if monads are unextended, as Leibniz claimed, then the combination of any number of them would never produce an extended body, and since there clearly are extended bodies it follows that they are not composed of unextended monads, or rather, that monads must be extended after all (see Euler 1746: 17-20, and 1833, II: 39-64, especially 45).⁶ Euler's objection would come to dominate the discussion of monads in the eighteenth century and later,⁷ which is unfortunate given that it is based on a complete misunderstanding of Leibniz's view, albeit one that is difficult to avoid if one restricts oneself to the "Monadology".

How exactly Leibniz sought to ground compounds in monads has been a matter of great scholarly debate in recent decades, and it is neither possible nor desirable to discuss all of the interpretations here.⁸ It will, however, be instructive to consider Leibniz's remark in §2 that compounds are an "aggregate" of monads. While we are apt to construe this as saying that compounds are what results from the *physical* process of clumping or combining monads together, this is not what Leibniz means (indeed, the very idea makes no sense given that monads are not physical objects). For him, "aggregate" is a technical term that refers to the outcome of a *mental* process in which various things, understood to agree with each other in some way, are construed or treated as a whole. As he explains to one of his correspondents, "an aggregate is nothing other than all the things from which it results taken together, which clearly have their unity only from a mind, on account of those things that they have in common, like a flock of sheep" (LDV 275). From this it would follow that compounds are not mereological aggregates, that is, a mind-independent group of monads, since aggregation is a mental operation such that, without minds to do the aggregating, there would be no aggregates, just individual monads.⁹ It is important to note, however, that while the aggregation of monads into a compound is something that occurs in the mind, the monads being aggregated exist outside of the mind which aggregates them. This would suggest that compounds are partly real (because the monads being aggregated are real) and partly mental (because aggregates become unified only through the operations of a mind). Indeed, Leibniz often described bodies as "well-founded phenomena" (e.g. GP II, 622/LM 278) to emphasise

⁶ In a similar vein, Johann Heinrich Gottlob von Justi (1748: XLIX) summarised Leibniz as holding that "One simple being does not fill space, but many together fill a space", which immediately led him to exclaim "Can one contradict oneself more explicitly?"

⁷ It should be noted that, in spite of the misunderstandings of Euler and others, some eighteenth century readers did grasp the nature of Leibniz's monads and their connection with bodies; see for example Malesherbes (1798, I: xxix-xxx).

⁸ Interested readers may wish to consult Hartz (2007), Garber (2009), McDonough (2013) and Puryear (2016) for starters.

⁹ For more details see Lodge (2001).

that they are not illusory or imaginary but instead have an underlying reality which grounds them, namely the reality of monads. In any case, Leibniz is insistent that monads are the true foundations or elements of compounds, prompting him to describe them in §3 as “the true atoms of nature” (LM 14), though from what has been said already it should be clear that what he means by this is that monads are truly fundamental or foundational rather than that they are extended physical objects.

Leibniz now proceeds to make a series of inferences. He argues that, as monads are without parts, they can neither begin nor end naturally, since they cannot be subject to composition (that is, compounding from pre-existing parts) nor dissolution (that is, breaking down into component parts); accordingly, they can begin and end only supernaturally, i.e. by the intervention of God (§§4-6, LM 14-15). He then argues that whatever change a monad undergoes, it cannot occur because of the action of other monads; in other words, that there can be no causal interaction between monads:

There is also no way of explaining how a monad could be internally altered or changed by any other created thing, since it is not possible to rearrange anything in it or to conceive in it any internal motion that could be started, directed, increased, or diminished within it, as can occur in compounds, where there is change among the parts (§7, LM 15).

Here Leibniz considers causation according to how it seems to operate between compound things. He insinuates that when one compound acts on another, it brings about a change in the latter’s parts, or to the amount or direction of motion that these parts have. On the basis of this model, Leibniz supposes that any causality that occurred between monads would also involve change among the parts, such that if monad A were to cause a change in monad B it would do so by virtue of bringing about a change *of* B’s parts or *in* B’s parts. But as we know from §1, monads have no parts. So if inter-monadic causality involves change of/in parts, and monads have no parts, then there can be no inter-monadic causality. However, this does not mean that monads are inert – in fact quite the opposite, for Leibniz considers them all to be active, as we shall see.

Thus far Leibniz has offered a rather negative characterization of monads, giving his reader plenty of information about what they are not or about what they cannot do or have done to them, but very little else. This changes in §8 when Leibniz starts to make some positive claims, here arguing that monads “must have some qualities, otherwise they would not be beings at all” and that they must all have different qualities otherwise “they would be indistinguishable from one another” (LM 15). With the latter claim Leibniz makes a tacit appeal to his principle of the identity of indiscernibles, which states that if two things are indiscernible then they are in fact identical, i.e. one and the same thing;¹⁰ hence if two monads did have exactly the same qualities then they would not in fact be two monads at all, but rather one and the same monad. Hence all monads must differ in their qualities such that no two are exactly the same. Moreover, Leibniz supposes in §10 that the qualities monads possess are constantly changing: “I also take it for granted that every created being is subject to change, and consequently the created monad also, and even that this change is continual in each one” (LM 16). The source of this change is then revealed to be the monad itself, or rather an “internal principle” (§11, LM 16). The reason for this claim should be obvious enough: since Leibniz has already argued that a monad cannot be affected by anything external to it (§7), it follows that the changes a monad undergoes must originate from within itself.

¹⁰ For further details of Leibniz’s principle, see Rodriguez-Pereyra (2018).

It doesn't take long for Leibniz to flesh out these details. In §14 he explains that a monad's qualities are its perceptions, by which he does not mean conscious interpretations of sensory information, as the term is often used today, but rather the representations of the world outside the monad. Accordingly, Leibniz offers a very technical definition of perception as the representation of a plurality within the unity (see LM 16), where the "plurality" refers to the many things represented and the "unity" refers to the monad itself. He also introduces another technical term – "apperception" – to refer to the consciousness of one's perceptions (or of some of them at any rate). In §14 Leibniz also suggests that not all perceptions are apperceived, a claim that is fleshed out and defended when he comes to outline the different grades of monad a little further on. As for the monad's internal principle of change, Leibniz dubs the action of this principle "appetition" (§15, LM 16), which amounts to an inner striving for a new set of perceptions, albeit not a conscious one. In §17 Leibniz states that there cannot be anything other than perceptions and their changes (that is, appetite) in monads (see LM 17), a claim he made often in his later writings (see for example LDV 307; GP VI, 622/LM 278; OP 746/SLT 54).

To those who might be tempted by a more mechanical understanding of perception, e.g. those who might suppose that perception is something produced by the material brain, Leibniz offers in §17 an argument that is now known as "Leibniz's mill":

we are obliged to admit that *perception* and that which depends on it *cannot be explained mechanically*, that is, by means of shapes and motions. And if we suppose that there were a machine whose structure makes it think, feel, and have perception, we could imagine it increased in size while keeping the same proportions, so that one could enter it as one does with a mill. If we were then to go around inside it, we would see only parts pushing one another, and never anything which would explain a perception. This must therefore be sought in the simple substance, and not in the compound or machine (LM 17).

Plausibly, the argument hinges on Leibniz's understanding of perception from §14, where he defines perception as the representation of the multitude in the unity. This means that, by definition, perception can occur only in a unity. What Leibniz adds to this in §17 is the claim that, in material things such as a mill (or – by extension – the human brain), there is in principle no unity to be found, because material things consist of parts upon parts (and of course we know from §1 that whatever has parts is not simple, and hence not a unity). The upshot of which is that perception does not (and could not) occur in material things, in which case, its source must lie elsewhere, namely in a simple substance.¹¹

Thus far, the claims Leibniz has made about monads have been intended to apply to all monads. In §19, however, he indicates that there are different grades or classes of monad, and it is to these that he now turns. The clearest statement of Leibniz's division of monads into different grades can be found in a letter to Friedrich Wilhelm Bierling of 1711, three years before the "Monadology". In the letter he explains that a created monad

¹¹ This accords with the interpretation advanced in Lodge and Bobro (1998). In recent years, the Leibniz's mill argument has attracted a great deal of interest from philosophers of mind, some of whom, such as Landesman (2011), hold that it is still successful in showing that thought does not admit of a mechanical explanation. However, Landesman (2011: 21) takes Leibniz's point to be that "in our stroll [around the mill] we would never find any thoughts or perceptions", whereas Leibniz actually claims that, in our stroll around the mill, we would never find anything "which would explain a perception" rather than that we would never find a perception.

is endowed either with reason, in which case it is a mind, or with sense, namely a soul, or with some inferior degree of perception and appetite, namely a soul-analogue, for which the name 'monad' is satisfactory (GP VII, 502).

In the "Monadology", Leibniz divides monads into the same classes, though his terminology sometimes differs from that used above, with the lowest grade of monads sometimes called entelechies or bare monads (in what follows I shall use the latter term, following §24). In §§19-24 he discusses bare monads, followed by souls in §§25 – 27, and lastly minds in §§28-30. What is quite striking is that Leibniz's grounds for his division of monads are based upon reflection on ourselves and animals rather than on the sort of abstract metaphysical arguments we've encountered thus far. Let us start with bare monads.

As we know, Leibniz holds that all monads have perceptions and appetite. The distinctive feature of bare monads is that they have only perceptions which are not distinct, such that the individual elements of the perceptions are not separately identifiable by the monad itself (see LM 17). Leibniz supports this contention not by a direct argument but by defending the idea that we humans are sometimes in this state, for example when we faint or are in a dreamless sleep (see §§20-21, LM 18). To understand the thinking here, recall that Leibniz has already shown that all monads always have perceptions and that our souls (or minds) are monads. Now if our souls always have perceptions, but there are times when they do not have distinct perceptions, such as when we faint or are in a dreamless sleep, then it must be the case that some perceptions are not distinct; these Leibniz calls "little perceptions" ["petites perceptions"] (§21, LM 18). Having established that there are such things as little perceptions, Leibniz claims that these are the only perceptions bare monads have. Hence the perceptions of a bare monad are akin to ours when we have fainted or are asleep. But bare monads are capable of nothing more, whereas souls and minds are.

Turning to souls, Leibniz notes that animals – ourselves included – have been furnished with sense organs, whose job it is to collect sensory information. This ensures that the souls of these animals have some distinct or heightened perceptions. This is not to say that all of their perceptions are distinct, as in fact many are not, but while bare monads have only little perceptions, souls have both little perceptions and some distinct perceptions. Leibniz also claims that souls are endowed with memory and imagination, which enables them to make empirical inferences, that is, to form connections between different perceptions based on their own experiences (see §§26-27, LM 19). Minds, by which Leibniz typically means human beings along with genii or angels (see GP VI, 605/LM 276), likewise have distinct perceptions along with memory and imagination, but they also possess reason, which enables them to know both themselves and necessary truths such as those of logic and mathematics (see §§28-30, LM 19-20). Moreover, minds are capable of self-reflection, that is, reflection upon what one is, does, and is capable of, and from this Leibniz thinks we can derive key metaphysical notions which then serve as material for our reasonings: "in thinking of ourselves, we think of being, of substance, of the simple and the compound, of the immaterial and of God himself, by conceiving that what is limited in us is boundless in him" (§30, LM 20). Given the importance of the category of substance in the "Monadology" and in Leibniz's philosophy more generally, it is noteworthy that Leibniz should suppose that the source of our notion of it, and of our ability to know what things are picked out by it, lies in self-reflection.

Having outlined the three grades of monad, the focus of the discussion now shifts away from monads for a time. Instead, Leibniz outlines two principles of our reasoning (which helps to show how reason separates minds from souls) and then uses one of them to prove the existence of God. The first principle is the principle of non-contradiction, "in virtue of which we judge *false* that which includes a contradiction, and *true* that which is opposed

or contradictory to the false” (§31, LM 20), while the second is Leibniz’s famous principle of sufficient reason, “in virtue of which we consider that there can be found no fact that is true or existent, or any true assertion, unless there is a sufficient reason why it is thus and not otherwise, even though most often these reasons cannot be known to us” (§32, LM 20). By “sufficient reason” Leibniz does not simply mean a reason or explanation but rather a full account, a complete explanation, of a thing, event, or state of affairs. To understand what this involves, consider a mundane example, such as my going to a restaurant to buy some food. What is the reason for this action? A simple answer might be: because I was hungry. We might think this answer is adequate for everyday purposes, but it falls a long way short of a full account of my action. To obtain that, we would need to know many other things, such as why I was hungry at that particular moment, which in turn would require us to know what and when I had eaten previously, as well as full details of human physiology in general and my physiology in particular; we would also need to know how I had come to believe that there was food available in the restaurant, and the source of my knowledge that eating it would quell my hunger, and so on. In short, to put together a full account of my action would require a large amount of information about me and my life, which in turn could only be explained by broadening the enquiry still further, to encompass my parents, and their parents, and so on, the development of human beings, the origins of life, and even the origin of the universe. A full account, then, potentially involves the whole world and its entire history, and clearly requires more detail than we could ever obtain, even for mundane cases such as my going to a restaurant. Nevertheless, Leibniz’s position is that we would be right to presume that there is a complete explanation of, or sufficient reason for, my action, even if it is beyond our abilities to discern it in all its detail.

Shortly after introducing the principle of sufficient reason Leibniz presses it into service to prove the existence of God. The proof starts in §37 where he argues that the sufficient reason for any contingent thing must be found outside the universe, understood as the series of contingent things (see LM 21). The key claim here is that the sufficient reason for a contingent thing cannot be found in other contingent things, either singly or in combination. But since there are contingent things, it follows that there must also be something non-contingent, in other words, something necessary, because only this can provide the completeness (the sufficiency) of the explanation. In §38 Leibniz completes the proof by identifying this necessary being as God, later insisting that God, qua necessary being, “has the reason for his existence in himself” (LM 23). He goes on to state that God is the most perfect being and is incapable of limits, which would imply that he is omnipotent, omniscient, and perfectly good, as per the traditional conception (see §§40-41, LM 21-22). Not content with this proof, which would today be classed as a cosmological argument, Leibniz proceeds to offer two more, an argument from eternal truths (see §43, LM 22) and a form of ontological argument (see §§44-45, LM 22-23). It is notable that in a deleted passage from §47, which concerns the difference in perfection between God and the monads he creates, Leibniz describes God as “the primitive simple substance or monad” but subsequently changed it to “the primitive unity, or original simple substance” in the final copy (LM 23). However, he does identify God as monad in other texts too, such as a 1711 letter to Friedrich Wilhelm Bierling, where he calls God “the primitive monad” (GP VII, 502). In the same letter Leibniz explains that God differs from created monads not only by being more perfect but also by being the only unembodied monad, for while God has no body, “every created monad is endowed with some organic body” (GP VII, 502). Leibniz will make a similar claim later in the “Monadology”, as we shall see in the next section.

With the existence of God now established, Leibniz argues that there must be a sufficient reason for God’s choice of this universe of contingent things given that there are other possible universes he could have chosen in its place (see §53, LM 24). The reason is

identified in §54: “And this reason can only be found in the *fittingness*, or in the degrees of perfection, which these worlds contain, each possible world having the right to claim existence in proportion to the perfection it contains” (LM 25). Hence the more perfection a possible universe contains, the greater the reason God has to create it, which leads Leibniz to conclude that God will have created the most perfect, or best, of all (§55, LM 25). But what is it about this universe that makes it the most perfect? In §58 Leibniz claims that it is because this universe contains an infinity of monads all of which express the others from their own particular point of view (LM 25). To understand his thinking here, we need to consider what is said in §§49-52 and §§56-57, where he outlines his theory of pre-established harmony and the interconnectedness of all things.

We know already from §7 that there is no causal interaction between monads, but nevertheless Leibniz denies that monads are entirely independent of each other. Specifically, he explains that monads do influence each other *ideally*, that is, in the mind of God prior to creation:

the influence of one monad over another is merely *ideal*: it can have its effect only through the intervention of God, inasmuch as in the ideas of God a monad rightly demands that God have consideration for it when organising the others from the beginning of things (§51, LM 24).

If God did not have this consideration then the result would be a lack of order and harmony. To avoid this, God will ensure that the perceptions of all monads mutually correspond at all times. This is achieved not by God actively interfering with individual monads to ensure that they correspond (as Leibniz’s use of the word “intervention” might suggest), but rather by a process of selection prior to creation, whereby God inspects all possible monads and selects those that will, if created, perfectly correspond to each other of their own accord. Hence when these monads are created they are mutually accommodated and they remain so at every moment thereafter such that the perceptions of each one will always accord with those of every other, despite there being no genuine interaction between them. This mutual adjustment of substances from the outset is of course Leibniz’s famous doctrine of pre-established harmony, though he will not use this expression until §78 when discussing how mind and body form a unity.

Now, the fact that monads are adjusted to each other entails that each one is related to all of the others through its perceptions, which are all of one and the same universe. This leads Leibniz to call each monad a “living mirror of the universe” (§56, LM 25) and claim that, as monads perpetually mirror each other, the universe is effectively multiplied in each monad, at least in perspective. Since there is an infinity of monads, each of which perceives from its own unique point of view, the universe is infinitely multiplied (see §57, LM 25). He concludes that creating a world containing an infinity of interconnected monads, all expressing the others from their own particular point of view, was “the means of obtaining as much variety as possible, but with the greatest order possible; that is, it is the means of obtaining as much perfection as possible” (§58, LM 25). And thus the world Leibniz has described, the one he thinks God will have created, is the most perfect. Although Leibniz here offers a very “metaphysical” way of understanding the perfection of our world, this does not mean that he thinks God had no regard for the moral dimension; quite the opposite, in fact, though this will become clear only at the very end of the “Monadology”, as we shall see in section 4.

3. The physical realm (§§61-82)

In §61 of the “Monadology” Leibniz turns his attention to the physical realm, which then remains his focus until the end of §82. Of course Leibniz has already mentioned the physical realm in the earlier part of the “Monadology”, but there he did so in order to use certain physical data (e.g. that animals have sense organs) to support or evidence the claims he wished to make about the metaphysical realm. Similarly, in §§61-82 we find that while Leibniz’s chief aim is to develop and present doctrines about the physical realm, sometimes he refers to the metaphysical realm in order to provide the support or evidence he needs to achieve this. The key claims in these twenty-two sections of the “Monadology” concern compounds, or rather bodies. Here we find Leibniz defending his view of the organic nature of bodies and its corollary, that the entire universe is full of life. Here too we find Leibniz claiming that all created monads – whether bare monads, souls, or minds – are always embodied, before considering the lifecycle of creatures, especially of human beings.

Leibniz begins his discussion of the physical realm in §61 with the claim that “compounds are analogous to simples”, which he justifies as follows:

For the whole is a plenum, which makes all matter interconnected, and in a plenum every movement has some effect on distant bodies in proportion to their distance, such that each body is affected not only by those which touch it, and in some way feels the effect of everything that happens to them, but also by means of them it is affected by those which touch the former ones, the ones which directly touch it. From this it follows that this communication extends indefinitely (LM 26).

The thinking here is straightforward enough: if the universe is a plenum, that is, if all space is full such that there is no space without a body in it, then when one body moves it will push against its neighbours, which in turn will push against their neighbours, and so on, with the motion of the first body rippling through to every other. Hence the interconnectedness of all things is not restricted to the metaphysical realm of monads, but is also a feature of the physical realm of bodies, there thus being a clear parallel between the two realms. It is useful to note two things here. First, in the “Monadology” Leibniz simply assumes the existence of the plenum without argument, though he does argue for it elsewhere. For example, in his fourth letter to Samuel Clarke (written in 1716), he argues that from God’s desire to produce as much perfection as possible it follows that the universe must be a plenum, because any empty spaces could potentially be filled with something that would possess some perfection (GP VII, 378/Leibniz and Clarke 1956: 44). The second thing to note is that Leibniz here paints a picture of a world of compounds transmitting motion to each other, which might suggest that he allows for causal interaction between bodies. This is not the case: Leibniz no more accepts interaction between bodies than he does between monads, though he is happy to use causal language in the physical realm as it fits with appearances, that is, it preserves our ordinary ways of speaking.

From bodies in general Leibniz now turns to those of living creatures, which remain his concern for the rest of the discussion of the physical realm. In §63 Leibniz defines a living thing as the combination of an entelechy, i.e., a bare monad, and its body, and defines an animal as the combination of a soul and its body (see LM 27). Knowing that all living things consist of a monad/soul and a body helps us to understand Leibniz’s claim in §62 that while “each created monad represents the whole universe, it represents more distinctly the body which is particularly affected by it” (LM 27). Again, Leibniz’s language here – specifically his use of “affected” – may lead one to suppose that he is talking about causal interaction, this time between bodies and monads, but this will be explicitly ruled out in §§78-79 where he affirms that there is a pre-established harmony between them. So in this context, “affected by” should be taken to mean “connected with” or “associated with”. This better fits with

Leibniz's assertion in §62 (repeated also in §63) that bodies *belong* to minds/souls/monads, at least "in a particular way" (LM 27). In other words, each monad or soul is associated with a particular body, which qualifies as its body by virtue of the fact that the soul represents it more distinctly than it does any other body. Hence what makes my body *mine* is the fact that the monads of which it is composed are more distinctly represented by my soul than are those of any other body. Leibniz will later go on to draw a corollary of this, stating in §70 that "every living body has a dominant entelechy" (LM 28). Unfortunately, in the "Monadology" Leibniz does not explain what makes an entelechy dominant, though in a 1712 letter to Barthélemy des Bosses (1668–1738) he claims that "considered in terms of the monads themselves, domination and subordination consist only in degrees of perception" (LDB 257). This suggests a particular monad is dominant in a body inasmuch as its perceptions are more distinct than those enjoyed by all the other monads in that body.

In §63 Leibniz proceeds to offer an argument for thinking that the bodies of all living things are organic in his technical sense of the term, where a body contains within itself further organized bodies, that is, further bodies each joined to a monad/soul, and those bodies in turn contain further organized bodies, *ad infinitum*. This is his argument:

for since every monad is in its way a mirror of the universe, and the universe is regulated in a perfect order, it must be the case that there is also an order in whatever represents it, that is, in the perceptions of the soul, and consequently in the body, in accordance with which the universe is represented in it (§63, LM 27).

The argument is somewhat opaque but the thrust of it is that the universe possesses a perfect order and this will be reproduced not just in the perceptions of each soul or monad but also in each body, which must therefore be ordered in the least of its infinite parts (for if there were some parts that were not so ordered then the order of the universe could not be said to be perfect at all). In §65 Leibniz explains that bodies have this infinitely nested structure "because each portion of matter is not only divisible to infinity ... but also actually subdivided without end, each part into further parts" (LM 27). From this, Leibniz infers "that there is a world of created things – living things, animals, entelechies, souls – in the least part of matter" (§66, LM 28), such that every part of matter is full of living things. This means that living things are to be found everywhere, in every drop of water, every speck of earth, every molecule of air, and also in the bodies of plants and animals, though many of these living things are too small for us to detect directly (see §§68-70, LM 28). Note, however, that all of these living things, however small, are structured in the same way, each consisting of a monad together with its body. For Leibniz states in §70 that there are no unembodied or disembodied monads, with the exception of God. No reason is given for this in the "Monadology", but Leibniz might be thinking it follows from what he has already established. Souls, after all, are connected not just to their own bodies but to everything else, since the least change in one body ripples through to affect all of the others; the end result is a perfect order between all the parts of the created universe. But this would not be the case if there were disembodied souls, as such souls would cease to be connected to the rest of the world, and hence not be part of the universal order instituted by God. As God would not permit such a disharmonious state of affairs to obtain, it follows that there can be no disembodied souls, except for God, who alone stands outside of the universal order of the created realm (see GP VI, 546/PPL 590).

Having insisted that souls are never separated from a body, Leibniz proceeds to rule out both the true generation and death of a living creature. Traditionally, of course, death was understood to be the separation of the soul from the body, and clearly if souls are never separated from a body then living beings do not die (at least in this sense). Similarly, absolute

generation, understood as the joining of a soul with a body, does not occur either, because the soul has always been joined to a body from the moment of creation onwards (see §73, LM 29). Leibniz finds further support for these ideas in the then-vogue theory of preformationism, which held that all living things develop from miniature versions of themselves which existed in the semen of the parents (see §74, LM 29).¹² On this theory, conception simply marks the point at which the animal's pre-existing body starts to enlarge and develop. Leibniz thought this made it reasonable to infer that death is no more than the same process in reverse, whereby an animal's body sheds its organs and becomes smaller in size (see §76, LM 29). From all this Leibniz concludes that all living creatures are indestructible, or at least naturally indestructible, in that they cannot be destroyed by any natural process (see §77, LM 29-30).

Leibniz's discussion of the physical realm concludes with a brief consideration of what we now call the lifecycle. He takes it that the entire living creature, soul and body together, has been present from the very origin of the universe, and that the creature was simply transformed at conception. On the basis of microscopic discoveries of his day, Leibniz claims in §74 that living creatures begin as little animals, in seed form, and then grow into larger animals after conception, then reproduce and die (in the sense of becoming smaller again). For most animals this will mean remaining in their own kind, i.e. a non-rational animal will remain a non-rational animal throughout its entire existence. But in §75 Leibniz makes a cryptic remark about there being "a chosen few which pass through to a greater stage" (LM 29), the meaning of which does not become clear until §82, where he states:

rational animals are distinctive in that their little spermatic animals, for as long as they are only spermatic animals, have only ordinary or sensitive souls; but as soon as those which are chosen (so to speak) attain human nature through an actual conception, their sensitive souls are raised to the rank of reason and to the privilege of minds (LM 31).

The idea here is that, from their creation all the way to conception, the souls of human beings are no different from animal souls, but are raised in status at the moment of conception by being given the spark of reason. Leibniz does not have a consistent position about whether this happens naturally or supernaturally: in some texts he seems to endorse the former (see e.g. LDB 151) and in others the latter, at least tentatively (see e.g. GP VI, 153/H 173), while in the "Monadology" he is simply silent about the matter.

4. The moral realm (§§83-90)

Having outlined this distinctive feature of rational creatures, or minds, Leibniz devotes the final eight sections of the "Monadology" to the moral realm of which they are part, and in particular to the exalted status of minds within God's creation, the nature of the relationship they have with God, and what they can expect from God in the future. In our secular age it would be all too easy to discount this final part of the text as a mere relic of more religious times that can be safely ignored while leaving the core philosophical theses intact. But this would be a mistake. For Leibniz, the claims made in these final sections are no optional extras, but rather the culmination of the arguments and doctrines advanced in the earlier part, or rather the practical upshot of them. A number of Leibniz's most well-known philosophical writings, such as the "Discourse on Metaphysics" (1686), "On the Ultimate Origination of Things" (1697), and the "Principles of Nature and Grace" (1714), follow a similar structure, starting with the metaphysical and physical realms before moving on to the moral. It is no

¹² For further details of preformationism, and of how it informed Leibniz's philosophy, see Becchi (2017).

accident that Leibniz chose to structure many of his philosophical writings this way; indeed, it suggests Leibniz firmly believed that his metaphysical and physical doctrines laid the groundwork for an attractive moral vision of the universe, a vision that, once accepted, would have considerable benefits for us in this life. With that in mind, let us turn to the final part of the “Monadology”.

In §83 Leibniz picks up the threads of the earlier discussion about the differences between minds and ordinary souls; recall that he has already indicated in §§29-30 that minds, unlike ordinary souls, can know necessary truths through reason, are self-conscious, and have a concept of God. Now he makes the further claim that while souls are living mirrors of the universe, minds are also “images of the divinity itself, or of the very author of nature” (LM 31). That every soul and mind is a living mirror of the universe can be deduced from §56, in which Leibniz claimed that every monad is a living mirror of the universe. That minds are more than that, being also images of God, is due to their possession of reason. This enables them to know the system of the universe and to imitate it, to some extent.

From the fact that minds are endowed with reason, Leibniz proceeds to infer that there is an affinity between them and God, which enables them to enter into a personal relationship with him, though he is at pains to insist that God’s relationship to minds “is not only that of an inventor to his machine (which is God’s relation to other created things) but also that of a prince to his subjects, and even of a father to his children” (§84, LM 31). Leibniz then makes the further claim that, as minds have a special status, qua images of God, the community of minds – which he terms the “City of God” (§85, LM 31)¹³ – will be the most exalted part of God’s creation. Moreover, Leibniz asserts that whereas God’s wisdom and power are apparent in every part of creation, it is in relation to the community of minds, the City of God, that God “may properly be said to have goodness” (§86, LM 31). His thinking here is that, if creation had consisted merely in the machine of the universe, with all parts following only the mechanical laws of nature, then God’s great wisdom and power would be evident, but not his goodness. In order to manifest his goodness, God needs to create minds, rational and moral creatures upon which he can exercise justice, mercy, forgiveness, and so on.

The remaining sections of the “Monadology” concern the exercising of God’s justice, and what that means for us humans both now and in the future. In §§87-88, Leibniz outlines a “harmony between the physical kingdom of nature and the moral kingdom of grace” (LM 32). Despite its name, this harmony is not concerned with grace at all, that is, the free and unmerited favour of God, but rather with the community of minds and how God’s plans for it are executed. In short, it is a harmony between God’s role as architect of the physical universe and his role as monarch of the moral universe of minds, such that his plans for minds are effected through the normal workings of nature. To illustrate what this means, in §88 Leibniz offers the example of the Earth being destroyed, and then subsequently repaired, by natural means, at the very times when such destruction and repair is morally required. Although Leibniz does not mention either explicitly, here he is likely thinking of two events related in the bible, namely the flood described in Genesis 6–9 and the final destruction of the Earth prior to the Last Judgement, following which the Earth will be restored so that the blessed may enjoy eternal life under Christ’s rule. But in the “Monadology”, as elsewhere, Leibniz does not restrict the harmony between the kingdoms of nature and grace to worldwide cataclysmic events, indicating in §89 that it extends to the particular events of each and every individual’s life as well:

¹³ The notion of the City of God is borrowed from St Augustine (354-430 CE), who wrote a book with that title. However Leibniz’s understanding of the City of God is not the same as Augustine’s: for Augustine, the City of God is the Christian church, encompassing the saints, the angels, and the blessed. Moreover, it is a heavenly or celestial city, which exists on Earth only for a time.

It can also be said that God as architect satisfies in every way God as legislator, and that sins must therefore carry their punishment with them by the order of nature, and by virtue of the mechanical structure of things itself, and that likewise good actions will receive their rewards by ways which are mechanical with regard to bodies, although this cannot and need not always happen immediately (LM 32).

In other words, every sin is naturally punished and every virtuous act naturally rewarded, without any need for any direct divine interventions. The idea here is that God so arranged things at the outset that fortunate and unfortunate events would occur naturally at a morally pertinent time, which may or may not be immediately after someone sins or performs a virtuous action. This arrangement of things ensures that the physical and moral orders coincide, even if not always straightaway (as would be the case, for example, if sins were always immediately followed by misfortunes happening to those who committed them). In the “Monadology”, Leibniz does not indicate why he thinks there is such a harmony, but a reason is offered in the *Theodicy*, where he suggests that it follows from God’s wisdom, since “it is in accordance with God’s wisdom that everything be harmonic in his works” (G VI, 152/H 172, translation modified).¹⁴

In the final section of the “Monadology” Leibniz insists that, in the City of God, “everything must turn out right for the good” (LM 32), a claim clearly intended to recall Paul’s remark in Romans 8.28 that “all things work together for the good for those who love God”. The good people Leibniz speaks of here are those who trust God and his designs, who love God and seek to align their wills with his, acting as they believe a perfectly good God wants them to act, for example by trying to bring about good for others. Such people are not discouraged by events going against them, as they understand that God has made the best and wisest choice, even if it may sometimes not seem that way to us from our very limited perspective (a claim found in other texts, such as the *Theodicy*; see GP VI, 27-28/H 51-52). Nevertheless, Leibniz explains, the good

recognise that if we could understand the order of the universe well enough, we would find that it surpasses all the wishes of the wisest people, and that it is impossible to make it better than it is, not only for the whole in general, but also for ourselves in particular, if we cleave to the author of all as we ought to, not merely as the architect and efficient cause of our being, but also as our master and the final cause which must constitute the whole aim of our will, and can alone constitute our happiness (LM 32-33).

This is the thought with which Leibniz concludes the “Monadology” and is surely its take-home point. If we are virtuous, then we can be confident that God is concerned not only for the world as a whole, but for our own welfare in particular. We will know, for example, that on account of his perfect justice God will ensure that there will be a balancing of books, involving punishment of the evil and reward of the virtuous. If this does not happen in this life then we can be certain that it will happen in the next. Significantly, Leibniz thinks that all this can be discovered by reason, since one can deduce that everything will turn out well for the virtuous from the fact that God is perfect and always acts for the best. The virtuous thus have grounds to feel satisfied or contented here and now, for not only has everything been ordered in the best way possible, but ultimately also in the best way possible *for them*, and that no matter what the trials and tribulations of this life, a better future awaits them.

¹⁴ For more details on the harmony between the kingdoms of nature and grace, see Strickland (2016).

5. Fate and Influence

Although the “Monadology” has a clear moral message – the virtuous can and should be content here and now – it was not this feature of the text that would catch the imagination of its earliest readers, or indeed its later ones. Instead, it was the metaphysical part of the text that drew – and continues to draw – most of the attention. Following the publication of the “Monadology”, there were few efforts to defend the text in its entirety, though one attempt to do so can be found in a work by the philosopher, theologian, and mathematician Michael Gottlieb Hansch (1683-1749), namely his *Godefridi Guilielmi Leibnitii, principia philosophiae, more geometrico demonstrata* [The Principles of Leibniz’s Philosophy, Demonstrated in the Geometric Manner] (1728). This work contains a Latin translation of the “Monadology” (Hansch 1728: 1-19) followed by Hansch’s lengthy attempt to present its ideas in the geometric manner, that is, in the form of definitions, axioms, theorems, demonstrations, corollaries, and scholia, in the style of Spinoza’s *Ethics*.¹⁵ To achieve this, Hansch required no fewer than 275 definitions (along with their corollaries and scholia), 2 axioms, and 144 theorems. However, while Hansch based his demonstrations on the “Monadology,” he was unable to restrict himself to just that one text, being forced to plug some gaps with doctrines and formulations found in other writings available to him, such as the *Theodicy* and Leibniz’s correspondence with Samuel Clarke.¹⁶

While Hansch was unusual in his effort to defend the “Monadology” as a whole, in the decades that followed its publication in 1720 it was not uncommon for philosophers to endorse parts of it, especially the doctrine of monads, which won a great deal of respect, at least in Germany. Alexander Baumgarten (1714-1762) included a defence of Leibniz’s monads in his oft-printed *Metaphysica* [Metaphysics] (see Baumgarten 2011), while Samuel König endorsed a broadly Leibnizian doctrine of monads in his lengthy essay, “Systema mundi” [System of the World] (König 1748). And although he eschewed the term “monads,” Christian Wolff (1679-1754) endorsed a doctrine of simple substances not unlike Leibniz’s doctrine of monads.¹⁷

While the doctrine of monads was welcomed in some quarters, others were clearly confused by its claims, which were frequently misunderstood. For example, in a journal article, Louis-Bertrand Castel (1737, 209) described Leibniz’s monads as “half matter, half spirit,” while Leonhard Euler, as we have already seen, construed them as material atoms that were parts of extended bodies. Other readers did not so much misunderstand the “Monadology” as consider the vision contained therein to be incredible, fantastical, and entirely unjustified. In 1726, a French reader briefly outlined Leibniz’s doctrine of monads and then remarked: “All that seems quite metaphysical and very gratuitously supposed” (Du Pont-Bertris 1726: 420). More than a hundred years later, another commentator had exactly the same reaction, writing “Can any thing ... more gratuitous be imagined ... than that the universe is full of these ultimate Monads, each of which is—obscurely omniscient, a mirror of the universe, and reflects in infinitely multiplied forms the infinitude of changes throughout universal being?” (Rogers 1846: 19). More famously, in the preface to his book on Leibniz’s philosophy (originally published in 1900), Bertrand Russell explained how he initially believed that “the *Monadology* was a kind of fantastic fairy tale, coherent perhaps, but wholly arbitrary” (1992: xxi).¹⁸ In each case, the implication is that, in fashioning his

¹⁵ Although Leibniz did not present the “Monadology” this way, Hansch claimed that “None of the things in these demonstrations are my own, they are all Leibniz’s” (Hansch 1728: preface, unnumbered page).

¹⁶ For further details on Hansch’s presentation of the “Monadology”, see Pellatier (2016).

¹⁷ For details see Look (2013).

¹⁸ Russell (1992: xxi-xxii) did go on to say that he changed his view once he read the “Discourse on Metaphysics” and Leibniz’s correspondence with Antoine Arnauld.

monadological metaphysics, Leibniz was giving free reign to his imagination, which simply plucked the doctrines out of thin air, without any regard for their plausibility.

Although such a suggestion is rarely made these days, the underlying thought that the “Monadology” is heavy on doctrine and light on argument still survives, with the text being commonly portrayed as a mere statement of doctrine, that is, as a synopsis or summary of key parts of Leibniz’s philosophy rather than a true defence of it.¹⁹ While such a view does not stand up to scrutiny – a close reading of the “Monadology” will reveal that it is full of arguments, inferences, and other evidence for its claims – it would nevertheless be reasonable to say that it is a text that is best approached in tandem with some of Leibniz’s other works rather in isolation.²⁰

¹⁹ See, for example, Perkins (2007: 7), Mercer (2006: 426), and Woolhouse (2011: 1).

²⁰ I would like to thank Christopher Johns and Paul Lodge for their helpful comments on an earlier version of this paper.

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