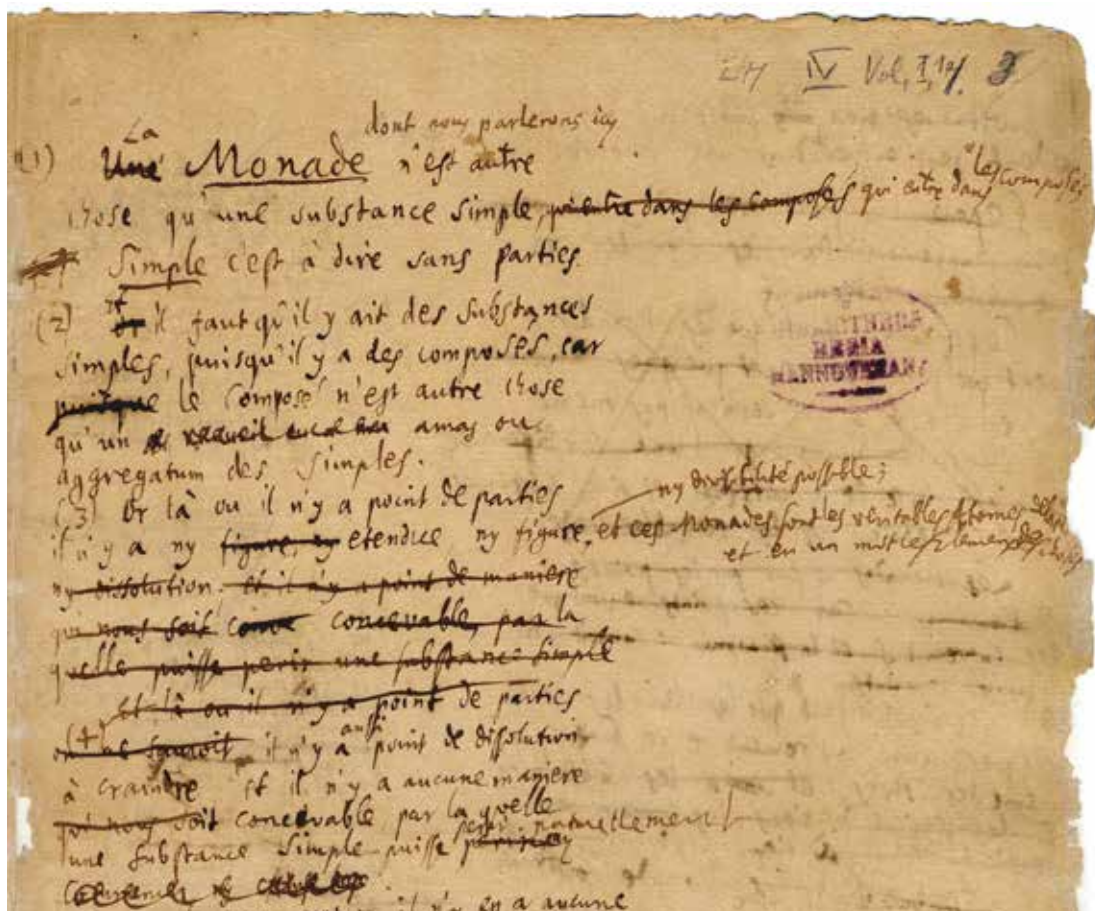


Leibniz's *Monadology*

A New Translation and Guide

Lloyd Strickland



Leibniz's
Monadology
A New Translation and Guide



LLOYD STRICKLAND

EDINBURGH
University Press

*For Dan Cook and Vernon Pratt,
for all of the help and support over the years: thank you*

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Key

In the translation of the *Monadology* and the *Principles of Nature and Grace*, text enclosed within square brackets [. . .] was present in one or more of the earlier drafts, but subsequently deleted. I have not indicated all of Leibniz's deletions, only those likely to be of philosophical interest.

In the commentary, when referring to translated material contained within this volume, the following abbreviations are used:

- M = *Monadology* (for example, M35 = section 35 of the *Monadology*)
- PNG = *Principles of Nature and Grace* (for example, PNG4 = section 4 of *Principles of Nature and Grace*)
- T = *Theodicy* (for example, T189 = section 189 of the *Theodicy*)

References to the 'Appendix on Monads' are given simply by citing the relevant page number of this volume.

Abbreviations

In the notes, commonly cited editions of Leibniz's writings are referred to using the following conventions:

- A = *Sämtliche Schriften und Briefe*, ed. Deutsche Akademie der Wissenschaften, 8 series, each divided into multiple volumes (Berlin: Akademie Verlag, 1923–).
- DSR = *De summa rerum*, trans. and ed. G. H. R. Parkinson (New Haven: Yale University Press, 1992).
- G = *Die Philosophischen Schriften*, ed. C. I. Gerhardt, 7 vols (Hildesheim: Georg Olms, 1978).
- H = *Theodicy*, trans. E. M. Huggard (Chicago: Open Court, 1990).
- LDB = *The Leibniz-Des Bosses Correspondence*, trans. and ed. Brandon Look and Donald Rutherford (New Haven: Yale University Press, 2007).
- LDV = *The Leibniz-de Volder Correspondence*, trans. and ed. Paul Lodge (New Haven: Yale University Press, 2013).
- LNS = *Leibniz's 'New System' and Associated Contemporary Texts*, trans. and ed. R. S. Woolhouse and Richard Francks (Oxford: Oxford University Press, 1997).
- LPW = *Philosophical Writings*, trans. and ed. Mary Morris and G. H. R. Parkinson (London: Everyman, 1973).
- LTS = *Leibniz and the Two Sophies*, trans. and ed. Lloyd Strickland (Toronto: CRRS, 2011).
- NE = *New Essays on Human Understanding*, 2nd edn, trans. and ed. Jonathan Bennett and Peter Remnant (Cambridge: Cambridge University Press, 1996).

Acknowledgements

- MPE = *Monadology and Other Philosophical Essays*, trans. and ed. Paul Schrecker and Anne Martin Schrecker (Indianapolis: Bobbs-Merrill, 1965).
- MPW = *The Monadology and Other Philosophical Writings*, trans. and ed. Robert Latta (Oxford: Clarendon Press, 1898).
- PE = *Philosophical Essays*, trans. Roger Ariew and Daniel Garber (Indianapolis: Hackett, 1989).
- PPL = *Philosophical Papers and Letters*, trans. and ed. Leroy Loemker, 2nd edn (Dordrecht: D. Reidel, 1969).
- SLT = *Shorter Leibniz Texts*, trans. and ed. Lloyd Strickland (London: Continuum, 2006).
- TI = *Textes inédits*, ed. Gaston Grua, 2 volumes with successive pagination (Paris: Presses Universitaires de France, 1948).

Introduction

Few works of philosophy can rival Leibniz's *Monadology* in terms of sweep: it begins with an account of the most basic substances, monads, and ends with God's intimate relation to the most exalted of these substances, namely minds, and in between it covers (among other things) the natures of perception, sensation, and thought, the principles of reasoning, the existence and nature of God, the creation of the best possible world, and the organic structure of bodies. In covering all of this ground, and more, not only does the *Monadology* seek to present many of the key elements of Leibniz's mature philosophy *and* mount a defence of them, it does so in the space of ninety short sections, amounting to approximately 6,000 words. It is difficult not to be struck by both its scope and its size, and in particular the apparent disparity between the two. In the entire history of philosophy there is little else like it. Great philosophers, as a rule, have sought to present their thought to the public through the medium of books, often ones of great length: think of Plato's *Republic*, Kant's *Critique of Pure Reason*, and Sartre's *Being and Nothingness*. Among the great philosophers Leibniz is the most notable exception to this rule, if not the only one; indeed, many of Leibniz's most enduring and well-known philosophical writings, such as the *Discourse on Metaphysics* (1686), *New System* (1695), *Monadology* (1714), and *Principles of Nature and Grace* (1714) are about as long as an average journal article or book chapter. While Leibniz did write book-length works of philosophy, he was not a natural book writer, and preferred to capture and disseminate his thought via shorter writings. To understand why this should be, we need to acquaint ourselves with some of the details of Leibniz's life.

Gottfried Wilhelm Leibniz was born in Leipzig on 1 July 1646 to Catherine Schmuck and Frederick Leibniz, professor of moral philosophy

at the University of Leipzig. Leibniz claimed to be largely self-taught, and his thirst for learning was such that he supplemented his formal schooling by withdrawing himself into his father's study to read the classical authors. These became so familiar to him that even in later life he was said to be able to recite the poems of Virgil from memory. He entered the University of Leipzig at the age of fifteen, and obtained the degree of Bachelor of Philosophy in 1663, at the age of seventeen, and a Masters degree a year later. Thereafter Leibniz engaged in several years of legal studies, his efforts eventually culminating in a dissertation, 'On difficult cases in the law', for which he was awarded a Doctorate in Law from the University of Altdorf in 1667.¹ After turning down the offer of a professorship at the University of Jena, Leibniz accepted a post working for the Elector of Mainz, working on legal reform. In 1672, in an attempt to divert war between France and the Netherlands, Leibniz wrote a lengthy memoir recommending that the King of France, Louis XIV, commit himself instead to an invasion of Egypt, presenting the plan as a seventeenth-century crusade against the Turks.² The Elector despatched Leibniz to Paris to promote the plan in person to the French court, but his efforts were unsuccessful. Due to the opportunities afforded by what was at the time the intellectual capital of Europe, Leibniz chose to remain in Paris for almost four years. There he met Antoine Arnauld and Nicolas Malebranche, two of Europe's greatest philosophers at the time, as well as mathematician-physicist Christiaan Huygens. Under Huygens' tutelage, Leibniz devoted himself to an intensive study of mathematics, which led him to the discovery of the infinitesimal calculus in 1675, though this was not made public until 1684. In late 1676 Leibniz accepted a post as Court Councillor at Hanover, the capital town of the principality of Brunswick-Lüneburg in northern Germany, which brought his time in France to an end. Leibniz's route back to Germany was not a straightforward one, however, and involved stops in England, to visit the Royal Society, which later elected him a fellow, and the Netherlands, where he sought out Spinoza, already well known as a philosopher, and Antony van Leeuwenhoek, one of the first microscopists.

In Hanover, Leibniz was initially appointed a Court Councillor, though his duties were various. He served as librarian, political advisor,

¹ An English translation of Leibniz's dissertation can be found in G. W. Leibniz, *Logico-Philosophical Puzzles in the Law*, trans. and ed. Alberto Artosi, Bernardo Pieri, and Giovanni Sartor (Dordrecht: Springer, 2013).

² An English translation of parts of this document can be found in *A Summary Account of Leibnitz's Memoir Addressed to Lewis the Fourteenth, Recommending to that Monarch, the Conquest of Egypt as Conducive to the Establishing a Supreme Authority Over the Governments of Europe* (London, 1803).

technical consultant, and even as unofficial diplomat. At his own suggestion, in 1686 he was given the task of writing a history of the House of Guelph (or Welf) in order to enhance his employer's dynastic ambitions. Leibniz initially hoped that the history could be completed relatively quickly, within a couple of years, but it soon got away from him: despite a great deal of research in various European archives, which enabled Leibniz to unearth and publish many volumes of ancient documents pertaining to the Guelph line, he was unable to complete the history itself in the remaining thirty years of his life. As the years wore on, the project became a millstone around Leibniz's neck, and he frequently complained that it kept him from other projects that were much closer to his heart. Yet he did still find time for such projects. He was tenacious in his efforts to facilitate a reunion between the Catholic and Protestant churches, and – later – a reunion of the various Protestant sects. He lobbied tirelessly for the establishment of scientific academies, and in 1700 was rewarded for his efforts with the foundation of the Berlin Academy of Sciences (of which Leibniz was subsequently made president for life). He created calculating machines, drew up plans for the development of a universal encyclopaedia that would contain everything that was so far known, wrote Latin poetry, funded alchemical research, and undertook studies on the origin of languages. That Leibniz managed to find the time for such an astonishing number and range of intellectual projects may in part be due to his not having the demands of family life (he never married, but was said – by some of his earliest biographers at least – to have fathered a son in his youth).³ More importantly than that, however, was his own industry, which was legendary even in his own time. According to an early biographer, 'He frequently spent a great part of the night, as well as the day, in reading; and has been known to pass whole months in his study without allowing himself any unnecessary avocations.'⁴ This devotion to research enabled Leibniz to become eminent in many fields of study: during his lifetime he made original contributions to physics, mathematics, logic, geology, law, politics, economics, and linguistics, as well as philosophy. The final years of Leibniz's life were mostly spent working on the never-to-be-completed history of the Guelph House, and attempting to popularise his philosophical views through papers circulated to well-placed acquaintances and 'popular' writings for the educated public, the most notable of which was the *Theodicy* (1710). Following a short illness, he died in Hanover on 14 November 1716 at the age of seventy.

³ See Benjamin Martin, *Biographia philosophica* (London, 1764), p. 389.

⁴ Johann Brucker, *The History of Philosophy*, 2 vols (Dublin, 1792), II, p. 560.

As should be clear from this brief history, philosophy was never Leibniz's official profession. Consequently, his philosophising (along with his other intellectual endeavours) had to be carried out in his spare time, around his official duties. This no doubt goes some way towards explaining Leibniz's fondness for writing short papers: his work duties did not afford him the time to produce a whole suite of books. But pressures of time aside, by his own confession, he simply did not have the inclination to write a lengthy treatise that brought all the parts of his philosophical system together: the lengthy philosophical works that he did eventually find the time to write, namely the *New Essays on Human Understanding* (written 1703–5 though not published until 1765) and the aforementioned *Theodicy* (1710), were not expositions of his system as such, but rather detailed responses to the work of John Locke and Pierre Bayle respectively, and intended as correctives to what Leibniz considered to be the errors in their work.

Without the time or inclination to lay out his philosophy in books, Leibniz instead took full advantage of alternative means of circulating and publicising his ideas, in particular the letter and the journal article. In the seventeenth and eighteenth centuries it was common for thinkers to communicate their ideas to others via letters, which were at the time semi-public documents that were often copied and distributed to other scholars, or even published (with or without the writer's permission), and Leibniz often disseminated his philosophical ideas this way. To facilitate this, he built up a vast network of correspondents, which reads as a 'who's who' of early modern philosophy: Thomas Hobbes, Nicolas Malebranche, Antoine Arnauld, Christian Wolff, Pierre Bayle, Bernard le Bovier de Fontenelle, and Samuel Clarke, to name just a few. Leibniz's philosophical correspondence fills many volumes, and is so rich in its content that no serious student of Leibniz can afford to ignore it.

In addition to letters, Leibniz also sought to promulgate his ideas through short articles in learned journals. That he was one of the first of the great philosophers to publish this way is not surprising, since the learned journal first emerged in Leibniz's lifetime, with the first two European journals, the *Journal des sçavans* of France, and the *Philosophical Transactions of the Royal Society* of England, both appearing in 1665, when Leibniz was still at university. This gave Leibniz the opportunity to disseminate his ideas in a way that had not been available to earlier philosophers. So keen was Leibniz on the very idea of the learned journal that he proposed the establishment of one in Germany. Although his own plans did not come to fruition, a German journal – entitled *Acta eruditorum* (Chronicles of the Learned) – was nevertheless established in 1682 by two of his university friends. Leibniz supported the journal by filling its pages with a number of important papers, including 'A new method for maxima

and minima',⁵ which made public his discovery of infinitesimal calculus. Leibniz also put his weight behind another journal, the *Miscellanea Berolinensia* (Miscellaneous matters from Berlin), which was the journal of the Berlin Academy of Sciences: its first volume, published in 1710, contained no fewer than twelve articles authored by Leibniz. Over the course of his career Leibniz published well over a hundred articles, on a kaleidoscope of subjects: in addition to papers detailing his mathematical discoveries and philosophical views, he published articles about the accuracy of watches,⁶ the separation of salt and water,⁷ the health records of Paris,⁸ the discovery of phosphorous,⁹ the cause of the aurora borealis,¹⁰ and many other topics besides. Leibniz fully embraced the format of the journal article: it suited his working patterns, and preference for short, punchy pieces rather than long, bloated ones. Such was Leibniz's fondness for the short paper that when he did eventually decide to write an account of his philosophical system, it was almost inevitable that he would choose to do so as a short paper rather than as a book. Despite the challenges presented by the restricted length, it was the format with which Leibniz was most comfortable.

THE ORIGINS AND FATE OF THE MONADOLOGY

Yet although the *Monadology* has the look and feel of a journal article, it was not written for a journal at all, but apparently for one of Leibniz's correspondents, Nicole Remond, councillor to the Duke of Orleans. It may have been intended simply to give Remond greater insight into Leibniz's philosophy, or it may have had a more exotic purpose, to serve as a framework for a Latin poem about Leibniz's philosophy that Abbé Fraguier, one of Remond's acquaintances in Paris, wished to write. These two possible aims are suggested by two apparently unrelated threads that run through some of Leibniz's correspondence in the first half of 1714, while he was stationed in Vienna. The beginnings of the first thread are to be found in

⁵ G. W. Leibniz, 'Nova methodus pro maximis et minimis', *Acta eruditorum* 3 (1684), pp. 467–73.

⁶ G. W. Leibniz, 'Extrait d'une lettre de Mr Leibniz à l'auteur du Journal, touchant le principe de justesse des horloges portatives de son invention', *Journal des sçavans* (1675), pp. 93–6.

⁷ G. W. Leibniz, 'Meditatio de separatione salis & aqua dultis, novoque separationum chymicarum genere', *Acta eruditorum* 1 (1682), pp. 386–8.

⁸ G. W. Leibniz, 'Extrait d'une letter de Mr Leibnitz', *Journal des sçavans* (1694), pp. 338–40.

⁹ G. W. Leibniz, 'Historia inventionis phosphori', *Miscellanea Berolinensia* 1 (1710), pp. 91–8.

¹⁰ G. W. Leibniz, 'Annotatio de luce quam quidam auroram borealem vocant', *Miscellanea Berolinensia* 1 (1710), pp. 137–8.

Leibniz's Monadology

Leibniz's letter to Remond of 10 January 1714. Leibniz there explains his approach to philosophy, and offers a very brief (and possibly apocryphal) account of his philosophical development:

I have tried to uncover and unite the truth buried and scattered in the opinions of different philosophical sects, and I believe I have added something of my own to take a few steps forward. The circumstances of my studies, from my earliest youth, have given me some facility in this. I learned Aristotle as a lad, and even the Scholastics did not put me off; I am not at all regretful of this even now. But at that time Plato too, and Plotinus, gave me some satisfaction, not to mention other ancient thinkers whom I consulted later. After leaving the trivial schools, I fell upon the moderns, and I remember at the age of fifteen taking a walk by myself in a grove on the outskirts of Leipzig, called the Rosental, in order to deliberate about whether I should retain substantial forms. Mechanism finally prevailed and led me to apply myself to mathematics. It is true that I did not enter into its depths until after I had conversed with Mr Huygens in Paris. But when I looked for the ultimate reasons for mechanism, and for the laws of motion themselves, I was very surprised to see that it was impossible to find them in mathematics, and that I should have to return to metaphysics. This is what led me back to entelechies, and from the material to the formal, and ultimately brought me to understand, after a number of corrections and improvements to my notions, that monads, or simple substances, are the only true substances, and that material things are only phenomena, albeit well-founded and well-connected.¹¹

Remond's curiosity was piqued by Leibniz's talk of monads (at the time, references to monads in Leibniz's published works were few and far between),¹² and on 11 February 1714, Charles Hugony, a mutual acquaintance of both Leibniz and Remond, wrote to Leibniz explaining that Remond would like some clarification of Leibniz's doctrine of monads. In his (undated) response, Leibniz advised Hugony that he would need more detail about what exactly Remond wanted clarified, explaining that 'To provide clarifications on monads, I would need difficulties raised about them, in order not to speak aimlessly and to say anything other than what is asked for.'¹³ In his reply to Leibniz of 17 April 1714, Hugony wrote: 'Before raising difficulties about monads, I would like to have a greater knowledge of your system. This is exercising Mr Remond.' Presumably with his tongue firmly in his cheek, Hugony then proceeded to spell out just how exercised Remond was by not having sufficient knowledge of Leibniz's system: 'You are endangering his health,

¹¹ PPL, pp. 654–5 (translation modified).

¹² For example, see PPL, p. 504; T396.

¹³ G III, p. 682.

which is poor.¹⁴ Despite the apparent risk to Remond's health, Leibniz made no immediate attempt to produce the desired clarification or exposition of his system, and appears not to have made a start even by 11 July, when he wrote the following to Louis Bourguet:

Mr Remond, councillor of His Royal Highness the Duke of Orleans, thinks very highly of my *Theodicy*, and is asking me for clarifications. It would be easier for me to give them if difficulties, objections, comments or questions were raised about it, for without that passages are sometimes clarified in which others find no difficulties.¹⁵

The second thread to the *Monadology* begins on 17 February 1714: in a letter written to Leibniz on that date, Remond enclosed a Latin poem about Homer that had been composed by a friend, Abbé Fraguier. The poem evidently made an impact on Leibniz, who was inspired to compose one 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.¹⁶ In his next letter, written almost two months later, on 7 May, Remond began by telling Leibniz that both he and Fraguier were delighted by Leibniz's Latin poem. It then became clear that he had discussed the possibility of Fraguier putting Leibniz's philosophy into verse himself. However, as Remond explained,

Abbé Fraguier said to me just yesterday that he was not in fact sufficiently instructed in your system to dare to speak about it, but that if he ever were to have a clearer idea of it, it would be a pleasure to treat a subject so uncommon and grand.

Remond continued to explain Fraguier's belief that poets had succeeded in treating 'sensible things' (that is, things of the senses), which were familiar

¹⁴ Quoted in Enrico Pasini, 'La monadologie: histoire de naissance', in *La Monadologie de Leibniz: genèse et contexte*, ed. Enrico Pasini (Paris: Mimesis, 2005), pp. 101–2.

¹⁵ G III, pp. 571–2.

¹⁶ G III, pp. 613–15.

to almost everyone, by making them even more sensible, but that they had struggled with more sublime matters which were not encountered through the senses. According to Fraguier, in order to treat such matters successfully, it would be necessary for the poet to have a mastery of the sublime material that was so thorough that he would be able to present it in verse as clearly as he could sensible things. Remond then related to Leibniz Fraguier's view as to how a poet such as himself could acquire this mastery:

For that, he would have to have each proposition expressed with the utmost precision, without metaphor, and like the axioms of geometers; he would have to have the most immediate and most indirect consequences of these propositions, and he would have to use them to explain the passions and the natural effects. But I am some way from being in that position, and my mind furnishes me almost only with objections that I cannot resolve, because I do not yet know the points well enough. He [Fraguier] finally got me to agree that he had spoken fairly when he compared the knowledge we have of your system of monads to the knowledge that we would have of the sun just from single rays escaping from the clouds covering it.¹⁷

The two separate threads – Remond's request for 'clarification' of monads, and Fraguier's desire to have a systematic presentation of Leibniz's philosophy – were both discussed in Leibniz's next letter to Remond, written in July 1714. He began the letter with this apology:

I hoped to enclose with this letter some clarification on monads that you apparently requested, but it has grown under my hand, and many distractions have prevented me from finishing it already. And you know, Sir, that these sorts of considerations require contemplation.¹⁸

After discussing a variety of other matters, Leibniz ended the letter with a reference to Fraguier's plan to put his philosophy into verse:

As Abbé Fraguier gives some relief to thoughts as mediocre as mine through verses of exceptional beauty, what would he not do if he treated an important subject and lofty matters? If through some clarifications I could contribute to encouraging him to implement the fine plan he apparently has, to give substance and colour to thoughts about the most sublime philosophy, I would have rendered a great service to mankind.¹⁹

¹⁷ G III, p. 616. Fraguier had in fact made a different but presumably related request of Leibniz the previous year, again through a third party. On 7 May 1713, Pierre Coste wrote to Leibniz to say that Fraguier 'admires, as does his friend [Remond], everything that issues from your pen, and has charged me to implore you in his name to collect together in a single book all these loose pieces which have escaped from you at various times'. G III, p. 434.

¹⁸ G III, p. 618.

¹⁹ G III, p. 621.

For his July 1714 letter to Remond, Leibniz had in fact composed a short appendix featuring a summary of his doctrine of monads (a full translation can be found in pp. 278–9 of this volume), but ultimately he did not enclose the appendix when sending the letter. Nevertheless, around this time Leibniz was crafting a much longer and more detailed ‘clarification’; 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. Leibniz certainly seems to have conceived these as two distinct requests: the fact that he discussed one of them at the very start of his July 1714 letter to Remond, and the other at the very end, strongly suggests that he thought of them as unconnected. Nevertheless it is possible that the ‘clarification’ that he put together was designed to serve both ends, since it has a style and structure not dissimilar to that which Fraguier had wanted. 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, but ultimately, for reasons at which we can only speculate, 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.²⁰ 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.²¹ Despite the work he had put into the *Monadology*, which included the addition of copious cross-references to his *Theodicy* for the benefit of any reader looking for a greater explanation of certain doctrines, Leibniz did not send it to the person for whom it had apparently been written, Remond, nor did he seek to publish it. Whatever the reason for this might have been – and again, we can do little more than speculate – Leibniz appears not to have been 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.

Unlike most of the 50,000 or so writings that comprise Leibniz’s Nachlass, the *Monadology* was published relatively quickly after Leibniz’s death, at least in translation: although Leibniz had composed the piece

²⁰ Daniel Garber has suggested that Leibniz’s unsent appendix to his July 1714 letter to Remond ‘was probably the common ancestor of what was to become two finished essays, the “Principes de la nature et de la grâce fondés en raison,” and the “Monadologie.”’ Daniel Garber, *Leibniz: Body, Substance, Monad* (Oxford: Oxford University Press, 2009), p. 353.

²¹ See G. W. Leibniz, *Principes de la nature et de la grace fondés en raison – Principes de la philosophie ou Monadologie*, ed. André Robinet (Paris: Presses Universitaires de France, 1954), pp. 2, 12–13.

in French (which by the dawn of the eighteenth century had overtaken Latin as the chief language of European scholarship), German and Latin translations appeared long before the original French was published. The *Monadology* was first published by Heinrich Köhler in 1720, in a German translation made not from Leibniz's final draft but from an earlier one that Köhler may have obtained from Leibniz in person in the summer of 1714.²² The title 'Monadology' was coined by Köhler. Leibniz seems not to have given the piece a title, though on one of the surviving manuscripts a copyist wrote 'The principles of philosophy, by Mr Leibniz'; whether this title would have met with Leibniz's approval is difficult to say, though its appropriateness is beyond question. '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. The source used for this translation was a different early draft of the text, which is now lost.²³ 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 1768.²⁴ Each time, the title used was 'The principles of philosophy'. The title by which we now know it, the *Monadology*, devised by Köhler in 1720, became popular only much later, following the first publication of the original French text in an anthology of Leibniz's writings edited by Johann Eduard Erdman in 1840.²⁵ For reasons that are not known, Erdman elected to use Köhler's title '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 (1842),²⁶ Janet (1866),²⁷ and Gerhardt (1885),²⁸ each of whom not only elected to use the title of 'Monadology' for the text, but also deemed it sufficient in itself,

²² G. W. Leibniz, *Lehr-Sätze über die Monadologie: ingeleichen von Gott und seiner Existenz, seinen Eigenschaften und von der Seele des Menschen* (1720). The copy of the *Monadology* from which Köhler made his translation is now lost. Evidently it consisted of ninety-two sections rather than the ninety found in all surviving manuscript copies of the text, but is otherwise very similar to one of the surviving early draft manuscripts.

²³ 'Principia philosophiæ, autore G. G. Leibnitio', *Acta eruditorum supplementa tomus VII* (1721), pp. 500–14. The copy of the *Monadology* used for this translation consisted of ninety-three sections, but is otherwise similar to one of the surviving early draft manuscripts.

²⁴ G. W. Leibniz, *Opera omnia*, ed. L. Dutens, 6 vols (Geneva, 1768), vol. 2, pp. 20–31.

²⁵ G. W. Leibniz, *Opera philosophica omnia*, ed. J. E. Erdman (Berlin, 1840), pp. 702–12.

²⁶ G. W. Leibniz, *Oeuvres de Leibniz. Deuxième série*, ed. A. Jacques, new edn (Paris: Charpentier, 1842), pp. 391–404.

²⁷ G. W. Leibniz, *Oeuvres philosophiques de Leibniz. Tome II*, ed. Paul Janet (Paris: Ladrangé, 1866), pp. 594–608.

²⁸ G VI, pp. 607–22.

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.

The *Monadology* was first translated into English in 1867 by Frederick Henry Hedge, who published his translation as an article in *The Journal of Speculative Philosophy*.²⁹ This made the *Monadology* one of the first of Leibniz’s philosophical works to be available in English translation (although English-language anthologies of Leibniz’s philosophical writings are commonplace today, they only started to appear in the last decade of the nineteenth century). Today the number of different English translations of the text is almost into double figures: a translation of it is included in most English-language anthologies of Leibniz’s philosophical writings.³⁰ This reflects the fact that of all of Leibniz’s numerous philosophical works, the *Monadology* is often considered to be of particular importance, due in no small part to the wide range of doctrines discussed therein.

But as important as the *Monadology* is for the student of Leibniz, it is also a very condensed piece, and accordingly has gained a reputation as being one of Leibniz’s most difficult works. To address this, this volume contains not just the *Monadology* itself, but also a detailed section-by-section commentary, designed to dispel the clouds of obscurity that hang over the text. The *Monadology* has long been seen as a work that benefits from a commentary: the first commentaries appeared in the nineteenth century,³¹ and have since been joined by others.³² As will become clear, in the commentary I have sought not just to clarify the claims Leibniz makes, but also identify his grounds and reasoning. This involves identifying his assumptions, detailing his arguments, and highlighting his inferences. In so doing, I remain neutral on the question of whether Leibniz wrote the *Monadology* for Fraguier, or according to the prescription laid down by Fraguier, which called for Leibniz to identify the axioms of his philosophy, to make apparent his conclusions and inferences, and so on. Nevertheless,

²⁹ F. H. Hedge, ‘The Monadology’, *The Journal of Speculative Philosophy* 1:3 (1867), pp. 129–37.

³⁰ In addition to LPW, MPE, MPW, PPL, and PE, translations can be found in: *The Philosophical Works of Leibniz*, 2nd edn, trans. and ed. George Martin Duncan (The Tuttle, Morehouse & Taylor Company, 1908); *Leibniz Selections*, trans. and ed. Philip P. Wiener (New York: Scribner, 1951); *Philosophical Texts*, trans. and ed. R. S. Woolhouse and Richard Francks (Oxford: Oxford University Press, 1998).

³¹ Th. Desdouts, *La Monadologie* (Paris: Delalain, 1880); Alexis Bertrand, *La Monadologie* (Paris: Belin, 1886); MPW.

³² For example, Nicholas Rescher, *G. W. Leibniz’s Monadology: An Edition for Students* (London: Routledge, 1992).

whether Leibniz wrote the *Monadology* with Fraguier in mind or not, the fact is that he did write it in a highly systematic way: ideas and doctrines are developed very precisely and explicitly connected together, and from them implications are drawn and inferences followed. The *Monadology* is not, to be sure, one long piece of deductive reasoning; while Leibniz does make many deductions, he also offers *a posteriori* arguments, makes appeals to the science of his day, and develops similes to make certain ideas easier to understand. Moreover, the *Monadology* is not written in the geometric manner, à la Spinoza's *Ethics*: aside from utilising arguments based on experience, it lacks the formal apparatus of definitions, axioms, postulates, and so on, as well as a suite of rigorous demonstrations flowing from these. Yet even though Leibniz does not make use of this formal apparatus, throughout the *Monadology* he nevertheless does put forward definitions, lay down axioms, make postulates, offer demonstrations, and so on. Moreover, long stretches of the *Monadology* consist of arguments and inferences, and Leibniz's choice of language (for example, we find numerous uses of phrases such as 'for this reason', 'it follows that . . .', 'from this we see', and so on) shows his systematic ambitions. The Structure of the *Monadology* (pp. 34–8 of this volume) shows the logical connection between sections and the flow of the argumentation across the text. It shows very clearly that in writing the *Monadology* Leibniz clearly wanted not just to summarise a number of his doctrines, but to make a case for them as well. In other words, he wanted the reader not just to understand what he believed, but also to be persuaded by it.³³ We honour his wishes if we read it with that in mind.

³³ This feature of the *Monadology* is sometimes overlooked, or played down. For example, Nicholas Jolley writes: 'Some of the most famous brief expositions of his [Leibniz's] thought, such as the *Monadology* and the *Principles of Nature and Grace* (1714), serve up his metaphysics in a "take it or leave it" manner; indeed, they even come close to dispensing with deductive argument altogether.' Nicholas Jolley, *Leibniz* (London: Routledge, 2005), p. 9. And Franklin Perkins writes, in a similar vein: 'the *Monadology* and the *Principles of Nature and Grace, Based on Reason* . . . were written near the end of his life and represent his philosophy in its most mature form. These works, though, are more like outlines than full arguments or explanations.' Franklin Perkins, *Leibniz: A Guide for the Perplexed* (London: Continuum, 2007), p. 7.

About the Text and Translation

Even with the benefit of a commentary, the *Monadology* is a difficult text to read in isolation. Leibniz himself appears to have been aware of this, for on one of his handwritten drafts of the piece he inserted at the end of some of the ninety sections various references to particular sections or pages of his book *Theodicy* (1710), so that a reader desiring further illumination would know where to find it. All of the passages from the *Theodicy* to which Leibniz refers can be found in the appendix to this volume. For ease of use, each passage from the *Theodicy* is keyed to the particular section(s) of the *Monadology* in which Leibniz refers to it. In addition, the appendix contains two further texts which shed light on the *Monadology* and its doctrines, namely:

- The *Principles of Nature and Grace*, which was written for Prince Eugene of Savoy around the same time as the *Monadology*, but completed first. While very similar (but not identical) in terms of doctrine, the two texts have a very different style: the *Principles* is written in a ‘popular’ and accessible style, while the *Monadology* is more technical and formal, being aimed squarely at the ‘serious metaphysician’.¹
- The ‘Appendix on Monads’, a brief clarification of his doctrine of monads that Leibniz wrote as a supplement to his letter to Nicole Remond of July 1714, but ultimately did not send.

The translations of the *Monadology* and of all of the texts in the appendix are my own. In translating the *Monadology* and the *Principles of Nature and Grace* I have used the text in André Robinet’s excellent edition, *Principes de la nature et de la grace fondés en raison – Principes de la philosophie ou Monadologie* (Paris: Presses Universitaires de France, 1954).

¹ The phrase is from Garber, *Leibniz: Body, Substance, Monad*, p. 353.

*The Monadology*¹

1. *The monad*, about which we shall speak here, is nothing other than a simple substance which enters into compounds, 'simple' meaning 'without parts'.

Theodicy, preliminary discourse §10.²

2. And there must be simple substances, because there are compounds; for the compound is nothing but an accumulation or *aggregate* of simples.
3. Now where there are no parts, neither extension, nor shape, nor divisibility is possible. And these monads are the true atoms of nature and, in a word, the elements of things.
4. There is also no dissolution to fear, and there is no conceivable way in which a simple substance could perish naturally.
5. For the same reason there is no way in which a simple substance could begin naturally, since it cannot be formed by composition.

¹ Source: Leibniz, *Principes de la Nature*, pp. 68–127.

² Leibniz here omitted 'preliminary discourse' although the reference is in fact to that part of the *Theodicy*.

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6. Thus it may be said that monads can only begin and end at once, that is, they can only begin by creation and only end by annihilation, whereas that which is composite begins or ends by parts.
7. 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. Monads have no windows through which anything could enter them or depart from them. Accidents cannot become detached, or wander about outside of substances, as the sensible species of the Scholastics once did. Thus neither substance nor accident can enter a monad from outside.
8. [Monads are not mathematical points, for these points are only extremities and the line cannot be composed of points.] Yet monads must have some qualities [and some changes], otherwise they would not be beings at all [and if simple substances were non-entities, compounds also would be reduced to nothing]. And if simple substances did not differ qualitatively, there would be no way of perceiving any change in things, since what is in the compound can only come from its simple constituents, and if monads were without different qualities they would be indistinguishable from one another, since they do not differ quantitatively either. And consequently, supposing the existence of the plenum, each place would always receive, in any motion, only the equivalent of what it already had, and one state of things would be indistinguishable from another.

Theodicy. Preface ****2b³

9. It must also be that every monad is different from every other. For in nature there are never two beings which are perfectly alike, and in which it is not possible to find a difference which is internal, or based on an intrinsic denomination.

³ Leibniz actually wrote 'Preface ***2b' but this would appear to be a mistake, as the material on that page does not relate to M8 at all. For an explanation of Leibniz's use of asterisks, numbers and 'a' or 'b' when referring to the preface of the *Theodicy*, see p. 162, note 2.

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10. 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.
11. It follows from what we have just said that the natural changes of monads come from an *internal principle* [that may be called active force], since an external cause would not be able to influence a monad's interior.

Theodicy §396. §400.

12. [And generally it may be said that force is nothing other than the principle of change.] But besides the principle of change, there must also be a complete specification of that which undergoes the change, which constitutes so to speak the specific determination and variety of simple substances.
13. This complete specification must encompass a plurality within the unity or the simple. For as every natural change takes place by degrees, something changes and something remains; and consequently in the simple substance there must be a plurality of affections and relations, even though it has no parts.
14. The passing state, which encompasses and represents a plurality within the unity (or simple substance) is nothing other than what is called *perception*, which must be distinguished from apperception, or consciousness, as will be apparent in what follows. And it is here that the Cartesians have fallen far short, as they have given no thought to perceptions which are not apperceived. This also is what made them believe that minds alone are monads and that there are no souls of beasts or other entelechies, and also led them to make the common mistake of confusing a long stupor with death, in the rigorous sense of the term, which has made them fall in with the Scholastic prejudice of souls entirely separate from bodies, and has even confirmed some twisted minds in the belief of the mortality of souls.
15. The action of the internal principle which brings about the change or passage from one perception to another may be called *appetition*. It

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is true that the appetite cannot always completely reach the whole perception it aims for, but it always attains something of it, and reaches new perceptions.

16. We ourselves experience a plurality within a simple substance when we find that the least thought which we apperceive encompasses a variety in its object. So all those who acknowledge that the soul is a simple substance must acknowledge this plurality within the monad, and Mr Bayle ought not to have found the difficulty in it which he did in his *Dictionary* article 'Rorarius'.
17. Moreover, 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. Moreover, this is the only thing that can be found in the simple substance, that is, perceptions and their changes. It is also in this alone that all the *internal actions* of simple substances can consist.
18. The name 'entelechies' could be given to all simple substances, or created monads, for they have in themselves a certain perfection (ἔχουσι τὸ ἐντελέξ). There is a self-sufficiency (αὐτάρχεια) which makes them the sources of their internal actions and incorporeal automata, so to speak.

Theodicy §87.

19. If we wish to call 'soul' everything which has *perceptions* and *appetites* in the general sense I have just explained, all simple substances or created monads could be called souls. But as sensation is something more than a simple perception, I hold that the general name of 'monads' and 'entelechies' is sufficient for simple substances which only have perceptions, and that only those whose perception is more distinct and is accompanied by memory should be called *souls*.

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20. For we experience within ourselves a state in which we remember nothing and have no distinct perception, such as when we faint, or when we are overcome by a deep, dreamless sleep. In this state the soul does not appreciably differ from a simple monad, but as this state does not last, and as the soul emerges from it, the soul is something more.

Theodicy §64.

21. And it in no way follows that the simple substance is without any perception when in that state. That is not even possible, for the aforementioned reasons; for it cannot perish, nor can it subsist without some affection, which is nothing other than its perception. But when there are a vast number of little perceptions in which there is nothing distinct, we are stupefied, as happens when we continuously spin around in the same direction several times: this makes us dizzy, which can make us faint and prevent us from distinguishing anything at all. And death can put animals into this state for a time.

22. And as every present state of a simple substance is naturally a consequence of its preceding state, in such a way that its present state is big with the future. . .

Theodicy §360.

23. therefore, since we apperceive our perceptions when we come around from our stupor, it must be the case that we had perceptions immediately beforehand, although we did not apperceive them; for a perception cannot arise naturally except from another perception, just as one motion can only arise naturally from another motion.

Theodicy §401–3.

24. From this it is clear that if we had nothing in our perceptions which was distinct and which stood out, so to speak, and which was of a sharper flavour, we would always be in a stupor. And this is the state of bare monads.

25. We see also that nature has given heightened perceptions to animals from the care she has taken to furnish them with organs which gather

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together a number of light rays or air waves in order to make them have a greater effect through their union. There is something similar in smell, taste, and touch, and perhaps in many other senses which are unknown to us. I will shortly explain how what occurs in the soul represents what occurs in the organs.

26. Memory provides souls with a kind of *ability to make connections*, which imitates reason but must be distinguished from it. We see that when animals have a perception of something which strikes them, and they have had a similar perception previously, they come to expect – by the representation of their memory – what was connected to this previous perception, and are led to feelings similar to those they had before. For example, when dogs are shown a stick, they remember the pain it has caused them in the past, and yelp and run away.
27. And a vivid imagination, which strikes and stirs them, arises either from the magnitude or from the number of the preceding perceptions. For often a vivid impression has all at once the same effect as a long-formed *habit*, or as the repetition of many moderate perceptions.
28. Men act like beasts insofar as the sequences of their perceptions arise only through the principle of memory, like empirical physicians who have just practice without theory. And we are nothing but empiricists in three-quarters of our actions. For example, when we expect that there will be daylight tomorrow, we act as empiricists, because until now it has always happened that way. It is only the astronomer who draws this conclusion rationally.

Preliminary discourse §65.

29. But it is the knowledge of necessary and eternal truths which distinguishes us from simple animals, and gives us *reason* and the sciences, by raising us to knowledge of ourselves and God. And this is what is called in us the rational soul or *mind*.
30. It is also through the knowledge of necessary truths and their abstractions that we are raised to *reflexive acts*, which make us think of what is called the *self*, and consider that this or that is within us. And it is

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thus that 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. And these reflexive acts provide the main objects of our reasonings.

Theodicy. Preface *4a

31. Our reasonings are based on two *great principles*: first, the *principle of contradiction*, in virtue of which we judge *false* that which includes a contradiction, and *true* that which is opposed or contradictory to the false;

Theodicy §44. §169.

32. and second, the *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.

Theodicy §44. §196.

33. There are two kinds of *truths*: truths of *reasoning* and truths of *fact*. Truths of reasoning are necessary and their opposite is impossible, and truths of fact are contingent and their opposite is possible. When a truth is necessary, the reason for it can be found by analysis, by resolving it into simpler ideas and truths until we come to the primary ones.

Theodicy §170. §174.

§189. §280–2.

§367. Abridgement, objection 3.

34. This is how the speculative *theorems* and practical *canons* of mathematicians are reduced by analysis to definitions, axioms, and postulates.

35. And finally there are simple ideas of which no definition can be given. There are also axioms and postulates, or in a word *primary principles*, which cannot be proved and also have no need of proof. And these are *identical propositions*, whose opposite contains an explicit contradiction.

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36. But a *sufficient reason* must also be found in *contingent truths, or truths of fact*, that is, in the series of things spread throughout the universe of created things, where resolution into particular reasons could go on into endless detail because of the immense variety of things in nature and the division of bodies to infinity. There is an infinity of shapes and motions, both present and past, which enter into the efficient cause of my present writing, and there is an infinity of minute inclinations and dispositions of my soul, both present and past, which enter into its final cause.

Theodicy §36. §37. §44. §45. §49.
§52. §121. §122.
§337. §340. §344.

37. And as all this intricate *detail* includes nothing except other contingents which are earlier or even more detailed, each of which in turn needs a similar analysis in order to explain it, we are no further forward, and so it must be that the sufficient or ultimate reason lies outside the succession or *series* of this detail of contingencies, however infinite it may be.

38. And thus it is that the ultimate reason of things must lie in a necessary substance, in which the intricate detail of changes exist only eminently, in the source as it were, and this is what we call *God*.

Theodicy §7.

39. Now since this substance is a sufficient reason for all this intricate detail, which is also interconnected throughout, *there is only one God, and this God is sufficient*.

40. We may also conclude that since this supreme substance – which is unique, universal, and necessary – has nothing outside of it which is independent of it, and is a simple consequence of possible being, it must be incapable of limits, and contain just as much reality as is possible.

41. From which it follows that God is absolutely perfect, since *perfection* is nothing other than magnitude of positive reality, taken in the strict sense by setting aside the limits or boundaries in the things which have

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it. And there, where there are no limits, that is, in God, perfection is absolutely infinite.

Theodicy §22

Theodicy. Preface *4a

42. It also follows that created things owe their perfections to the influence of God, but that they owe their imperfections to their own nature, which is incapable of being without limits. For it is in this that they are distinguished from God. [This *original imperfection* of created things is observable in the *natural inertia* of bodies.]

Theodicy §20. §27–31.

§[154]153. §167. §377 onwards.

§30. §380. Abridgement, objection 5.

43. It is also true that in God is not only the source of existences but also the source of essences, insofar as they are real, or of what is real in possibility. This is because God's understanding is the region of eternal truths, or of the ideas on which they depend, and because without him there would be nothing real in possibilities, and not only nothing existent, but also nothing possible.

Theodicy §20.

44. For if there is a reality in essences or possibilities, or indeed in eternal truths, it must be the case that this reality be grounded in something existent and actual, and consequently in the existence of the necessary being, in whom essence includes existence, or in whom it is enough to be possible in order to be actual.

Theodicy §184. §189. §335.

45. Thus God alone (or the necessary being) has this privilege, that he must exist if he is possible. And as nothing can prevent the possibility of that which possesses no limits, no negation, and consequently no contradiction, this alone is sufficient for the existence of God to be known *a priori*. We have proved it through the reality of eternal truths also.

But we have now just proved it *a posteriori* too, since contingent beings exist, and they cannot have their ultimate or sufficient reason

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except in the necessary being, who has the reason for his existence in himself.

46. Yet we must not imagine, as some do, that the eternal truths, being dependent on God, are arbitrary and depend on his will, as Descartes, and afterwards Mr Poiret, seem to have supposed. This is true only of contingent truths, whose principle is *fittingness* or the choice of the *best*, whereas necessary truths depend solely on his understanding, and are its internal object.

Theodicy §180–4. §185. §335.
§351. §380.

47. Thus God alone is [the primitive simple substance or monad] the primitive unity, or original simple substance, which produces all created or derivative monads, which are born, so to speak, by continual fulgurations of the divinity from moment to moment, limited by the receptivity of their created nature, the essence of which is to be limited.

Theodicy §382–91. §398. §395.

48. There is in God *power*, which is the source of everything, then *knowledge*, which contains the detail of ideas, and finally *will*, which brings about changes and products in accordance with the principle of the best.

Theodicy §7. §149. §150.

And these correspond to what there is in created monads: the subject or basis, the perceptive faculty, and the appetitive faculty. But in God these attributes are absolutely infinite or perfect, and in created monads or in *entelechies* (or *perfectihabies*, as Hermolaus Barbarus translated this word) there are only limitations⁴ of them, in proportion to the perfection that they have.

Theodicy [§48] §87.

⁴ The final draft has ‘imitations’, but this looks to be a copying error as previous drafts had ‘limitations’ instead.

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49. The created thing is said to *act* outwardly insofar as it has perfection, and to be *acted upon* by another insofar as it is imperfect. Thus *action* is attributed to the monad insofar as it has distinct perceptions and *passion* insofar as it has confused perceptions.

Theodicy §32. §66. §386.

50. And one created thing is more perfect than another when what is found in it serves to explain *a priori* what happens in the other; and this is why we say that it acts upon the other.

51. But in simple substances, 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. For since a created monad cannot have a physical influence on the interior of another, this is the only way that one can be dependent on another.

Theodicy §9. §54. §65. §66.
§201. Abridgement, objection 3.

52. And this is why actions and passions are mutual between created things. For when he compares two simple substances, God finds in each the reasons which oblige him to accommodate the other to it, and consequently what is active in certain respects is passive from another point of view: a created thing is *active* insofar as what is known distinctly in it serves to explain what happens in another, and *passive* insofar as the reason for what happens in it is found in what is known distinctly in another.⁵

53. Now as there is an infinity of possible universes in the ideas of God, and as only one of them can exist, there must be a sufficient reason for God's choice, determining him to one rather than to another.

Theodicy [§7.] §8. §10.
§44. §173. §196 onwards.
§225. §414–16.

⁵ Some transcriptions of the *Monadology* include a reference to *Theodicy* §66 here (for example, G VI, p. 615), but there is no such reference in the manuscript.

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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. [Thus there is nothing which is wholly arbitrary.]

Theodicy §74. [§78] §167. §350.
§201. §130. §352[–354]. §345 onwards.
§354.

55. And this is the cause of the existence of the best, which God's wisdom makes him know, his goodness makes him choose, and his power makes him produce.

Theodicy §8. §78. §80.
[§81.] §84. §119. §204 [and onwards].
§206. §208. Abridgement, objection 1, objection 8.

56. Now this *interconnection*, or this accommodation of all created things to each other and of each to all the rest, means that each simple substance has relations which express all the others, and that consequently it is a perpetual living mirror of the universe.

Theodicy §130. §360.

57. The same town, when looked at from different places, appears quite different and is, as it were, multiplied *in perspectives*. In the same way it happens that, because of the infinite multitude of simple substances, there are just as many different universes, which are nevertheless merely perspectives of a single universe according to the different points of view of each monad.

Theodicy §147.

58. And this is 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.

Theodicy §120. §124. §241 and onwards.
§214. §243. §275.

59. Also, this hypothesis (which I dare to say has been demonstrated) is the only one which properly exalts the greatness of God. Mr Bayle

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recognised this, when in his *Dictionary* (article 'Rorarius') he made objections to it, in which he was even tempted to believe that I ascribed too much to God, and more than is possible. But he could not put forward any reason why this universal harmony, which ensures that each substance expresses exactly all the others through the relations it has to them, should be impossible.

60. Moreover, evident in what I have just said are the *a priori* reasons why things could not happen in a different way. For since God, in organising the whole, had regard for each part, and particularly for each monad, and since a monad's nature is to represent, nothing can limit it to representing just a part of things. However, it is true that its representation is merely confused as to the detail of the whole universe, and can be distinct only for a small part of things, that is, those which are either the nearest or the largest in relation to each of the monads, otherwise each monad would be a divinity. It is not in the object, but in the modification of the knowledge of the object, that monads are limited. They all go confusedly to infinity, to the whole, but they are limited and distinguished by the degrees of their distinct perceptions.
61. And in this, compounds are analogous to simples. 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. Consequently every body is affected by everything that happens in the universe, so much so that the one who sees all could read in each body what is happening everywhere, and even what has happened or will happen, by observing in the present that which is remote both in time and space: *σὺμπνοια πάντα*, as Hippocrates said.⁶ But a soul can read in itself only what is distinctly represented there; it cannot unfold all at once all that is folded within it, for this proceeds to infinity.

⁶ 'all things conspire'.

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62. Thus although each created monad represents the whole universe, it represents more distinctly the body which is particularly affected by it, and whose entelechy it is. And because this body expresses the whole universe through the interconnection of all matter in the plenum, the soul also represents the whole universe by representing this body, which belongs to it in a particular way.

Theodicy §400.

63. The body belonging to a monad, which is its entelechy or soul, constitutes together with the entelechy what may be called a *living thing*, and with the soul what is called an *animal*. Now this body of a living thing or animal is always organic; 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.

Theodicy §403.

64. Thus each organic body of a living thing is a kind of divine machine, or natural automaton, which infinitely surpasses all artificial automata, because a machine which is made by the art of man is not a machine in each of its parts; for example, the tooth of a brass wheel has parts or fragments which are no longer artificial as far as we are concerned, and no longer have anything about them to indicate the machine for whose use the wheel was intended. But the machines of nature, that is, living bodies, are still machines in their smallest parts, to infinity. It is in this that the difference between nature and art consists, that is, between divine art and ours.

Theodicy §134. §146. §194. §483.

65. And the author of nature was able to practise this divine and infinitely marvellous craftsmanship because each portion of matter is not only divisible to infinity, as the ancients recognised, but also actually subdivided without end, each part into further parts, each of which one has some motion of its own: otherwise it would be impossible for each portion of matter to be able to express the whole universe.

Preliminary discourse §70.

Theodicy §195.

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66. From this it is evident that there is a world of created things – living things, animals, entelechies, souls – in the least part of matter.
67. Each portion of matter may be conceived as a garden full of plants, and as a pond full of fish. But each branch of a plant, each limb of an animal, each drop of its humours, is also such a garden or such a pond.
68. And although the earth and the air interspersed between the plants in the garden, or the water interspersed between the fish in the pond, are not themselves plant or fish, yet they still contain them, though more often than not of a subtlety imperceptible to us.
69. Thus there is nothing uncultivated, nothing sterile, nothing dead in the universe, no chaos, no confusions, except in appearance. This is somewhat like what is apparent with a pond viewed from a distance, in which we see a confused motion and swarming of the pond's fish without making out the fish themselves.

Theodicy. Preface ***5b, ****b

70. From this we see that each living body has a dominant entelechy, which in the animal is the soul; but the limbs of this living body are full of other living things – plants, animals – each of which also has its dominant entelechy or soul.
71. But there is no need to suppose, as have some who have misunderstood my thought, that each soul has a mass or portion of matter of its own, or allotted to it forever, and that it consequently possesses other inferior living things which are forever destined to serve it. For all bodies are in a perpetual flux, like rivers, and parts are continually entering and leaving them.
72. Thus the soul only changes body bit by bit and by degrees, so that it is never stripped of all its organs all at once. In animals there is often metamorphosis, but never metempsychosis or transmigration of souls; neither are there any entirely *separate souls*, nor genies without bodies. God alone is entirely detached from body.

Theodicy §90. §124.

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73. It is also on account of this that there is never true generation, nor perfect death, taken in the rigorous sense of the term as consisting in the separation of the soul from the body. And what we call *generation* is development and growth, just as what we call *death* is enfolding and diminishing.
74. Philosophers have been greatly puzzled about the origin of forms, entelechies, or souls. But today, when detailed studies of plants, insects, and animals have shown that the organic bodies of nature are never produced from chaos or from putrefaction but always through seeds, in which there was doubtless some *preformation*, it has been concluded not only that the organic body was already there before conception, but also that there was a soul in this body. In a word, it has been concluded that the animal itself was already there, and that by means of conception this animal has been merely made ready for a great transformation in order to become an animal of another kind. Even outside generation, something similar is observed when maggots become flies, and caterpillars become butterflies.

Theodicy §86. §89.

Preface ***5b and following pages.

§90. §187. §188. §403.

§86. §397.

75. *Animals*, some of which are raised by means of conception to the level of larger animals, may be called *spermatic*. But those of them which remain in their own kind, namely the majority of them, are born, multiply, and are destroyed like the large animals, and there are only a chosen few which pass through to a greater stage.
76. But this is only half the truth. I have therefore concluded that if the animal never begins naturally, neither does it end naturally, and that not only will there be no generation, but also no complete destruction, or death, in the rigorous sense of the word. And these arguments, which are *a posteriori* and drawn from experience, agree perfectly with the principles I deduced *a priori* above.

Theodicy §90.

77. Thus it may be said not only that the soul (mirror of an indestructible universe) is indestructible, but also the animal itself, although its

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machine may often perish in part, and cast off or put on organic integuments.

78. These principles have given me a way of naturally explaining the union, or rather the agreement, of the soul and the organic body. The soul follows its own laws, and the body likewise follows its own, and they coincide by virtue of the pre-established harmony between all substances, since they are all representations of one and the same universe.

Preface ***6

Theodicy §340. §352. §353. §358.

79. Souls act according to the laws of final causes through appetitions, ends, and means. Bodies act according to the laws of efficient causes, or laws of motion. And the two kingdoms, that of efficient and that of final causes, are in harmony with each another.

80. Descartes recognised that souls cannot impart force to bodies because there is always the same quantity of force in matter. However, he believed that the soul could change the direction of bodies. But this is because the law of nature which also affirms the conservation of the same total direction in matter was not known in his day. If he had noticed this, he would have come across my system of pre-established harmony.

Preface ****6

Theodicy §22. §59. §60. §61.

§63. §66.

§345. §346 onwards. §354. §355.

81. This system means that bodies act as if there were no souls (although this is impossible), and souls act as if there were no bodies, and both act as if each influenced the other.

82. As for *minds* or rational souls, although I find that, fundamentally, what we have just said holds good of all living things and animals (namely that the animal and the soul only begin with the world, and no more

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come to an end than the world does), nevertheless 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.

Theodicy §91. §397.

83. Among other differences which exist between ordinary souls and minds, some of which I have already pointed out, there is also this one: that souls in general are living mirrors or images of the universe of created things, whereas minds are also images of the divinity itself, or of the very author of nature, capable of knowing the system of the universe, and of imitating something of it through their own smaller-scale constructions, each mind being like a little divinity in its own sphere.

Theodicy §147.

84. It is for this reason that minds are capable of entering into a kind of society with God, and that his relation to them 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.

85. From this it is easy to conclude that the assemblage of all minds must make up the City of God, that is, the most perfect possible state under the most perfect of monarchs.

Theodicy §146.

Abridgement, objection 2.

86. This City of God, this truly universal monarchy, is a moral world in the natural world, and is the most exalted and the most divine of God's works, and it is in this that God's glory truly consists, since there would be no glory if his greatness and his goodness were not known and admired by minds. It is also in relation to this divine city that he may properly be said to have goodness, whereas his wisdom and his power are apparent everywhere.

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87. As we have established above a perfect harmony between two natural kingdoms, the one of efficient causes, the other of final causes, we ought here to point out yet another harmony between the physical kingdom of nature and the moral kingdom of grace; that is, between God as architect of the machine of the universe, and God considered as monarch of the divine city of minds.

Theodicy §62. §74. §118. §248.

§112. §130. §247.

88. This harmony means that things lead to grace by the very ways of nature, and that for example this globe must be destroyed and repaired by natural ways at the times the government of minds demand it for the punishment of some and the reward of others.

Theodicy §18 and onwards. §110.

§244. §245. §340.

89. 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.

90. Finally, under this perfect government there will be no good action without reward, no bad action without punishment, and everything must turn out right for the good, that is, those who are not malcontents in this great state, who trust in providence after they have done their duty, and who love and imitate the author of all good as they ought to, delighting in the consideration of his perfections in accordance with the nature of true *pure love*, which makes us take pleasure in the felicity of the beloved. This it is which makes the wise and virtuous work for everything that seems to conform to the presumptive or antecedent divine will, and yet leaves them contented with what God actually makes happen by his secret, consequent or decisive will. For they 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

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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.

Theodicy §134 end.

Preface *4ab

Theodicy §278.

Preface *4b

The Structure of the Monadology

The contents of almost all of the ninety sections of the *Monadology* can be categorised as follows:

Definition – gives the essence or nature of a thing

Axiom – a general principle or truth, typically taken to be self-evident and so not requiring further proof

Corollary – a truth that follows from what has already been proved or supposed

Argument – a set of statements or other evidence put forward as grounds to accept a particular conclusion

Postulate – a statement assumed to be true, that is, asserted without any supporting evidence (sometimes the evidence for a postulate will be provided after the postulate)

Scholium – explanatory note

This yields the following structure:

1. Definition of monad: simple substance
2. Argument: there must exist simple substances
3. Argument: monads have no extension or shape, and are not divisible
4. Corollary of 1: monads cannot end naturally
5. Corollary of 1: monads cannot begin naturally
6. Corollary of 4 and 5: monads can only begin and end supernaturally
7. Argument: monads are causally independent
8. Argument: monads must have some qualities
Argument: monads must have different qualities

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9. Axiom: no two beings are exactly alike (the identity of indiscernibles)
Corollary: each monad must differ from every other
10. Postulate: every monad is subject to change, and change is continual
11. Corollary of 7 and 10: every change must come from an internal principle
12. Postulate: monads contain a complete specification of changes, as well as a principle of change
13. Argument: a monad's complete specification always includes a plurality within the unity
14. Definition of perception: representation of a plurality within the unity
Corollary of 13: perception is the basic state of every monad
15. Definition of appetite: the action of the internal principle which brings about change
16. Example of plurality in unity
17. Argument: simple substances are the only source of perceptions
Postulate: perceptions and their changes are all there are in simple substances
18. Argument: simple substances are entelechies
19. Definition of soul
Scholium: bare monads have only perceptions, whereas souls have sensation (understood as distinct perceptions accompanied by memory)
20. Argument: some perceptions are not distinct
Postulate: bare monads have no distinct perceptions
21. Corollary of 4, 8 and 14: monads always have perceptions
Scholium: when a monad has only little perceptions, it is stupefied (unconscious)
22. Corollary of 7 and 12: each state of a monad is naturally a consequence of its preceding state
23. (with 22) Argument: some perceptions are not distinct
24. Repeat of 20, and 21: when a monad has only little perceptions, it is stupefied (unconscious); bare monads have no distinct perceptions
25. Argument: animals have heightened perceptions
26. Argument: animals make inductive inferences, and possess memory
27. Scholium of 26: how different perceptions make inductive inferences possible
28. Corollary of 26: when the perceptions of men arise on the basis of memory, they act as beasts do
Postulate: And this happens three quarters of the time
29. Axiom: men differ from animals by having knowledge of necessary truths through reason
Definition of mind

30. Postulate: through their knowledge of necessary truths, minds are led to acts of self-reflection, which provide materials for their reasonings
31. Axiom: the principle of contradiction is one of the two principles on which reasonings are based
32. Axiom: the principle of sufficient reason is the other
33. Axiom: there are two kinds of truths, those of reasoning, and those of fact
34. Scholium of 33: mathematical truths are resolved to definitions, axioms, and postulates
35. Axiom: there are simple ideas and primary principles which cannot be proved
36. Scholium of 33: there is a sufficient reason for contingent truths (that is, truths of fact), and it is infinite in its detail
37. Argument: the sufficient reason for any contingent thing must lie outside the series of contingent things
38. Corollary of 37: the sufficient reason must lie in a necessary substance, God (37 and 38 together form a cosmological argument for the existence of God)
39. Argument: there is only one God
40. Argument: God contains as much reality as possible
41. Corollary of 40: God is absolutely perfect
42. Corollary of 39 and 40: the perfections of created things come from God, the imperfections from their own nature
43. Argument: the source of the reality of essences or possibilities or eternal truths is God
44. Argument: the source of the reality of essences or possibilities or eternal truths is the necessary being, whose essence includes existence
45. Corollary of 44: if God is possible then he must exist
Argument: God is possible
46. Scholium of 43 and 44: eternal truths depend on God's understanding, but not his will; contingent truths, however, do depend on his will
47. Corollary of 46: God produces all other monads
48. Corollary of 17, 42, 43, 46, and 47: the attributes of God (power, knowledge, and will) correspond to those of created monads (the subject, perception, appetite)
49. Argument: a monad is said to act insofar as it has distinct perceptions, and be acted upon insofar as it has confused perceptions
50. Scholium of 49: one monad is more perfect than another when what is found in it explains *a priori* what is found in another
51. Argument: monads influence each other only ideally

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52. Corollary of 51: in monads, actions and passions are mutual
53. Argument: there must be a sufficient reason for God's choice of universe
54. Postulate: this sufficient reason is to be found in the degrees of perfection in each possible universe
55. Corollary of 54: God chooses the best possible universe
56. Argument: simple substances are perpetual living mirrors of the universe
57. Corollary of 9 and 56: each monad mirrors the universe from its own unique perspective
58. Scholium of 57: and this maximises perfection
59. Scholium of 56: only the hypothesis of substances being unique mirrors of the same universe does justice to God's greatness
60. Argument: every monad represents the whole universe
Scholium: created monads represent only a small part of the universe distinctly; the rest is represented confusedly
61. Postulate: There exists the plenum
Corollary: every compound (body) is affected by every other, the effect diminishing with distance
62. Corollary of 61: each monad represents more distinctly the (monads of the) body with which it is associated
63. Definition: living thing
Definition: animal
Argument: the body of a living thing or animal is always organic
64. Scholium of 63: while living things are organic, manmade things are not
65. Argument: matter is infinitely subdivided
66. Corollary of 65: there is a world of created beings in the least part of matter
67. Simile of 66
68. Corollary of 66 and 67: the matter in between living things itself contains living things
69. Corollary of 66 and 68: there is nothing dead in the universe
70. Corollary of 62: each living body has a dominant entelechy
Corollary of 63 and 65–6: the limbs of this living body are full of other living things
71. Scholium of 70: a soul does not retain the same body forever
72. Corollary of 13 and 71: a soul changes its body gradually, but is never without one
73. Corollary of 72: there is no true generation or death
74. Scholium of 73: empirical findings show that there is no true generation, with organic bodies being present before birth in seeds

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75. Scholium of 74: most seed animals remain in their own kind, but a small number do not, and go on to enjoy a higher status
76. Argument: the animal does not end naturally
77. Corollary of 73 and 76: the animal itself is indestructible
78. Corollary of 56: there is a pre-established harmony between soul and body
79. Scholium of 78: souls act according to the laws of final causes, bodies according to the laws of efficient causes
80. Argument: Descartes' doctrine of causal interaction between body and soul is false
81. Scholium of 78: bodies act as if there were no souls, and souls act as if there were no bodies
82. Postulate: before conception, the seed-animals of humans do not differ in kind from those of other animals, and are supplemented with reason at conception
83. Corollary of 29 and 56: in addition to being a mirror of the universe, minds are also images of God
84. Corollary of 83: minds are capable of entering into society with God
85. Corollary of 48, 83, and 84: together, minds form the most perfect possible state under the most perfect possible monarch, the City of God
86. Scholium of 85: God's glory consists in the City of God
87. Postulate: there is a harmony between the kingdoms of nature and grace
88. Corollary of 87: God's aims in the kingdom of grace are brought about through the workings of the kingdom of nature
89. Corollary of 87: sins are punishments naturally, and rewards are bestowed naturally (though in neither case does this necessarily happen immediately)
90. Corollary of 89: everything will turn out well for the good for those who love God

The Monadology: Text with Running Commentary

1. *The monad*, about which we shall speak here, is nothing other than a simple substance which enters into compounds, ‘simple’ meaning ‘without parts’.

Theodicy, preliminary discourse §10.¹

Leibniz begins with a definition of the monad: a simple substance which enters into compounds. The notion of substance is a very rich metaphysical category which has its roots in the writings of Aristotle (384–22 BCE), and was employed by a number of Leibniz’s predecessors such as Descartes (1596–1650) and Spinoza (1632–77). For Aristotle, ‘substance’ was the answer to the question ‘what is being?’, or, ‘what is most truly real?’ As such, the term ‘substance’ was applied to the fundamental constituents of reality. To determine which things qualified, Aristotle identified various criteria: for example, substances are those things which are the ultimate subjects of predication, being the subject of predicates but not the predicate of anything else;² substances are those things which do not depend for their existence on other things (that is, they are self-sufficient);³ and they are the source of change, being capable of acting and not just being acted upon.⁴ What satisfied these criteria, he claimed, were individual living creatures, that is, individual plants, animals, and humans. By the Middle Ages, Aristotle’s doctrine of substance, as filtered through the teachings

¹ Leibniz here omitted ‘preliminary discourse’ although the reference is in fact to that part of the *Theodicy*.

² Aristotle, *Metaphysics* 1028b36, in *The Complete Works of Aristotle*, 2 vols, ed. Jonathan Barnes (Princeton: Princeton University Press, 1984), II, p. 1624.

³ Aristotle, *Metaphysics* 1029a28, in *The Complete Works*, II, p. 1625.

⁴ Aristotle, *Categories* 4a17–20, in *The Complete Works*, I, p. 7.

of Aquinas and others, had become the conventional wisdom, and by the seventeenth century it was part of the Scholastic tradition that was widely taught and accepted throughout Europe. In writings from his youth and middle period Leibniz characterised substance in recognisably Aristotelian ways, for example as the ultimate subject of predicates,⁵ and as the source of actions,⁶ and in addition to endorsing much of Aristotle's criteria for substances he also agreed with Aristotle that the criteria were satisfied by individual living things. As his career progressed, however, Leibniz placed increasing stress on indivisibility as a mark of substance, insisting that a substance was something that was truly *one* being. He adopted the term 'unity' to capture this essential aspect of substance, and often identified substances as unities. In the 1690s Leibniz came to attribute this unity (oneness) of substance to its simplicity, that is, to its lacking parts, on the basis that whatever has parts cannot be one thing, and hence a true individual, simply because it is composed of several parts.

It should be noted that in other writings Leibniz offers what look to be alternative characterisations of substance. For example, in some texts he draws a strong connection between substance and force, claiming 'I consider it [force] to be what constitutes substance, since it is the principle of action, which is its characteristic feature',⁷ where force is understood as 'something midway between power and action' rather than a faculty for action. Similarly, in PNG1 Leibniz claims that '*Substance* is a being capable of action.' Elsewhere, Leibniz characterises substance in terms of perception and the representation of composites: 'Your Electoral Highness asks me what a simple substance is. I reply that its nature is to have perception, and consequently to represent composite things.' While it is tempting to see these as alternative, and perhaps even competing accounts of substance, Leibniz does not see it that way. As will become clear as we proceed, Leibniz thinks of substance in all of the ways outlined, namely as a unity, consisting of force, having perceptions, and representing external things. Arguably, however, in his later writings, *unity* is the feature that Leibniz most commonly stresses as a mark of a true substance, a monad.

In PNG1 Leibniz explains that the term *monad* derives from the Greek word *monas*, meaning 'unity', that is, that which is one. Leibniz was not the first to use it by any means: Pythagoras had used the term in the sixth century BCE to refer to God, and it was often found in the work of neo-Platonic writers, both ancient and modern. For example, it can be found

⁵ See PPL, p. 307.

⁶ See SLT, p. 73.

⁷ LNS, p. 22; cf. PPL, p. 502.

in the work of a number of Leibniz's contemporaries, such as Henry More (1614–87), Anne Conway (1631–78),⁸ Francis Mercury van Helmont (1614–98),⁹ and Ralph Cudworth (1617–88).¹⁰ They each used the term in a different way; for example, while More wrote of the monad as 'a Symbole of the immaterial nature',¹¹ Conway saw it as something physical (the smallest physical unit, divisible mathematically but not physically).¹² Leibniz's familiarity with the work of Anne Conway has led to claims that he appropriated the word 'monad' from her,¹³ and similar claims have been made in favour of van Helmont¹⁴ and Cudworth.¹⁵ Without a doubt Leibniz encountered the term in the work of all of these writers, as well as in the work of others, but since it was part of the (neo-)Platonic tradition to which Leibniz himself arguably belonged, it is therefore more likely that he appropriated the term from the tradition rather than from any one of those associated with it.¹⁶ In any case, the term is definitely *not* 'Leibniz's own invention', as some have claimed.¹⁷ Indeed, Leibniz very probably added 'monad' to his philosophical vocabulary only because it already had some currency among philosophers.

Leibniz began to use the term 'monad' in his work only in the last two decades of his life. He appears to have first used it in a letter to the Marquis de l'Hospital written on 12/22 July 1695, where it is used simply as an alternative to 'real unity'.¹⁸ This accords with later usage, with Leibniz tending to use 'monad' interchangeably with 'unity', itself just an

⁸ Anne Conway, *The Principles of the Most Ancient and Modern Philosophy* (Cambridge: Cambridge University Press, 1996), p. 20.

⁹ Francis Mercury van Helmont, *A Cabbalistical Dialogue* (London, 1682), p. 4.

¹⁰ Ralph Cudworth, *The True Intellectual System of the Universe* (London, 1678).

¹¹ Henry More, *Conjectura cabbalistica* (1653), in *A Collection of Several Writings of Dr Henry More*, 4th edn (London, 1712), p. 12; cf. p. 170.

¹² Conway, *The Principles of the Most Ancient and Modern Philosophy*, p. 20.

¹³ See Carolyn Merchant, 'The vitalism of Anne Conway: its impact on Leibniz's concept of the monad', *Journal of the History of Philosophy* 17:3 (1979), pp. 255–69.

¹⁴ Allison P. Coudert, 'Leibniz and the Kabbalah', in Allison P. Coudert, Richard H. Popkin, and Gordon M. Weiner (eds), *Leibniz, Mysticism and Religion* (Dordrecht: Kluwer, 1998), p. 71.

¹⁵ Catherine Wilson, *Leibniz's Metaphysics* (Manchester: Manchester University Press, 1989), p. 188.

¹⁶ See Stuart Brown, 'Leibniz and More's Cabbalistic circle', in Sarah Hutton (ed.), *Henry More (1614–1687) Tercentenary Studies* (Dordrecht: Kluwer, 1990), pp. 83ff.

¹⁷ See Douglas Burnham, 'G. W. Leibniz, *Monadology*', in John Shand (ed.), *Central Works of Philosophy 2* (London: Acumen, 2005), p. 63.

¹⁸ A III, 6, p. 451. Earlier dates have sometimes been suggested, but have not stood up to scrutiny: for example, Nicholas Rescher claims that 'Leibniz began to use the term *monad* only in 1690 (in a letter to Fardella)'. In fact Leibniz did not even write to Fardella in 1690. See Rescher, *G. W. Leibniz's Monadology*, p. 46.

alternative way of referring to something that is one, that is, a simple substance. Although monads are quantitatively simple, in the sense that they have no parts, this does not mean that they are simple in other senses, for example in terms of the qualities that they have. Later in the *Monadology* (M13) Leibniz will claim that monads are actually qualitatively complex (that is, they have many qualities) despite being quantitatively simple.

2. And there must be simple substances, because there are compounds; for the compound is nothing but an accumulation or *aggregate* of simples.

Leibniz now gives an argument for simple substances. The argument Leibniz makes can be put into form thus:

Premise 1: There are compounds.

Premise 2: Compounds are nothing other than accumulations or aggregates of simple substances.

Conclusion: Therefore there are simple substances.

The argument is straightforward enough. The assertion that there are compounds seems uncontroversial. (In some writings, Leibniz uses 'multitude'¹⁹ or 'plurality'²⁰ in place of 'compound', but they all mean the same thing.) Indeed, there are many examples of compound things, for example a pile of rocks. The second premise states that a compound is an accumulation of simples. So if there are compounds then there must be simple substances. So stated, the weight of the argument is carried by the second premise, which describes compounds as aggregates of simples. But why should it be thought that compounds are aggregates of simple substances rather than aggregates of other compounds, which are in turn aggregates of other compounds, and so on and so on? Either seems possible. Consider the example of a pile of rocks: the pile itself is a compound of various individual rocks, but none of these component rocks qualifies as a simple substance because they are all in turn compounds of various minerals; these minerals in turn are compounds of various molecules, which are themselves compounds of various atoms, and so on. On the face of it, then, it is not clear why compounds should be defined as aggregates of simple substances, rather than as aggregates of aggregates and so on.

¹⁹ For example SLT, p. 69.

²⁰ For example PNG1.

In other writings Leibniz offers a slightly different – and arguably stronger – formulation of the argument for simple substances. For example, in a text from 1692/3 Leibniz claims ‘it is evident that there could not be composites without simples, nor pluralities without unities’,²¹ and in PNG1 he writes: ‘there must be simple substances everywhere, because without simples there would be no compounds’. The argument is this:

Premise 1: Without simple substances there could be no compounds.

Premise 2: There are compounds.

Conclusion: Therefore there are simple substances.

Here the weight of the argument rests on the first premise, that without simple substances there could be no compounds. In other words, not everything can be a compound: there can’t be compounds that are built out of compounds that are built of compounds and so on forever. At some point there has to be something that *isn’t* compound, and as this something isn’t compound then it must be simple. Hence there must be simple substances. It might be asked why there can’t be compounds built out of compounds forever. To this Leibniz offers a further argument, sometimes known as the ‘argument from borrowed reality’:

I had undertaken to prove that these unities exist from the fact that there would otherwise be nothing in bodies. I gave the following argument: *First*, that which can be divided into many is constituted, i.e., aggregated, from many. *Second*, things that are aggregated from many are not one thing except from a mind, and they have no reality except that which is borrowed, i.e., that is from the things from which they are aggregated. Therefore, *third*, things that can be divided into parts have no reality unless there are things in them that cannot be divided into parts. Indeed, they have no reality other than that which is from the unities that are in them.²²

The thinking here is that a compound thing gets whatever reality it has from its parts, and is therefore real only insofar as its parts are real. But the same must be true of the parts, that is, they are real only insofar as *their* parts are real. And so on, with each compound thing ‘borrowing’ its reality from that possessed by the parts of which it is composed. But this cannot go on forever; there has to be something non-compound that grounds the reality of the parts of the compound, that is, simple things, which are real in themselves, and not because they borrow their reality from parts (which of course, being simple, they do not have).

²¹ LTS, p. 100.

²² LDV, pp. 285–7.

Much the same kind of argument has historically been used to support the view that there must be some kind of ultimate, basic kind of particle out of which everything else in the universe is made.²³ It is still in use by some modern physicists. In the later decades of the twentieth century many physicists held that quarks were the most basic kind of particle, and thus the building blocks of absolutely everything in the universe. It is now believed that quarks are in fact composed of other things, for example preons or strings. It has even been hypothesised that preons and strings will turn out to be made up of even more fundamental elements, but some physicists argue that there must ultimately be something that is truly fundamental which isn't made up of anything else, and therefore qualifies as a true building block of the universe. These physicists suppose that if there are fundamental elements then they will be material in nature.²⁴ Leibniz will challenge this assumption, as we shall see in M3. But the idea that there are fundamental elements, and ones which are material in nature, has great philosophical pedigree, and was resurgent in Leibniz's day in the form of *atomism*. In its classic formulation this doctrine holds that there are little lumps of matter without any parts, and these little lumps of matter compose everything else in the universe. The word 'atom' is Greek, and it means 'uncuttable' or 'unsplittable', and accordingly true atoms were thought to be bits of matter that could not be divided. There is a clear distinction between true atoms and the atoms that physicists postulate today. Modern physics holds that atoms are made up of protons, neutrons, and electrons, and can actually be divided into those parts. So in a sense, the atoms of modern physics are not true atoms at all, because they *can* be divided, whereas a true atom would be something that *cannot* be divided. The belief that the world was ultimately composed of unsplittable atoms goes back to the ancient Greek thinkers Leucippus and Democritus (fifth century BCE), both of whom postulated that atoms moved about randomly in the void, sometimes joining together (on account of having 'hooks') and sometimes breaking apart (on account of random motion). The doctrine was endorsed by Epicurus (third century BCE), amongst others, and then resurrected in the seventeenth

²³ See for example Epicurus' letter to Herodotus, in *The Epicurus Reader: Selected Writings and Testimonia*, ed. and trans. Brad Inwood and L. P. Gershon (Indianapolis: Hackett, 1994), p. 7.

²⁴ For details and references, see Jonathan Schaffer, 'Is there a fundamental level?', *Noûs* 37:3 (2003), pp. 498–517, especially pp. 498–506. Other physicists eschew talk of 'fundamental elements' and 'material things' as being inappropriate in light of modern scientific thinking with regard to field theory, for example. See James Ladyman and Don Ross, *Every Thing Must Go: Metaphysics Naturalized* (Oxford: Oxford University Press, 2009), especially chapter 1.

century by Pierre Gassendi (1592–1655). By the end of the seventeenth century, it was a very popular doctrine; some referred to it under its original name of atomism, while others opted to refer to it under the name of corpuscularianism (from ‘corpuscle’, meaning ‘tiny part’). Robert Boyle (1627–91) and John Locke (1632–1704), for example, are often considered to be adherents of the corpuscular philosophy. Leibniz was an outspoken opponent of it, as we shall see.

3. Now where there are no parts, neither extension, nor shape, nor divisibility is possible. And these monads are the true atoms of nature and, in a word, the elements of things.

Here Leibniz argues that by virtue of having no parts, monads cannot be extended, nor be shaped, nor be divisible. The argument is very compressed, however, and makes more sense once a key assumption is identified. The assumption is 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. Although Leibniz does not say so explicitly, what this ultimately means is that monads cannot be material things, at least in Descartes’ sense of ‘material’. The dominant theory of matter in Leibniz’s day was that developed by Descartes, who identified matter with extension, that is, having the three dimensions of length, breadth, and width.²⁵ It follows from this characterisation of matter that any material thing will, by virtue of being extended, have shape, and consequently be divisible. Since monads do not have any of these features they cannot be material in nature. In other texts, Leibniz affirms the immateriality of monads explicitly; for example, in a 1702 letter to Varignon he insists that ‘simple substances are truly indivisible, but they are immaterial, and are only principles of action’.²⁶

Leibniz’s description of monads as ‘the true atoms of nature’ is an attempt to reclaim the name ‘atom’ from the atomists. In his eyes, it is fair to describe monads as atoms because they are by definition simple, that is, they have no parts and are hence genuinely indivisible (because what could they be divided into?). According to Leibniz, however, the atomists applied

²⁵ See René Descartes, *The Philosophical Writings of Descartes*, John Cottingham, Robert Stoothoff, Dugald Murdoch and Anthony Kenny (eds), 3 vols (Cambridge: Cambridge University Press, 1984–91), I, p. 210.

²⁶ G. W. Leibniz, *Leibnizens mathematische Schriften*, ed. C. I. Gerhardt (Halle: Schmidt, 1859), IV, p. 110.

the name 'atom' to something which *is* at least in principle divisible, namely a material atom. To understand Leibniz's concern, suppose that there were material atoms such as the atomists postulated, that is, very small indivisible lumps of matter. Leibniz holds that on account of being material these atoms would be extended, and so have some shape and size, and as a result they would also be divisible, that is, each one of them could be divided into two, into a left part and a right part. (Bear in mind that for a thing to be 'divisible', all that is required is that it be *possible* for it to be divided. That doesn't mean that it will be *possible for humans* to divide it, whether now or in the future. The issue is whether it is possible *in principle* for a thing to be divided, not whether it is possible for this or that species at this or that time to divide it.) Now if these material atoms are divisible into parts, as Leibniz maintains, then they cannot be atoms, understood as material things without parts! Hence there looks to be a fundamental inconsistency between *extension* (the defining feature of matter) on the one hand, and *indivisibility* (the defining feature of simple substances) on the other. The atomist, of course, held that material atoms have shape and size but denied that they are divisible. But this just raises the question, often not addressed by atomists, of how a material thing could take up space and have shape and size and yet be incapable of division. Leibniz often claims that no answer is possible here; for example, in a text from 1689 he writes 'no reason can be given why bodies of a certain smallness should not be further divisible'.²⁷ In other words, there is no reason why a body of (for example) a millionth of an inch across could not be divided into two bodies each two-millionths of an inch across, and so on, ad infinitum. If this is right, then any material object, no matter how small, will be infinitely divisible, in which case there will be nothing that answers to the description of a material atom.

Although Leibniz does not explicitly say as much, by insisting that his simple substances are not material in nature (because they are not extended, nor shaped, nor divisible), while compounds are, he has now

²⁷ SLT, p. 52. Leibniz sometimes assumes (on the atomist's behalf) that the atomist's position must be that material atoms *are* composed of parts, but ones which are held together by some miraculous force: 'To say that atoms are indivisible in themselves is to say that two masses A and B, parts of an atom which touch each on their surfaces, are inseparable in themselves, and to claim that it is absurd to look for a reason for this

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 . . . God cannot create natural atoms, or bodies that are indivisible by an explicable and unknowable quality, which is to say he cannot create things that are absurd and without reason. If he wants two masses or parts of matter to be inseparably attached to each other, without there being in them or their surroundings any reason for their inseparability, he must prevent their separation by a perpetual miracle. And then they will not be natural atoms, or rather they will be atoms which are indivisible by a certain occult quality lodged in them.' G III, p. 506.

effectively divided reality into two distinct realms. On the one hand there is the (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.²⁸ Leibniz's recognition of two levels of reality brings with it a problem for his readers inasmuch as he does not always make it clear which level he is referring to. In the *Monadology*, as well as other writings, Leibniz sometimes moves from discussing one level to the other without any warning, sometimes in the same sentence. Moreover, terms and expressions appropriate to one level of reality are sometimes applied to the other.²⁹ We are less likely to be misled by what Leibniz says if we keep in mind that he recognises two levels of reality which, while apparently very different, are certainly not separate.

What is not yet clear, however, is *how* the two levels are connected, that is, how compounds are derived from monads. In M2 Leibniz seems to offer a straightforward explanation through his statement that a compound 'is nothing but an accumulation . . . of simples', which if taken at face value might suggest that a compound is literally a grouping or massing together of a number of simples. But we also know (from M3) that a simple has no shape or size, from which it follows that the grouping of any number of simples would fail to produce something which does have shape and size, as the compounds of our experience invariably do. The problem is neatly summarised by Leibniz's near-contemporary Henry More, who wrote: '*Magnitudes cannot arise out of mere Non-Magnitudes. For multiply Nothing ten thousand millions of times into nothing, the Product will be still Nothing.*'³⁰ How, then, do compounds result from monads? An answer

²⁸ Leibniz explains that with matter, or bodies, as well as with other real things, there is a priority of parts to whole, whereby the whole is a result of the parts. This contrasts with ideal things (that is, entities of the mind), in which the whole is prior to any parts that may be taken from it. Leibniz identifies space and time as ideal. See LTS, p. 336. For further details, see Pauline Phemister, *Leibniz and the Natural World: Activity, Passivity and Corporeal Substances in Leibniz's Philosophy* (Dordrecht: Springer, 2005), pp. 106–9.

²⁹ For further details, and some examples, see Homer H. Dubs, 'The misleading nature of Leibniz's *Monadology*', *The Philosophical Review* 50:5 (1941), pp. 508–16.

³⁰ Henry More, *The Immortality of the Soul* (London, 1659), p. 31. The publication date of More's book shows that he made this point some decades before Leibniz developed his theory of monads. This does not affect the validity of his point, however. Interestingly, upon reading this book Leibniz made a similar point against More, whom he believed had tried to compose the world of extended things out of points; Leibniz urged that '*extension is not composed of points, because it would be composed of extended nothings*'. A VI 4, p. 1678.

to this question cannot be found in the *Monadology* itself, and even in other writings Leibniz does not offer a single, definitive answer, but seems to entertain different possible answers, which have been termed by some of his commentators 'phenomenalism' and 'the aggregate thesis'.³¹

(a) In the version of phenomenalism that Leibniz sometimes entertains, bodies are *phenomenal*, that is, existing in appearance rather than as something real in their own right. There are a number of writings in which Leibniz endorses such a view. For example, in a letter written in 1705, Leibniz writes:

I do not really do away with body, but reduce it to what it is. For I show that a corporeal mass that is believed to have something besides simple substances is not a substance but a phenomenon resulting from simple substances, which alone have unity and absolute reality.³²

And in another letter, written shortly before his death in 1716, Leibniz writes: 'I believe that there are only monads in nature, everything else being only phenomena that result from them.'³³ However, while there are a number of writings in which Leibniz does incline towards a kind of phenomenalism, there is no hint of any such inclination in the *Monadology* itself, which does not even contain the word 'phenomenon', let alone apply it to bodies or compounds.

(b) In what looks to be a sharp contrast with phenomenalism, which treats bodies as phenomena, the so-called 'aggregate thesis' holds that bodies are 'in some way' aggregations or accumulations of monads. This is another strand of thought often found in Leibniz's mature writings, and it is the position adopted in the *Monadology*, with Leibniz stating in M2 that 'the compound is nothing but an accumulation or *aggregate* of simples'. How monads can be aggregated into bodies is not addressed in the *Monadology*, and often not in other texts in which the aggregate thesis is advanced. Leibniz often talks as though extended bodies just are an aggregation of unextended monads, while in other writings he urges that bodies *result from* monads or are *founded in* them,³⁴ though whether this means anything different from saying that bodies are aggregates of monads is uncertain.³⁵ This is because, for Leibniz, an aggregate is not a simple

³¹ The terms are from Nicholas Jolley, 'Leibniz and phenomenalism', *Studia Leibnitiana* 18 (1986), pp. 38–51. Reprinted in Nicholas Jolley, *Causality and Mind: Essays on Early Modern Philosophy* (Oxford: Oxford University Press, 2013), pp. 183–98.

³² LDV, p. 319, cf. p. 303.

³³ SLT, p. 54.

³⁴ For example, see LDV, p. 303.

³⁵ See Donald Rutherford, 'Phenomenalism and the reality of body in Leibniz's later philosophy', *Studia Leibnitiana* 22:1 (1990), pp. 11–38.

grouping or cluster of things, but rather the outcome of a mental process in which various things, understood to agree in some way, are construed or treated as a whole: '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'.³⁶ Hence on the aggregate thesis, bodies are not mereological aggregates, that is, merely a mind-independent group of monads,³⁷ as aggregation is a mental operation such that, without minds there would be no aggregates, just individuals. It is important to note, however, that while the aggregation of monads into a body is something that occurs in the mind, the monads being aggregated exist outside of the mind which aggregates them. Moreover, Leibniz explains that the process of aggregation is more appropriate in some cases than in others; for example, the more connections or agreements there are between individual things, the more appropriate it is for a mind to aggregate them, that is, to treat them as constituting a whole.³⁸ So while aggregation may be a mental process, aggregates themselves are grounded in the reality of their constituent parts, and the connections between them. Parallel to this, we find Leibniz saying something very similar when endorsing phenomenalism, as on such occasions he often describes bodies as 'well-founded phenomena', to emphasise that they are not mere appearance, as would be an illusion or something imaginary, but rather that they do have an underlying reality which grounds them, namely the reality of monads.

Although phenomenalism and the aggregate thesis can appear to be mutually exclusive hypotheses, there are some writings in which Leibniz explicitly endorses them both. One such is the brief 'Appendix on Monads' penned for Remond in July 1714 but not sent to him. At the start of the text Leibniz claims that bodies are aggregates of monads:

I believe that the whole universe of creatures consists only in simple substances or monads, and in their combinations. These simple substances are what are called 'mind' in us and in genies, and 'soul' in animals. They all have *perception* . . . and *appetite* . . . One cannot even conceive of there being anything other than that in simple substances, and consequently in all nature. The combinations are what we call bodies. (appendix p. 278)

While just a few lines further on, Leibniz asserts that bodies are phenomenal:

³⁶ LDV, p. 275.

³⁷ For further details, see Paul Lodge, 'Leibniz's notion of an aggregate', *British Journal for the History of Philosophy* 9:3 (2001), pp. 467–86, especially pp. 479–84.

³⁸ G. W. Leibniz, *Philosophical Essays*, trans. Roger Ariew and Daniel Garber (Indianapolis: Hackett, 1989), pp. 88–9.

all these bodies, and all that is ascribed to them, are not substances, but only well-founded phenomena, or the foundation of appearances, which are different in different observers, but which are related and come from the same foundation, just like different views of the same city seen from various places . . . [T]he Academics have questioned whether material things exist outside of us, which may be given a reasonable explanation by saying that they are nothing but perceptions, and that they obtain their reality from the congruence of perceptions of apperceiving substances. (appendix, pp. 278–9)

(By ‘apperceiving substances’ Leibniz means self-conscious substances, in other words, minds such as those of humans and angels; for a discussion of apperception, see M14.) This is not the only text in which Leibniz explicitly endorses both phenomenalism and the aggregate thesis.³⁹ Evidently he considered both to be compatible,⁴⁰ though he does not divulge his reasons for thinking so. In any case, in the *Monadology* itself Leibniz does not even raise the question of how compounds relate to monads, let alone advance an answer to it; consequently, if there is an answer to that question, it is one that cannot be settled by a study of the *Monadology*.

4. There is also no dissolution to fear, and there is no conceivable way in which a simple substance could perish naturally.

Leibniz now draws out another corollary of M1: as monads are without parts, they must be naturally indestructible. Leibniz endorses the view, passed down from the ancient Greeks,⁴¹ that natural destruction involves a thing being broken down into its component parts (in one text, for example, he asserts that ‘every natural destruction consists in the dissolution of parts’).⁴² But monads of course are simple and so don’t have any component parts. Consequently a monad can’t be destroyed by breaking it into parts because there are no parts into which it can be broken

³⁹ For example, see also LDV, pp. 301, 303, and 307.

⁴⁰ Some scholars have claimed that there are in fact inconsistent strands within Leibniz’s metaphysics, and that when Leibniz discusses them they are best interpreted not as truth-claims that describe the world as it is, but rather alternative theories of the world (or ways of looking at the world). See Glenn Hartz, *Leibniz’s Final System: Monads, Matter, Animals* (London: Routledge, 2007). Other scholars, meanwhile, have suggested that Leibniz’s metaphysics was never complete, and that even at the end of his life he was flitting between alternative – and incompatible – positions, never settling on one in particular. See Garber, *Leibniz: Body, Substance, Monad*.

⁴¹ See for example Plato, *Phaedo* 78c, in *Plato: Complete Works*, ed. John M. Cooper (Indianapolis: Hackett, 1997), pp. 68–9.

⁴² SLT, p. 64.

down. And this means that monads are naturally indestructible. Leibniz uses the phrase ‘naturally’ to indicate that he is referring to natural processes, that is, those governed by the laws of nature that are discoverable by natural science. So tearing up a book would qualify as a natural process as it occurs in accordance with the laws of nature. But somehow deleting a book from existence, for example by magic or divine fiat, would be a *supernatural* process, as it goes beyond what is possible according to the laws of nature.

The fact that monads are naturally indestructible does not entail that they are *absolutely* indestructible, since they could still be deleted from existence by some supernatural process, for example by God annihilating them. Leibniz will later allow for the *possibility* that God might annihilate monads (M6), but ultimately he does not think that will ever happen.

5. For the same reason there is no way in which a simple substance could begin naturally, since it cannot be formed by composition.

The claim here – that simple substances cannot begin naturally – follows from M1. As Leibniz indicates, the reasoning parallels that found in M4: there Leibniz showed that a simple substance cannot naturally cease to be because, being simple, it cannot be subject to dissolution, which was assumed to be the only form of natural destruction. Now he shows that a simple substance cannot naturally come to be either, because by virtue of being simple it cannot be subject to composition, that is, compounding, a process by which a thing comes to be from the assembly of pre-existing parts (for example, a car comes to be through the assembly of its various component parts). Since simple substances have no parts they can no more come into being through composition than they can go out of being through dissolution. Since Leibniz assumes that composition is the only way a thing can naturally come into being, the fact that simple substances are not subject to it leads him to conclude that simple substances cannot naturally come into being.

6. Thus it may be said that monads can only begin and end at once, that is, they can only begin by creation and only end by annihilation, whereas that which is composite begins or ends by parts.

In M5 Leibniz ruled out monads beginning naturally, and in M4 he ruled out monads ending naturally, and he now draws the straightforward corollary that monads must therefore begin and end *supernaturally*, that

is, by creation (an instantaneous coming into being) and annihilation (an instantaneous going out of being). This contrasts with compounds, which come into being naturally, through a process of compounding parts, and go out of being naturally, through the dissolution into component parts.

Leibniz was generally averse to invoking the supernatural in his philosophy, and the supernatural act of creation that gave rise to monads was the only instance of it he was prepared to recognise: 'I admit the supernatural here only in the beginning of things.'⁴³ Leibniz gives naturalistic explanations of other events that were often taken to have a supernatural explanation, such as the miracles recorded in the Bible. This leaves for him creation as the only event that cannot be explained naturally, that is, that cannot be explained without invoking the direct operation of God.⁴⁴ And there will be no 'miracle of annihilation' that parallels the miracle of creation: Leibniz doesn't believe that monads *will* end, only that *if* they were to do so then it would have to be by annihilation, there being no other way that they could end. But according to Leibniz it would be 'unfitting' for God to annihilate anything, on account of his perfect goodness.⁴⁵

Leibniz's use of the expression 'tout d'un coup', translated here as 'at once', is slightly ambiguous, inasmuch as in his day it could mean 'suddenly' or 'all at one time'/'all in one go' (the expression still has both meanings, though the former is rather more common now). Leibniz may have had both meanings in mind when writing M6. We have already seen that monads come to exist suddenly, in the act of divine creation. On top of that, Leibniz also holds that each monad was created sufficient and complete right from the outset, with all of its determinations. Hence monads come to exist all in one go. Leibniz will develop this thought in M7.

7. 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. Monads have no windows through which anything could enter them or depart

⁴³ H, p. 66.

⁴⁴ See Daniel J. Cook, 'Leibniz on creation', in Marcelo Dascal (ed.), *Leibniz: What Kind of Rationalist?* (Dordrecht: Springer, 2008), pp. 449–60.

⁴⁵ Leibniz, *Die Werke von Leibniz*, 11 vols, ed. Onno Klopp (Hanover: Klindworth, 1864–84), XI, p. 61.

from them. Accidents cannot become detached, or wander about outside of substances, as the sensible species of the Scholastics once did. Thus neither substance nor accident can enter a monad from outside.

Leibniz now argues that there is no *inter-substance causality*, or *transeunt causation*, that is, causation between substances, in which one substance acts on another. In determining what such causation would involve, Leibniz takes as his model causation as it apparently occurs 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. Apparently on the basis of this model alone, Leibniz supposes that any causality that occurred between substances would also involve 'change among the parts', such that if A causes a change in B it would do so by virtue of bringing about change *of* B's parts or *in* B's parts. But as we know from M1, monads have no parts. So if inter-substantial causality involves change of/in parts, and monads have no parts, then there can be no inter-substantial causality. The same point is captured slightly more esoterically in Leibniz's claim that monads have no windows, which means only that nothing can enter them or leave them.⁴⁶ To illustrate this claim Leibniz briefly considers a paradigm case of inter-substance causality, namely the Scholastic theory of perception. How does one substance perceive another? The answer given by some Scholastic thinkers, such as Suarez, who Leibniz sometimes mentions in connection with this theory,⁴⁷ is that we perceive objects because they emit 'sensible species' or 'perceptible forms' (the expressions mean the same) which travel through the air and enter into us through our sense organs. There are different types of species – visible, audible, tangible, and so on – and each needs to be picked up by the right sense organ for perception to occur. The visible species can be thought of as being very thin surface layers which evaporate and are released into the air. If they happen to come into contact with a suitable sense organ (namely the eye) then the visible species enter through it and from there enter the mind, producing a visual perception. On this scheme, the mind of one substance absorbs the surface of another, the process being mediated by the various sense organs. In the *Monadology* Leibniz dismisses this theory rather

⁴⁶ Leibniz's claim that monads have no windows has its precedents, for example in the *Discourse on Metaphysics* (1686): 'nothing enters naturally into our minds from without, and it is a bad habit we have of thinking as if our soul received certain species as "messengers" and as if it had doors and windows'. PPL, p. 320.

⁴⁷ For example, 'Suarez . . . defined *cause* as *what flows being into something else*, a most barbarous and obscure expression'. PPL, p. 126.

brusquely and dogmatically, because he simply asserts that accidents (that is, properties which are not part of a substance's essence) cannot become detached from a substance, nor wander around outside of them. In the *New Essays* (1703–5), however, he explains that if accidents could do these things then evidently they would be self-subsistent beings in their own right, because they would be capable of existing by themselves. He complains, however, that this is a hallmark of *substances*, not accidents, which are by definition properties of substances rather than substances themselves.⁴⁸ So to suppose free-roaming accidents is to collapse the distinction between substance and accident. Leibniz was far from alone in his opposition to the Scholastic theory of perception; Descartes, for example, sought to undermine it in his *Optics* (1637).⁴⁹

Leibniz's denial of inter-substance causality would not have struck his readers as odd, accustomed as they were to the views of occasionalist philosophers such as Nicolas Malebranche (1638–1715). Malebranche denied not only causality *between* created substances, as Leibniz did, but also causality *within* created substances; in other words, both inter-substance and intra-substance causality. Hence Malebranche denied that a created mind can cause an effect in a body, that a body can cause an effect in a mind, that one body can cause an effect in another body, and that a mind can cause an effect in a mind. Like other occasionalists, Malebranche considered God to be the only true causal agent. So on this account, while it might seem as though I am the cause of my actions, such as moving my arms, or directing my thoughts, in fact the true cause in both cases is God. Malebranche does allow, however, that created things can be *occasional causes*, from which the doctrine of occasionalism gets its name. To illustrate what is involved, consider two billiard balls meeting at speed; according to the occasionalist, that moment the two balls meet, the moment of impact, gives God the occasion to cause the two balls to rebound in the way that we see. Their impact is not the true cause of their rebounding, but it does serve as the occasion for God to cause them to rebound. So for Malebranche there is a sense in which the collision of the balls is a cause, but it is an occasional cause rather than a true cause, with God being the only true cause. Malebranche offered a suite of arguments for the various claims of occasionalism, though Leibniz's argument for the denial of inter-substance causality, in M7, was not among them.⁵⁰

⁴⁸ See NE, p. 379.

⁴⁹ See Descartes, *The Philosophical Writings of Descartes*, I, p. 153.

⁵⁰ For details of all of Malebranche's arguments, see Steven Nadler, 'Malebranche on causation', in *The Cambridge Companion to Malebranche*, ed. Steven Nadler (Cambridge: Cambridge University Press, 2000), pp. 112–38.

One of Malebranche's arguments concerned the very nature of causality, which involved, he believed, a necessary connection between the cause and the effect. He claimed that a true cause 'is one such that the mind perceives a necessary connection between it and its effects'.⁵¹ (Hobbes and Spinoza offered similar accounts.)⁵² But according to Malebranche, such a connection is found 'only between the will of an infinitely perfect being and its effects'.⁵³ For it is impossible that God will a thing and it not happen, whereas it is possible that a created being will a thing and it not happen. The thinking here is that God is omnipotent, so when God wills to do some logically possible action X, necessarily X happens (for it would be contradictory to suppose that God wills to do X and that X doesn't happen). This tells us that God is a true cause, and we can also see that nothing else can be, for anything other than God would be a created being, and as created beings are not omnipotent, when they will to do some logically possible action X, it is not the case that necessarily X happens (for there is no contradiction in supposing that a created being wills to do X and that X doesn't happen). From this, Malebranche concludes that 'it is only God who is the true cause and who truly has the power to move bodies'.⁵⁴ Leibniz was a vocal opponent of occasionalism; while he agreed with its denial of *transeunt* or inter-substance causality, albeit for the reasons given in M7 rather than any of those offered by occasionalists, he disagreed with its denial of *immanent* or intra-substance causality, as we shall see in M10–11.

8. [Monads are not mathematical points, for these points are only extremities and the line cannot be composed of points.] Yet monads must have some qualities [and some changes], otherwise they would not be beings at all [and if simple substances were non-entities, compounds also would be reduced to nothing]. And if simple substances did not differ qualitatively, there would be no way of perceiving any change in things, since what is in the compound can only come from its simple constituents, and if monads were without different qualities they would be indistinguishable from one another, since they do not differ quantitatively either. And consequently, supposing the existence of the plenum,

⁵¹ Nicolas Malebranche, *The Search after Truth*, trans. and ed. Thomas M. Lennon and Paul J. Olscamp (Cambridge: Cambridge University Press, 1997), p. 450.

⁵² See Thomas Hobbes, *Elements of Philosophy* (London, 1656), p. 88; Spinoza, *Ethics* Ia3, in Spinoza, *Complete Works*, trans. Samuel Shirley (Indianapolis: Hackett, 2002), p. 218.

⁵³ Malebranche, *The Search after Truth*, p. 450.

⁵⁴ Malebranche, *The Search after Truth*, p. 450.

each place would always receive, in any motion, only the equivalent of what it already had, and one state of things would be indistinguishable from another.

Theodicy. Preface ****2b⁵⁵

So far Leibniz hasn't said a great deal about what monads actually *are*. He starts to rectify that here, with a pair of rather abstract arguments. The first claims that monads must have qualities, the second that monads must have different qualities. The level of abstraction is such that Leibniz does not even explain what these qualities are. In PNG2 we are told that a monad's qualities are its perceptions and its appetitions. We shall find Leibniz discussing perceptions in M14, and appetitions in M15.

In claiming that monads must have qualities Leibniz is denying that monads are (in modern parlance) *bare particulars*, that is, things with no qualities at all. A bare particular is simply a substratum, something in which qualities may inhere but which has no qualities of its own. To get a sense of what one would be, consider an object and then mentally strip away its various qualities (shape, colour, sound, texture and so on) until none of them is left. What remains (if anything does!) is a substratum, a qualityless subject.⁵⁶ Leibniz is saying that there are no such things. His point is that a bare particular would not be a being. (What does this mean? Probably no more than that it would not be thinkable, as Leibniz defines 'being' as 'that which is distinctly thinkable'.⁵⁷)

Leibniz then argues that monads must differ in their qualities, otherwise (1) compounds themselves could not be observed to change, and consequently (2) compounds could not be observed to move (supposing the existence of the plenum). In both cases the argument is presumably intended to be in the *reductio ad absurdum* vein, as it shows that something untenable follows if it is denied that monads differ in their qualities. First of all, suppose that monads did not differ qualitatively, that is, that they all had the same qualities. This would mean that they are indistinguishable, because the only other way they could be distinguished is quantitatively, but we already know from M3 that monads do not have any quantitative characteristics, like size and shape, so distinguishing them quantitatively is out of the question. Now since the qualities of compounds derive from

⁵⁵ Leibniz actually wrote 'Preface ***2b' but this would appear to be a mistake, as the material on that page does not relate to M8 at all. For an explanation of Leibniz's use of asterisks, numbers and 'a' or 'b' when referring to the preface of the *Theodicy*, see p. 162, note 2.

⁵⁶ For the classic account, see John Locke, *An Essay concerning Human Understanding* (London, 1690), book II, chapter XXIII, sections 1–2.

⁵⁷ A VI 4, p. 869.

the qualities of constituent monads, it follows that if monads are qualitatively indistinguishable then compounds would be qualitatively indistinguishable too. Further, Leibniz claims that in such a case it would not be possible to observe ‘change in things’ either, by which is presumably meant change in the constituents of compounds. For example, suppose a compound is composed of three qualitatively identical monads A, B, and C; if one of these were to be replaced by another qualitatively identical monad, say D, then there will have been a change in the constitution of the compound. Now the only way this change could be observed is if it brought about a change in the qualities of the compound, but clearly these will not have changed. Consequently there is no way of observing any change in the constitution of compounds. Since this goes against the evidence of the senses (since we perceive qualitative change in compounds), it shows that the initial supposition – that monads do not differ qualitatively – is false.

Leibniz then proceeds to show that the very same supposition leads to another untenable result, namely that if space were completely full of such indistinguishable compounds, they could not be observed to move. For if space were filled with qualitatively identical compounds then the situation would be like this:

1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1
1	1	1	1	1	1	1

(Each ‘1’ represents a compound, and each box represents a part of space.)

Now if there were to be motion, for example two adjacent compounds were to swap their current positions, how could we tell? We couldn’t. Indeed, all the compounds could be moved so that they occupy different positions, and there’s no way anyone would be able to tell. Consequently, if monads do not differ qualitatively it would not be possible to observe motion of compounds in the plenum. We can surmise that Leibniz took this to be an unacceptable result (he would not have made the argument otherwise), and as before its unacceptability shows that the initial supposition – that monads do not differ qualitatively – is false. But this time it is not quite

so obvious why the result is unacceptable. Does it go against the evidence of the senses? It is not clear that it does, for while it is uncontroversial to claim that we do perceive the motion of compounds, it is much more contentious to claim that we perceive the motion of compounds *in the plenum*. Such a claim could only be made if there were grounds to think there is a plenum, that is, that space is indeed full. Unfortunately in the argument of M8 Leibniz does not offer any such grounds; instead he treats the plenum as a supposition ('supposing the existence of the plenum'). Later in the *Monadology* Leibniz explicitly endorses the existence of the plenum (see M61), though no grounds for it are offered. This is not the case in other texts, however. In a letter to Samuel Clarke, for example, Leibniz argues that from the fact that God wishes 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:

let us fancy a space wholly empty. God could have placed some matter in it without derogating in any respect from all other things; therefore he hath actually placed some matter in that space; therefore there is no space wholly empty; therefore all is full.⁵⁸

9. It must also be that every monad is different from every other. For in nature there are never two beings which are perfectly alike, and in which it is not possible to find a difference which is internal, or based on an intrinsic denomination.

This goes further than what was said in M8. There the claim was that not all monads could be the same. Now it is that each one is different from every other; in other words, that every monad is unique. Leibniz takes this to follow from his assertion that no two things in nature are exactly alike, a principle now often referred to as the identity of indiscernibles (or sometimes Leibniz's law). The principle states that if everything that is true of A is also true of B (that is, they are indiscernible), then A and B are one and the same thing (that is, identical). To illustrate, consider the morning star and the evening star. If we were to compile two lists, one containing everything that is true of the morning star, and the other containing everything that is true of the evening star, we would discover when putting them side-by-side that the two lists are identical. And that is because the morning star *is* the evening star, that is, the planet Venus. So the indiscernibility between the morning star and evening star is due to

⁵⁸ PPL, p. 691.

their being identical. According to Leibniz's principle, *all* indiscernibles are identical.

It is sometimes suggested that Leibniz believed the principle could be supported empirically.⁵⁹ Certainly he was fond of recounting the story of a friend who tried without success to find two identical leaves:

An ingenious gentleman of my acquaintance, discoursing with me in the presence of Her Electoral Highness, the Princess Sophia, in the garden of Herrenhausen, thought he could find two leaves perfectly alike. The princess defied him to do it, and he ran all over the garden a long time to look for some; but it was to no purpose.⁶⁰

However it is by no means certain that Leibniz ever believed such failure constituted empirical support for the identity of indiscernibles. The principle itself cannot possibly follow from the failure to find two identical leaves, and although such failure would be a natural consequence of the identity of indiscernibles, that is, it is exactly what we would expect to happen if the principle were true, other explanations for it are possible (for example, insufficiently large sample size).

Although in the *Monadology* Leibniz treats the identity of indiscernibles as axiomatic, in other writings he attempts to support it via argument. For example, in 'Logical-metaphysical principles' (1689) he claims that the identity of indiscernibles follows from the principle of sufficient reason, which holds that there must be a reason why things are (or happen) thus rather than otherwise.⁶¹

there is a reason even for eternal things. If we imagine that the world has existed from eternity, and that there have been only globes in it, a reason must be given why there should be globes rather than cubes. From this it also follows that *there cannot be in nature two individual things different in number alone.* For it certainly must be possible to give a reason why they are different, which must be found in some difference in them. And so what St Thomas recognized about separate intelligences, which he said never differ in number alone, must be said about other things too; and two eggs, or two leaves or blades of grass, perfectly similar to each other, will never be found . . . And although gold and other metals, salts, and many liquids are considered as homogeneous bodies, that can be admitted only so far as our senses are concerned, and as such it is not exactly true that they are homogeneous.⁶²

⁵⁹ See for example Roger Woolhouse, *Starting with Leibniz* (London: Continuum, 2011), pp. 102–3.

⁶⁰ PPL, p. 687. Cf. NE, p. 231; LTS, p. 327.

⁶¹ For more details on the principle of sufficient reason, see M32.

⁶² SLT, p. 49.

In claiming that each monad differs from every other, Leibniz stresses that this difference is to be found in their internal qualities, or 'intrinsic denominations', a term which refers to those qualities or properties intrinsic to a thing. It is often contrasted with 'extrinsic denominations', which refers to qualities or properties extrinsic to a thing. For example, my being fair-skinned would qualify as an intrinsic denomination, as it is a property which is inherent to me, whereas my being thought by my partner to be impatient would be an extrinsic denomination as what my partner happens to think of me is not a property intrinsic to me. Extrinsic denominations are sometimes called *relational properties* because they involve a relation between the thing under consideration (in this case me) and something else (in this case my partner). According to the *Port Royal Logic*, a very influential textbook on logic from the latter half of the seventeenth century, the distinction between intrinsic and extrinsic denominations was widely employed by Scholastic philosophers:

There are some [modes] which may be termed internal, because they are conceived in the substance, like 'round' and 'square,' and others which may be called external, because they are applied to something which is not in the substance, like 'loved,' 'seen,' and 'desired,' which are names applied to actions of another. And these are what are called in the Schools *external denominations*.⁶³

10. 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.

Leibniz now assumes that monads are subject to continual change, that is, change which is incessant, without any interruption.⁶⁴ That this is an assumption is indicated by his use of the expression 'I . . . take it for

⁶³ [Antoine Arnauld and Pierre Nicole], *La logique, ou de l'art de penser*, 2nd edn (Paris, 1664), p. 57.

⁶⁴ It has been suggested that Leibniz might here mean 'continuous' (in the sense of gradual, or by degrees) rather than 'continual' (in the sense of incessant), since the French word that Leibniz uses, 'continuel', means both. See Anthony Savile, *The Routledge Philosophy Guidebook to Leibniz and the Monadology* (London: Routledge, 2000), p. 95. But while it is correct to say that the French word 'continuel' *now* can mean either 'continual' or 'continuous', in Leibniz's lifetime it only meant 'continual'; only later, long after Leibniz's death, did it also acquire the meaning of 'continuous'. Compare the entry for 'continuel' in the 1694 and 1762 editions of the *Dictionnaire de l'Académie française* with that in Jean-François Féraud's *Dictionnaire critique de la langue française* (1787–88).

granted'. Certainly the claim that monads are subject to continual change does not follow from what has been said already. Elsewhere Leibniz builds the idea of change into the very concept of substance, for example in PNG1 where he writes: '*Substance* is a being capable of action.'

The connection between substance and change was first made by Aristotle, who had claimed in the *Categories* that a distinctive mark of a substance was not just that it was the subject of properties, but the subject of different properties at different times, for example at one time Socrates is sitting, at another he is standing.⁶⁵ In other words, substances are what undergo change. In developing this idea, some of Aristotle's medieval followers came to suppose that the notions of *change* and even *activity* were built into the very concept of substance. This is the Scholastic doctrine of the *suppositum*, according to which actions belong to (that is, must be attributed to) a *suppositum*, that is, a substantial individual. So actions could not be attributed to aggregates of substances, properties of substances, or parts of substances, but only to substances themselves. This was the philosophy Leibniz had been taught at university, and we can find him adopting it in his very earliest writings,⁶⁶ as well as in later ones, such as 'On nature itself' (1698):

So far as I have made the concept of action clear to myself, I believe that there follows from it and is established by it that most widely accepted principle of philosophy – that actions belong to substances. And hence I hold it also to be true that this is a reciprocal proposition, so that not only is everything that acts an individual substance but also every individual substance acts without interruption, not excepting body itself, in which no absolute rest is ever to be found.⁶⁷

Here Leibniz moves from 'actions belong to substances' to 'every substance acts' and 'every substance acts always', but his rationale for this step is not clear. Nevertheless, the claim that substances always act is axiomatic for Leibniz.

11. It follows from what we have just said that the natural changes of monads come from an *internal principle* [that may be called active force], since an external cause would not be able to influence a monad's interior.

Theodicy §396. §400.

⁶⁵ See Aristotle, *Categories* 4a10, in *The Complete Works*, I, p. 7.

⁶⁶ For example, PPL, p. 115.

⁶⁷ PPL, p. 502.

In M10 Leibniz claimed that monads always undergo change. And in M7 he showed that a monad cannot be affected from without (that is, by anything external to it), from which it follows that any change a monad undergoes must originate from within itself. In other words, every monad contains an internal principle of change (with 'principle' here meaning 'source' or 'origin').

12. [And generally it may be said that force is nothing other than the principle of change.] But besides the principle of change, there must also be a complete specification of that which undergoes the change, which constitutes so to speak the specific determination and [variation] variety of simple substances.

We now learn that there is more to a monad than simply an internal principle of change: it also contains something which dictates what its changes will be, and when. This 'something' contains a monad's 'orders', as it were; in modern parlance, we would probably call it a script, or programme. Without it, nothing would happen; there would be the *potential* for change, but no actual change (likewise, nothing would happen to a computer that had internal power but no program to run). The principle of change in a monad thus needs to be directed if it is to have any effect at all, and Leibniz here states that it is a monad's 'complete specification' which contains the directions. He also claims that this complete specification is what individuates each monad, that is, what makes each one unique and so different from every other one. In other words, each monad has a different set of orders, its own unique programme.

In a number of logical and metaphysical writings from the 1680s, Leibniz developed the notion of a *complete concept*, which is the forerunner of the 'complete specification' described in M12. In these earlier writings, Leibniz insisted that every substance has a complete concept, that is, a set of descriptions that detail everything that will ever happen to it throughout its entire existence. To illustrate, consider the example of Judas (which is one of Leibniz's own examples). According to Leibniz, the complete concept of Judas includes his betrayal of Christ, and it always did and always will.⁶⁸ In other words, it was true of Judas that he would betray Christ not just before it happened, but before Judas was even born. The same holds for everything else that is true of Judas. Hence an inspection of Judas' complete concept would reveal in the most minute detail everything that Judas would ever do, and have done to him, and when.

⁶⁸ See PPL, p. 322.

Leibniz offers no argument in the *Monadology* for the assertion that every substance has a ‘complete specification’: it is simply asserted. However, in his earlier work, he did attempt to justify the doctrine of the complete concept (which that of the ‘complete specification’ looks to have superseded) by claiming that it follows from the nature of truth, that is, from what it is that makes a truth true. The nature of truth demands, Leibniz argued, that in all true propositions ‘the concept of the predicate is always in some way included in that of the subject’.⁶⁹ To give a simple example, in the true proposition ‘a mortal man is mortal’ the concept of the predicate ‘mortal’ is clearly included in the concept of the subject ‘a mortal man’, and this inclusion explains why the proposition is true. Leibniz supposed that all truths are ultimately like this: ‘The fact is that in every true . . . proposition . . ., the concept of the predicate is always in some way included in that of the subject, *praedicatum inest subjecto* [the predicate is included in the subject], or else I do not know what truth is.’⁷⁰ Hence the nature of truth demands that everything that is true about a subject, or substance, be contained in its concept, and that includes all of its past, present, and future predicates:

The complete or perfect concept of an individual substance contains all of its predicates, past, present and future. For certainly it is true now that a future predicate is future, and so is contained in the concept of the thing. And hence all the things that will happen to Peter or Judas, both necessary and free, are contained in the perfect individual concept of Peter or Judas.⁷¹

Moreover, Leibniz held that each individual substance is defined by its own complete concept, with each concept being so detailed as to distinguish it from every other; in other words, the complete concept picks out a specific individual substance, and every substance is unique, being distinct in some way from every other. (A ‘full concept’, on the other hand, would have much less detail, such that it could pick out abstract types of things but not concrete individuals. Hence one can have a full concept of a King, which contains all the defining features of Kings, such as the fact that they are male, that they are rulers, and so on, but which is not specific enough to pick out any individual King.)

Leibniz discussed his doctrine of complete concepts with the philosopher and theologian Antoine Arnauld in a series of letters throughout 1686–7. Arnauld initially found the doctrine horrific: in his view, in the beginning God created Adam, and if Leibniz was right about there being

⁶⁹ SLT, p. 47.

⁷⁰ SLT, p. 45.

⁷¹ SLT, p. 50.

complete concepts then Adam's complete concept included the fact that he would have so many children, and *their* complete concepts included details of the children they would have, and so on. All the people who would ever live, and all the things they would ever do and have done to them, would be fully mapped out in these complete concepts. According to Arnauld, this meant that everything that ever happens is necessary, that is, fixed and unalterable, from the very outset. This seems to leave little room for free will, for if it was true even before a person was born that they would do X and Y and so on, then they could not do X and Y freely. In his replies, Leibniz defended his position vigorously, and even managed to go some way towards assuaging Arnauld's initial concerns, but ultimately he realised from Arnauld's reaction that his doctrine was apt to be (mis)understood as dangerous. By the early 1690s, Leibniz had largely stopped referring to complete concepts, and instead started claiming that every substance had within it a 'law of progression' (sometimes referred to as a 'law of change' or 'law of the series'),⁷² which acted on it from its initial state onwards, and thus unfolded what was already contained within it virtually. It is this idea that he is alluding to in M12, albeit under a different name.

13. This complete specification must encompass a plurality within the unity or the simple. For as every natural change takes place by degrees, something changes and something remains; and consequently in the simple substance there must be a plurality of affections and relations, even though it has no parts.

Leibniz has already argued that a monad must have 'some qualities' (M8); now he goes further, arguing that a monad (the unity or simple referred to in the first sentence) must have multiple qualities (which is the plurality referred to again in the first sentence). Although it is not made explicit, what Leibniz means is that a monad must have multiple qualities at every moment of its existence. The thrust of the argument is: given that substances are in constant change (from M10), and that natural change always occurs in degrees rather than all at once, then it must follow that substances always have many qualities. To see this, suppose there is a substance which has only a single quality, which at this moment of its existence is called quality A. We already know (from M10) that as a substance it is in constant change, which must mean that in the next moment of its existence it will lose quality A and in its place gain a different quality, say quality B (for monads can never be without any qualities,

⁷² See for example PPL, p. 360, p. 500; LDV, p. 75.

as we already known from M8). Similarly, in the moment of existence which follows that, it will lose quality B and gain a different one, perhaps quality C. Since it has only a single quality, the substance can only change by losing the quality it had the instant before and gaining a different one in its place. Here, change would happen all at once. But in M13 Leibniz informs us that natural change does *not* happen all at once, but rather gradually. Clearly this is impossible for a substance with only a single quality, because it would be restricted to all-at-once changes. However, it is perfectly possible for a substance which has multiple qualities, because at each and every moment some of these qualities can stay the same while other ones change. Hence if substances do undergo constant change, and this change is gradual, then substances must have multiple qualities at any given time. Consequently, although substances are spatially simple, that is, have no parts, they are nevertheless qualitatively complex, that is, have many qualities.

The claim that natural change always takes place continuously, by degrees, is often called by Leibniz the *law of continuity*, which is often summed up as ‘nature makes no leaps’ or ‘no transition is made through a leap’.⁷³ To illustrate what is involved, think of the difference between analogue and digital clocks. An analogue clock is a clock with moving hands. As the hands move round the clock face to capture the changes in time, they do so smoothly, such that when the second hand (for instance) does a full circuit it passes continuously through all the points in the clock face: it doesn’t ‘jump’ from one point to another. The same is true of the minute and hour hands. Compare this with a digital clock, which literally jumps from one second to another (if it has a second readout), and one minute to another, that is, when it changes from 10.13 to 10.14 (for example) the readout just ‘jumps’ from one to another, and from one hour to another. In the case of nature, the law of continuity holds that all natural changes, whether from place to place, state to state, or form to form, happen in this smooth, gradual way, through all intervening points or degrees.

Leibniz often claimed to be the first to formulate the law of continuity,⁷⁴ though a clear precursor to it can be found in the work of Aristotle.⁷⁵ Leibniz describes it as an axiom of his philosophy,⁷⁶ and while he presents no formal demonstration of it, he does attempt to justify it in two different ways. First, he insists that the law of continuity is confirmed by experience, which does not furnish us with an example of a natural change occurring

⁷³ See, for example, PPL, p. 447; LDV, p. 69; SLT, p. 137.

⁷⁴ See for example SLT, p. 137; H, p. 333.

⁷⁵ Aristotle, *Metaphysics*, 1069a5–6, in *The Complete Works*, II, p. 1688.

⁷⁶ See LDV, p. 69.

by a leap; in other words, we do not see bodies disappearing from one point of space and time, and appearing at another point without having passed through all the intervening states.⁷⁷ Second, Leibniz claims that the law of continuity follows from the law (or principle) of order. This is itself a higher order, metaphysical law, which holds that '*the more things are analyzed the more they satisfy the intellect*'.⁷⁸ The law of order is thus an architectonic (architectural) principle that God applies to his creation on account of his supreme wisdom. Leibniz sometimes claimed that God is a divine geometrician who employed mathematical principles to construct the world in an orderly way,⁷⁹ and the law of continuity, via the law of order, can be seen as one result of this.

14. The passing state, which encompasses and represents a plurality within the unity (or simple substance) is nothing other than what is called *perception*, which must be distinguished from apperception, or consciousness, as will be apparent in what follows. And it is here that the Cartesians have fallen far short, as they have given no thought to perceptions which are not apperceived. This also is what made them believe that minds alone are monads and that there are no souls of beasts or other entelechies, and also led them to make the common mistake of confusing a long stupor with death, in the rigorous sense of the term, which has made them fall in with the Scholastic prejudice of souls entirely separate from bodies, and has even confirmed some twisted minds in the belief of the mortality of souls.

Leibniz starts by giving a very technical definition of perception as the representation of a plurality within the unity, which differs somewhat from how we tend to think of perceptions today, as conscious interpretations of sensory information. A representation, or expression (Leibniz uses the terms interchangeably), involves an isomorphic relationship between the thing doing the expressing and the things expressed. Hence Leibniz claims that 'One thing expresses another, in my usage, when there is a constant and regular relation between what can be said about one and about the other.'⁸⁰ A mundane example of this would be a map, the elements of which share the same order as the geographical features the map repre-

⁷⁷ See LDV, p. 71.

⁷⁸ LDV, p. 71.

⁷⁹ See for example Leibniz, *The Labyrinth of the Continuum: Writings on the Continuum Problem, 1672–1686*, trans. and ed. Richard T. W. Arthur (New Haven: Yale University Press, 2001), p. 305; PPL, pp. 305–6.

⁸⁰ PPL, p. 339.

sents. The perceptions had by substances are likewise representations, or expressions, of other substances and their aggregates; hence a substance perceives a pile of books external to it when it is in a state which encompasses a representation not just of each individual book, but also of the relation between them. Accordingly, perception involves a plurality (the various things represented) within the substance, the unity. By combining his definition of perception, the representation of a plurality within the unity, with the claim of M13, that a monad's complete specification encompasses a plurality within the unity, Leibniz is able to conclude that perceptions are the basic states of monads. In other words, not only do all monads have perceptions, but they always have them.

Leibniz then distinguishes perception from apperception. 'Apperception' is a term devised by Leibniz. He defines it in PNG4: '*apperception . . . is the consciousness or the reflective knowledge of this internal state*'; by 'internal state' Leibniz means one's perceptual state, that is, the state of representing a plurality. So apperception is the consciousness of (or reflection upon) a perception. Later (M20), Leibniz will argue that not all perceptions are apperceived, but in M15 he merely conceives that it might be this way, that is, that there might be unconscious perceptions. Indeed, he chides Descartes' followers for not even entertaining the idea of unconscious perceptions.⁸¹ On this point he could have singled out just about any other philosopher or school for criticism. The notion of unconscious mental states is often thought to begin with Leibniz, though there are traces of it in Spinoza. In any case, the idea did not catch on, and we have to wait until the mid-to-late nineteenth century before it finds any followers of note.

Leibniz then proceeds to show some of the unfortunate consequences that come from supposing that all perceptions are apperceived. The only state of the soul that the Cartesians were prepared to recognise (he claims) was consciousness, and because the Cartesians were not prepared to allow that animals were conscious, they were forced to deny that animals had souls. This, Leibniz insinuates, is the wrong result. (It should be noted that it is a bit misleading of Leibniz to say that Cartesians believed that minds alone are monads, as 'monads' is a Leibnizian term, not a Cartesian one.) In developing his complaint, Leibniz introduces the term 'entelechies', which will henceforth be used as an alternative for 'monads'. Leibniz explains what he means by the term in M18, and elaborates a little more in M48, where he explains that the Latin translation of the term is 'perfectihabiae'

⁸¹ Scholars have tended to agree that Descartes did not endorse, and in fact could not have endorsed, a theory of the unconscious. But for a contrary view, see Matthew C. Eshleman, 'The Cartesian unconscious', *History of Philosophy Quarterly* 24:3 (2007), pp. 297–315.

(perfection-havers). The term itself was coined by Aristotle, and in his philosophy means the realisation (that is, the full actualisation) of a thing's potential.

The second half of M14 prefigures claims that will be developed in greater detail later in the text. For example, his assertion against the Cartesians, that death is not the separation of soul and body will be defended in M21 and M73, and his assertion against the Scholastics, that souls never exist separate from bodies, will be defended in M72. In making these assertions, Leibniz alludes to his distinction between three grades of monad that will be elaborated in M19–M30:

(Bare) monads.

Animal souls (or brute souls).

Minds: humans and angels.

All grades of monad have perceptions, and hence represent external things. But there are big differences between the three grades, as will become clear.

15. The action of the internal principle which brings about the change or passage from one perception to another may be called *appetition*. It is true that the appetite cannot always completely reach the whole perception it aims for, but it always attains something of it, and reaches new perceptions.

Leibniz established that there must be an internal principle of change in M11. He now entitles the action of this principle the *appetite*. The appetite drives the monad from the set of perceptions it has at one moment to the set it has at the next.⁸² Although it is continually striving for a new set of perceptions, this is not necessarily a conscious striving: at the level of bare monads it is very much automatic (in much the same way that a computer script can be said to strive, automatically and unconsciously, to complete each step of a subroutine). Moreover, such striving would not be random, since there is a clear hint here of *directedness*. This is true also of the appetites of animal souls and minds: Leibniz refers to the appetite of animal souls as 'passion', and to the appetite of minds as 'will'. Passions are sensible inclinations, that is, ones that are *felt*.⁸³ Hunger and thirst would be everyday examples of passions, and of course are ones that are experienced

⁸² See LTS, p. 316.

⁸³ See NE, p. 194.

by minds as well as by animal souls. But minds also have what Leibniz calls 'distinct inclinations', that is, ones which involve a conscious striving for an end supplied by reason.⁸⁴ These appetites Leibniz refers to as the '*will* where the perception is an intellectual judgement'.⁸⁵

16. We ourselves experience a plurality within a simple substance when we find that the least thought which we apperceive encompasses a variety in its object. So all those who acknowledge that the soul is a simple substance must acknowledge this plurality within the monad, and Mr Bayle ought not to have found the difficulty in it which he did in his *Dictionary* article 'Rorarius'.

Leibniz now gives us an everyday example of a simple substance encompassing a plurality, namely our own thoughts. Every single one of our thoughts involves a variety of things (a plurality), and exists in our soul, which Leibniz insinuates is a simple substance (and hence a unity). It should be noted that in offering this example Leibniz's aim is not to establish that the soul is a simple substance (though of course he thinks that it is), but rather the more modest one of showing that the idea of plurality-in-unity is perfectly intelligible. Obviously the example will only persuade those who are prepared to accept that the soul is simple, though the vast majority of Leibniz's contemporaries would have granted him this.

Leibniz felt the need to show the intelligibility of plurality-in-unity because of an objection raised by one of his chief intellectual opponents, Pierre Bayle (1647–1706). In his sprawling *Dictionnaire historique et critique* (*Historical and Critical Dictionary*) (1697), Bayle included an article on 'Rorarius', a sixteenth-century thinker who claimed that animals had reason; in note H of that article, Bayle discussed some of Leibniz's doctrines and made a number of criticisms. The last of them concerns Leibniz's claim that unities can be the source of their own changes in much the same way that a clock, once wound up, is the source of its own changes. Bayle's objection goes as follows:

It is inconceivable how they [all souls] can be compared to clocks, that is, how by their original constitution they can diversify their operations by making use of the spontaneous activity that they receive from their Creator. It is clearly conceivable that a simple being will always act uniformly if not hindered by some external cause. If it were composed of several parts, like a machine, it

⁸⁴ NE, p. 194. Elsewhere, Leibniz calls the will 'the distinct appetite', and contrasts it with the 'confused and inapperceivable appetites'. G VII, p. 510.

⁸⁵ See 'Appendix on Monads' (p. 278).

Leibniz's Monadology

would act diversely because the particular activity of each piece might change the course of that of the others at any moment. But in a unified substance, where can you find the cause of the change of its operation?⁸⁶

In his response, Leibniz conceded that a simple being would always act in the same way unless there was some internal diversity that led it to change. Thus to Bayle he insisted that the plurality of perceptions in the unity had the same effect as does a plurality of parts in a machine, that is, preceding perceptions influence succeeding ones in a unity much like the preceding motion of parts influences the succeeding motion of parts in a machine.⁸⁷ Leibniz seems to have supposed that, in making his objection, Bayle had simply overlooked the fact that there could be plurality in unities. Perhaps because of Bayle's objection, in later writings Leibniz sought various ways to make the idea of plurality-in-unity intelligible. Often he resorted to a mathematical analogy:

It will be asked how the composite can be represented in the simple, or the multitude in unity. I answer that it is somewhat like when an infinity of radii converge and form angles in the center, simple and indivisible though it is.⁸⁸

17. Moreover, 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. Moreover, this is the only thing that can be found in the simple substance, that is, perceptions and their changes. It is also in this alone that all the *internal actions* of simple substances can consist.

The argument detailed here is often referred to as 'Leibniz's Mill', or the mill argument. Leibniz deploys it in various texts,⁸⁹ though the version here is probably the most well-known. The argument is designed to show

⁸⁶ Pierre Bayle, *Dictionnaire historique et critique* (Rotterdam, 1702, 2nd edn), p. 2608 (article 'Rorarius', note H). English translation from Pierre Bayle, *Historical and Critical Dictionary*, trans. and ed. Richard H. Popkin (Indianapolis: Hackett, 1991), p. 239.

⁸⁷ See LNS, p. 84.

⁸⁸ LTS, p. 346, cf. p. 141.

⁸⁹ For example, LTS, p. 259, cf. p. 266; LNS, pp. 129–30; NE, pp. 66–7; SLT, pp. 63–4.

that perception cannot be explained mechanically, that is, that its origin cannot be in a material thing, and therefore must lie in simple substances. But how the argument is supposed to work is a matter of debate.

One way of construing Leibniz's Mill is as an argument about the nature of perception.⁹⁰ In essence, the argument would go like this:

Premise 1. Perception is the representation of the multitude in the unity.

Premise 2. Material things are not unities.

Conclusion. Therefore perception does not occur in material things.

If this is the argument Leibniz is making then clearly it is not all contained in M17, as the first premise is to be found in M14: there we were informed that perception is the representation of the multitude in the unity, which means that, *by definition*, perception can occur only in a unity. What Leibniz adds to this in M17 is the claim that, in material things, there is *in principle* no unity to be found, because material things consist of parts upon parts (and of course we know from M1 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: in a simple substance.

A second way of construing Leibniz's Mill is as an inexplicability argument for the immateriality of perception.⁹¹ This understanding of the argument runs as follows:

Premise 1. There is no conceivable mechanical explanation for how material things could perceive.

Premise 2. If there is no conceivable mechanical explanation for how material things could perceive, then material things could not perceive.

Conclusion. Material things could not perceive.

If this is the argument Leibniz wants to make in M17, it is perhaps surprising that he says nothing at all there about conceivability. In spite of this,

⁹⁰ Paul Lodge and Marc Bobro construe Leibniz's Mill argument this way; see their 'Stepping back inside Leibniz's mill', *The Monist* 81:4 (1998), p. 564.

⁹¹ One who construes Leibniz's Mill argument this way is Stewart Duncan; see his 'Leibniz's mill arguments against materialism', *Philosophical Quarterly* 62:247 (2012), p. 268.

many contemporary philosophers have construed Leibniz's Mill as an inexplicability argument, and as such it is still the subject of debates in the philosophy of mind.⁹²

Of course, while the only material thing Leibniz mentions in M17 is a mill, what he really has in mind is the brain, and the human brain in particular.⁹³ The argument, whether conceived in terms of perception or inexplicability, effectively invites us to suppose the human brain enlarged to the point where we are able to stroll around inside it and inspect its materials and workings, as we could with a mill.

Having established through the mill argument that perception is not to be found in material things, only in simple substances, Leibniz continues to claim that perceptions and their changes are all that there is to be found in simple substances. Although no reason is given for this claim, it follows from it that whatever activity there is in simple substances must involve the change from one set of perceptions to another.

18. The name 'entelechies' could be given to all simple substances, or created monads, for they have in themselves a certain perfection (ἔχουσι τὸ ἐντελέες). There is a self-sufficiency (αὐτάρχεια) which makes them the sources of their internal actions and incorporeal automata, so to speak.

Theodicy §87.

Leibniz's claim that monads have 'a certain perfection' is significant, and will arise again in the *Monadology*, but he will not formally define the term until M41. Here he insinuates that self-sufficiency is this perfection. That monads are self-sufficient is known from M11, which established that each monad is the source of its own changes. This self-sufficiency means that monads are bearers of perfection, which in turn means that they can be called 'entelechies', since 'entelechy' derives from the Greek word for perfection, 'enteles' (as Leibniz notes in T87).

Self-sufficiency is an important concept in the context of substance. Aristotle thought of substances as those things which were most truly

⁹² See for example John Searle, *Intentionality* (Cambridge: Cambridge University Press, 1983), p. 268; Charles Landesman, *Leibniz's Mill* (Notre Dame: University of Notre Dame Press, 2011), pp. 20–8. A third interpretation of the argument construes it as claiming that thoughts and perceptions are not observable in material things, and therefore must belong to a different order of reality. See Paul M. Churchland, *The Engine of Reason, The Seat of The Soul* (Cambridge, MA: MIT Press, 1996), pp. 191–2.

⁹³ This is clearer in other formulations of the argument, such as that in LTS, p. 259, where Leibniz explicitly mentions the brain.

real, and so did not depend for their existence on other things. Leibniz is clearly recalling that idea here, though he is thinking of self-sufficiency in a different way. For him, monads are self-sufficient not because they do not depend on anything else for their existence (for in fact they do: they depend on God, as he intimates in M40), but because they do not depend on anything else for the changes in their internal states. In this sense, they are independent of all other things. However, later on (M51) Leibniz will claim that there is a sense in which some monads are dependent on other ones, though it does not conflict with what he has said here.

Leibniz's description of monads as 'incorporeal automata' perfectly captures his notion of self-sufficiency. An automaton is literally a self-moving machine. An example of a corporeal automaton would be a robot or clockwork watch, both corporeal things which contain the source of their own actions. Similarly, every monad is an incorporeal thing which contains the source of its own actions, that is, the changes in its perceptual states.

19. If we wish to call 'soul' everything which has *perceptions* and *appetites* in the general sense I have just explained, all simple substances or created monads could be called souls. But as sensation is something more than a simple perception, I hold that the general name of 'monads' and 'entelechies' is sufficient for simple substances which only have perceptions, and that only those whose perception is more distinct and is accompanied by memory should be called *souls*.

Leibniz now develops a distinction first alluded to in M14, between souls on the one hand, and entelechies or monads on the other. In some writings, he seems to treat 'soul' and 'monad' as interchangeable terms,⁹⁴ but in the *Monadology* he seeks to treat souls as a subset of monads. So we have (at the moment) two kinds of monad – one kind just has simple perceptions, while the other has more distinct perceptions and memory. It is the former that Leibniz refers to here as entelechies (he will go on to call them 'bare monads' in M24). Here he tells us that he wishes to reserve the term 'soul' for the latter kind.

20. For we experience within ourselves a state in which we remember nothing and have no distinct perception, such as when we faint, or when we are overcome by a deep, dreamless sleep. In this state the soul does not appreciably differ from a simple monad, but as this state

⁹⁴ For example, NE, p. 145.

does not last, and as the soul emerges from it, the soul is something more.

Theodicy §64.

The claim that there are unconscious perceptions, made in M14, stands in need of defending, and Leibniz finds support for it through the familiar examples of fainting fits and sleep. Bear in mind that in the preceding sections of the *Monadology*, Leibniz has shown that all monads always have perceptions. Yet in the case of our own souls, which are themselves monads, we know there to be occasions when there were no distinct perceptions: fainting fits and sleep are just such occasions. Now if our souls always have perceptions, but there are times when they do not have distinct perceptions, then it must be the case that some perceptions are not distinct. Leibniz claims that this is all bare monads have. Hence their perceptions are akin to ours when we have fainted or are asleep. But bare monads are capable of nothing more, whereas souls (a category which includes us) are: souls have the potential to recover from this state, which is clear enough from our own experience.

Leibniz's use of 'distinct perception' in M20 is different from that in M19. There, distinctness was used as a relative term, to make the point that some perceptions are more distinct than others. But in M20, distinctness looks to be something more absolute, in that some perceptions just do qualify as 'distinct' (which would be true even if there are others that are more or less distinct than they are). What, then, is a 'distinct perception'? In an early writing from the 1670s, Leibniz explains:

We perceive distinctly that whose parts or attributes we perceive as pertaining to it, for example, when a man is before us, we perceive his face, and at the same time we think that the face pertains to this man. Otherwise, when we cast our eyes into a crowd, we perceive individual men and the faces of the individuals turned toward us, but we do so confusedly. And when we hear a far-off sound of rushing water, we hear the noise of a great many waves, for there is no reason why we should hear the sound of one rather than that of another; and if we did not hear the sound of any, we would not hear anything; but this perception is confused.⁹⁵

Hence if a perception is distinct, it is possible to identify the elements of it. A confused perception, on the other hand, is one in which the elements are not separately identifiable.

⁹⁵ A VI 4, p. 58: <http://www.leibniz-translations.com/perception.htm>

21. And it in no way follows that the simple substance is without any perception when in that state. That is not even possible, for the aforementioned reasons; for it cannot perish, nor can it subsist without some affection, which is nothing other than its perception. But when there are a vast number of little perceptions in which there is nothing distinct, we are stupefied, as happens when we continuously spin around in the same direction several times: this makes us dizzy, which can make us faint and prevent us from distinguishing anything at all. And death can put animals into this state for a time.

Here Leibniz starts by repeating some claims already made, that a monad cannot perish (M4), that it must have some qualities to exist at all (M8), and that these qualities are called perceptions (M14); taken together, they entail that monads always have perceptions. So there must still be perceptions even when we might think that there aren't any, such as when a monad is asleep, or in a swoon.

In M20, Leibniz showed that there could be unconscious perceptions, that is, perceptions that are not apperceived. These are now given the name 'little perceptions'. Strictly speaking, a 'little perception' is a perception that cannot be distinguished. This may be because it is intrinsically faint, that is, lacking in intensity, or because it occurs alongside a large number of very similar perceptions from which it cannot be separated out.⁹⁶ To illustrate the point, Leibniz often uses the example of the noise of the sea: in this case, each individual wave produces a perception in us, but these perceptions are too similar to each other for us to be able to distinguish any one, that is, to pick out the sound of one specific wave.⁹⁷ From the fact that little perceptions cannot be distinguished, Leibniz supposes that they must lie below the threshold of consciousness, as to be conscious we have to be conscious *of something*, and that means we have to be able to distinguish that thing from other things. So a perception which cannot be so distinguished is one of which we have no conscious awareness.

Leibniz then notes that there are occasions when we cannot distinguish anything at all, such as when we faint. On such occasions, *all* of our perceptions are little perceptions, that is, ones of which we have no conscious awareness. He then asserts that this is what happens in death. This may seem highly presumptuous, but bear in mind what Leibniz has just shown: a monad cannot perish (M4), so what we think of as death cannot be a true end of the monad, and since a monad always has perceptions (M21), it must continue to have perceptions even in the state of death. However,

⁹⁶ See NE, p. 53.

⁹⁷ See NE, p. 54; LTS, p. 272.

the only perceptions it has in death are little perceptions, so it is not consciously aware of them. In line with this, Leibniz often refers to death as a sleep,⁹⁸ and of course such a claim is not uncommon in the Christian tradition to which Leibniz belonged: Jesus is said to have described a dead person as asleep.⁹⁹ The final sentence of M21 – ‘death can put animals into this state for a time’ – seems to imply that death is a state *from which animals can recover*. In fact this is precisely what Leibniz holds, as we shall see (M73). It is worth noting that Leibniz uses the term ‘animals’ quite broadly to include both rational animals, a category which includes humans, and non-rational animals, a category which covers the rest of the animal kingdom (see PNG5). Following the conventions of his day, Leibniz typically referred to non-rational animals as ‘beasts’ or ‘brutes’. The claim that human beings would recover from death would not have struck Leibniz’s readers as problematic (as his readers largely belonged to the Christian tradition, which holds that God will one day bring all human beings back to life), but the claim that non-human animals would also recover from death was much more controversial.

22. And as every present state of a simple substance is naturally a consequence of its preceding state, in such a way that its present state is big with the future. . .

Theodicy §360.

23. therefore, since we apperceive our perceptions when we come around from our stupor, it must be the case that we had perceptions immediately beforehand, although we did not apperceive them; for a perception cannot arise naturally except from another perception, just as one motion can only arise naturally from another motion.

Theodicy §401–3.

M22 and M23 together constitute a further argument for unconscious perceptions, to supplement the one given in M20.

Leibniz often claimed of substances that the present is pregnant with the future, even going so far as to say that ‘it is in the very nature of substance that the present is pregnant with the future’.¹⁰⁰ In the *Monadology*,

⁹⁸ For example, ‘death . . . is only a sleep, that is, a state in which perceptions are more confused’. LTS, p. 348.

⁹⁹ See Matthew 9.24, Mark 5.39, and Luke 8.52.

¹⁰⁰ LDB, p. 349.

the claim is founded upon two earlier findings, namely that each monad contains its own complete specification of changes (M12), and that monads are causally independent of each other (M7). Taken together, they entail that each state of a monad is completely determined by the state immediately preceding it, and in turn completely determines what the next state will be. So the details of a monad's future states exist within it virtually even before the monad reaches those states, such that the details could in principle be 'read off' of the monad in the same way that a physicist could in principle deduce future states of a closed system by analysing the present state of its parts and the laws to which they are subject. For the purposes of the argument in M22 and M23, it is important to remember that each state of a monad consists of perceptions. This is true even when the monad is in a stupor; as we know from M21, monads continue to have perceptions even when stupefied. This is significant, because it means that when a monad comes around from a stupor it is not starting to have perceptions again, as its sequence of perceptions was never interrupted by the stupor in the first place, but that it starts being conscious of its perceptions again. And it follows that the first conscious perception it experiences upon waking up must have been caused by a preceding perception (because there is nothing else inside the monad that could have caused it, and nothing outside the monad could have done so either); and since that latter perception wasn't conscious (because the monad was then in a stupor), it must have been unconscious. Therefore there are such things as unconscious perceptions.

The concluding part of M23 can be read as Leibniz's response to a hypothetical objection. An opponent may resist Leibniz's argument for unconscious perceptions by telling a different story of what happens when someone comes around from a stupor. The story would go something like this: a person, consisting of a body and a soul, does not have any perceptions at all when in a stupor, and what happens when awaking is that particular motions in the person's body or brain cause the person's soul to start having perceptions again. If this account is accepted, then there would be no need to accept Leibniz's argument for unconscious perceptions. Leibniz's response is to show that this account cannot be accepted because it violates the principle of causal likeness (an expression Leibniz himself does not use), which holds that 'like causes like', or 'like can only be caused by like'. This principle was popular among the Scholastics, and was often assumed to be true by early modern philosophers as well.¹⁰¹ According to this principle, motion causes motion, and perception causes

¹⁰¹ See Richard Watson, *The Breakdown of Cartesian Metaphysics* (New Jersey: Humanities Press International, 1987), pp. 50–1.

perception, but there can be no causality across different categories; so for example, motion cannot cause perception, and perception cannot cause motion. Consequently, a present perception (such as that of someone who has just woken up from a stupor) must have been caused by a previous perception, and could not have been caused by motion in the body or brain, as the opponent's account supposes.

24. From this it is clear that if we had nothing in our perceptions which was distinct and which stood out, so to speak, and which was of a sharper flavour, we would always be in a stupor. And this is the state of bare monads.

Here Leibniz revisits claims already made, namely that if we had no distinct perceptions then we would be stupefied (M21), and that this is the state of bare monads, which have no distinct perceptions (M20). Leibniz has now effectively defined a state of unconsciousness as one in which a monad has only little perceptions, that is, no distinct ones.

25. We see also that nature has given heightened perceptions to animals from the care she has taken to furnish them with organs which gather together a number of light rays or air waves in order to make them have a greater effect through their union. There is something similar in smell, taste, and touch, and perhaps in many other senses which are unknown to us. I will shortly explain how what occurs in the soul represents what occurs in the organs.

Having devoted much of M19–24 to outlining bare monads, Leibniz now turns his attention to animals (a term which covers beasts and humans), and begins to elucidate the capacities of their souls, with the aim of showing that they must be more than bare monads. He has already stated in M19 that the perceptions of animal souls are 'more distinct' than those of bare monads, and now he finds *a posteriori* support for the claim in the fact that animals are endowed with sense organs. On the basis that it is the job of these organs to collect detailed sensory information, it is reasonable to suppose that animals experience heightened perceptions, that is, what Leibniz elsewhere in the *Monadology* refers to as 'distinct perceptions'. Note that these distinct perceptions are not equivalent to 'sensations' for Leibniz, as sensation involves something more. As he explains in another work, 'sensation is perception that involves something distinct and is joined with atten-

tion and memory'.¹⁰² Leibniz has already affirmed that animal souls have distinct perceptions, and in M26 he will claim that they have memory too. Consequently we can say that animal souls have sensation.

In M25 Leibniz supposes that if there are other kinds of sense organ then they will function in much the same way as do our five senses, by collecting relevant data so as to produce a heightened perception. Leibniz's willingness to consider the possibility that there may be other senses beyond the five of sight, hearing, smell, taste, and touch, seems quite foresighted now. After all, we know that birds can perceive ultraviolet light, that bats navigate via echolocation, and that catfish and sharks have an 'electrical sense' often referred to as electroreception, which is the ability to perceive or detect electricity. Leibniz did not know any of this, however; he just speculatively allows for its possibility. This would not have struck his contemporaries as especially odd. Indeed, speculation that there may be more than five senses was one often raised in the context of scepticism, to underscore the point that our knowledge of the world may be incomplete. The classic discussion is to be found in Michel de Montaigne's *An Apology for Raymond Sebond* (1568):

Now, on the subject of the senses, my first point is that I doubt that Man is provided with all the natural senses. I note that several creatures live full, complete lives without sight; others, without hearing. Who can tell whether we, also, lack one, two, three or more senses? If we do lack any, our reason cannot even discover that we do so. Our senses are privileged to be the ultimate frontiers of our perception: beyond them there is nothing which could serve to reveal the existence of the senses we lack . . . We may all lack some sense or other; because of that defect, most of the features of objects may be concealed from us. How can we know that the difficulties we have in understanding many of the works of Nature do not derive from this, or that several of the actions of animals which exceed our powers of understanding are produced by a sense-faculty which we do not possess?¹⁰³

Montaigne in turn was probably influenced by Sextus Empiricus (c. 160–210 CE), a sceptical philosopher from ancient Greece, who similarly argued that there may be extra senses that we lack.¹⁰⁴ Although Leibniz

¹⁰² SLT, p. 65.

¹⁰³ Michel de Montaigne, *An Apology for Raymond Sebond*, trans. and ed. M. A. Screech (London: Penguin, 1987), pp. 171–2.

¹⁰⁴ Sextus wrote: 'That the apple may have more qualities than those apparent to us we deduce as follows. Let us conceive of someone who from birth has touch, smell and taste, but who hears and sees nothing. He will suppose that there is absolutely nothing visible or audible, and that there exist only those three kinds of quality which he is able to grasp. So it is possible that we too, having only the five senses, grasp from among the

is likewise willing to entertain the possibility of extra senses, his doing so should not be taken as evidence of a sceptical agenda. He is merely wishing to claim that all senses serve to produce heightened perceptions in the animal which has them, and this will hold good even if there turn out to be more senses than the five that are commonly accepted.

M25 ends with a promissory note about the connection between soul and body, which will be redeemed in M61–2.

26. Memory provides souls with a kind of *ability to make connections*, which imitates reason but must be distinguished from it. We see that when animals have a perception of something which strikes them, and they have had a similar perception previously, they come to expect – by the representation of their memory – what was connected to this previous perception, and are led to feelings similar to those they had before. For example, when dogs are shown a stick, they remember the pain it has caused them in the past, and yelp and run away.

Leibniz continues his elucidation of the capacities of animal souls, this time via a *posteriori* observation of animal behaviour. Such observation suggests that animals are capable of making empirical inferences, that is, they are able to form connections between different perceptions based on their own experiences. This is sometimes referred to as the principle of association, though Leibniz does not use that description. The example of dogs is a good illustration of the principle, as it involves the dogs associating a past experience (the pain of being beaten with a stick) with a present one (being shown a stick).¹⁰⁵ The principle of association is thus

qualities of the apple only those we are capable of grasping, although other qualities can exist, impressing other sense-organs in which we have no share, so that we do not grasp the objects perceptible by them'. Sextus Empiricus, *Outlines of Scepticism*, trans. and ed. Julia Annas and Jonathan Barnes (Cambridge: Cambridge University Press, 2000), pp. 26–7.

¹⁰⁵ The example of a dog shying away from a stick with which it has previously been beaten was a stock one in early modern philosophy. It appeared often in the context of the so-called beast-machine debate, that is, the debate about whether animals have souls, as the example was thought by some to show that dogs have higher-order mental functions, and therefore souls, while others took it to be evidence of mechanistic behaviour. See for example Jacques Rohault, *Entretiens sur la philosophie* (Paris, 1671), p. 156; Bayle, *Dictionnaire historique et critique*, III, p. 2599/*Historical and Critical Dictionary: Selections*, p. 215; Christian Wolff, *Psychologia rationalis*, new edn (Verona, 1737), p. 380. Leibniz himself employed it in many writings, each time as an illustration of the claim that beasts act as empiricists. See for example NE, p. 143; SLT, p. 66; and PNG5. The constant recycling of the same example makes it quite possible that neither Leibniz,

a kind of inductive reasoning. Induction involves drawing conclusions about unknown cases from known cases, for example, about future cases from past ones. Leibniz does not think that it constitutes true reasoning, as it merely amounts to an *expectation* that what has happened before will happen again.¹⁰⁶ However, because induction involves making inferences (from past to future) Leibniz concedes that it does in some way resemble reason,¹⁰⁷ and on that basis he is even prepared to call it ‘the shadow of reason’.¹⁰⁸

Moreover, the fact that animals are able to act on the basis of past experiences indicates that they are able to recall this experience in some way, and hence that they are endowed with *memory*. Leibniz suggested that animal souls have memory in M19; now he has evidence for the claim.

27. And a vivid imagination, which strikes and stirs them, arises either from the magnitude or from the number of the preceding perceptions. For often a vivid impression has all at once the same effect as a long-formed *habit*, or as the repetition of many moderate perceptions.

In order to account for the ability of animals to act on past experiences (affirmed in M26), Leibniz now appeals to the *imagination*, which reproduces (in a much fainter form) previously experienced perceptions. Leibniz claims (presumably on the basis of experience or observation, though he doesn’t say) that the stronger or more frequent the original perceptions, the more firmly the associations between them will be made in the animal’s imagination.

28. Men act like beasts insofar as the sequences of their perceptions arise only through the principle of memory, like empirical physicians who have just practice without theory. And we are nothing but empiricists in three-quarters of our actions. For example, when we expect that there will be daylight tomorrow, we act as empiricists, because until now it has always happened that way. It is only the astronomer who draws this conclusion rationally.

Preliminary discourse §65.

nor most (if not all) of those who used it, had actually seen a dog cowering from a stick with which it had formerly been beaten.

¹⁰⁶ See NE, p. 50; LTS, p. 363; SLT, p. 66.

¹⁰⁷ For example, H, p. 109.

¹⁰⁸ NE, p. 475.

Leibniz has already established that acting in accordance with memory is characteristic of beasts (M26); here he draws the natural corollary that when humans act that way, they act as beasts do, that is, as empiricists. His subsequent claim that men are empiricists three-quarters of the time is presumably an informed guess based on observations and personal experiences.¹⁰⁹ It is hard to imagine that Leibniz intended the example at the end of the section to support his contention that humans act as empiricists three-quarters of the time, because it quite clearly doesn't support that contention at all. Nevertheless it is a good example of a matter in which the vast majority of humans act as empiricists, because most of us merely *expect* the sun to rise tomorrow on the basis of past experience rather than *know* (on the basis of astronomical theory) why it will. It is in this that Leibniz thinks the astronomer differs from the common man: while the former uses theoretical principles to establish why the sun rises every day, the latter just expects it to happen on the basis that it has happened every day before. The astronomer can thus explain the movement of the sun by its causes, that is, *a priori*.

Leibniz's first example of human empiricists, namely 'empirical physicians', is a reference to the Alexandrian (Empiric) School of Medicine in ancient Greece, dating from the third century BCE. The School famously eschewed theory in favour of experience, for example because such an approach was held to be more in keeping with the origins of medicine, which had begun by observing which actions had which effects on the ill. The School also believed that what mattered was what worked (not *why* it worked), and one only needed experience to discover that.

29. But it is the knowledge of necessary and eternal truths which distinguishes us from simple animals, and gives us *reason* and the sciences, by raising us to knowledge of ourselves and God. And this is what is called in us the rational soul or *mind*.

Leibniz's suggestion that humans are distinguished from animals by the possession of reason is a conventional one, going back at least as far as Aristotle. Its long history and broad popularity meant that Leibniz would not have felt any need to justify it.

The faculty of reason was often called (by Leibniz and others) the 'internal light', or the 'natural light', or the 'natural light of reason'.

¹⁰⁹ The claim is repeated in PNG5, but again without any supporting evidence. In other writings, Leibniz simply states that empirical inferences are common to humans and beasts; for example, SLT, p. 66.

Leibniz defined reason as ‘the linking together of truths, but especially . . . of those whereto the human mind can attain naturally without being aided by the light of faith’.¹¹⁰ There are two distinct abilities referred to here. The first is what we would now call ‘discursive reason’: this is the ability to work logically, see connections, make inferences, arrive at conclusions, and so on. The second alludes to the idea that there are a set of truths that fall under the domain of the faculty of reason. In other words, a set of truths that this faculty can access and pronounce upon, but no other faculty can. These are the necessary truths (sometimes called the eternal truths or universal truths). Leibniz’s thinking on the latter is as follows:¹¹¹ there are certain truths we know to be necessary, such as the truths of arithmetic and geometry. In other words, we *know* that (to give two examples) it is necessary that $2 + 2 = 4$, and that the sum of a triangle’s internal angles is 180 degrees. How do we know these to be necessary? It cannot be through sense experience, as the senses can only inform us of what is true at a particular place or particular time. Hence the senses furnish us only with a number of examples of two things being added to two things and totalling four things. But nothing in these examples tells us that ‘ $2 + 2 = 4$ ’ is a necessary truth, one that is true in all times and at all places and could not possibly be otherwise. Yet according to Leibniz we do know that this is necessary, and we know it via the faculty of *reason*. Somehow reason ‘sees’ beyond the world of sense; it reaches into the realm of necessary truths, as it were (the visual metaphor is apt: reason is after all the natural *light*, which literally illuminates necessary truths, makes them visible to us). So reason delivers up necessary truths which otherwise we wouldn’t be able to know. The idea that reason is a faculty that gives us direct access to truths that we would not otherwise be able to know goes back to Plato, who thought that reason enables us to access the Intelligible World of Forms.

30. It is also through the knowledge of necessary truths and their abstractions that we are raised to *reflexive acts*, which make us think of what is called the *self*, and consider that this or that is within us. And it is thus that 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. And these reflexive acts provide the main objects of our reasonings.

Theodicy. Preface *4a

¹¹⁰ H, p. 73.

¹¹¹ See for example LTS, pp. 199–200.

Here Leibniz claims that our knowledge of necessary truths, and the abstractions they involve, leads us to acts of self-reflection, acts which in turn furnish us with ideas that we then use in our reasonings. To get a better understanding of his thinking, first recall what was said about our knowledge of necessary truths in the remarks on M29, namely that we know certain necessary truths, such as those of mathematics, but we do not know them through experience, which can only inform us of what is true at particular times and places, but rather through reason. Or as Leibniz puts it in a text from 1702:

For since the senses and inductions could never teach us truths that are entirely universal, nor what is absolutely necessary, but only what is, and what is found in particular examples, and since we nevertheless do know some necessary and universal truths of the sciences, a matter in which we are privileged over the beasts, it follows that we have derived these truths in part from what is inside us.¹¹²

It would seem to follow that if we were to reflect on these necessary truths, and then on how we know them to be necessary, we would be led back to ourselves, that is, to the faculty of reason itself and the self to which it belongs. In this way, reflection on necessary truths naturally leads to self-reflection, and Leibniz insists that this in turn furnishes us with new ideas about which we can reason: 'intellectual ideas, or ideas of reflection, are drawn from our mind. I would like to know how we could have the idea of *being* if we did not, as beings ourselves, find being within us.'¹¹³ In claiming that self-reflection provides us with such ideas, described in M30 as the main objects of our reasonings, Leibniz is alluding to his doctrine of *innate ideas*, which holds that there are ideas that are, as it were, integral parts of our very selves, and can be extracted by reflection on our selves, our faculties, and our actions. This runs counter to the empiricist principle held by many Scholastics that 'there is nothing in the understanding which was not previously in the senses', in other words, that all the materials for our thoughts and reasonings come from the senses. Leibniz revised this principle to read 'there is nothing in the understanding which was not in the senses except the understanding itself'.¹¹⁴ In other words, the understanding has more to work with than just the data provided by the senses – it can also think of itself, its actions, and the subject to which it belongs. Leibniz held that by reflection upon these we could derive key metaphysical notions, such as substance, being, one, same,

¹¹² LTS, p. 244.

¹¹³ See NE, pp. 85–6.

¹¹⁴ For example, LTS, p. 284; NE, p. 111.

cause, perception, reasoning, duration, change, action, pleasure and so on. Hence:

This thought *of myself*, who is aware of sensible objects and of my own action which results from it, adds something to the objects of the senses. To think of some color and to consider that one thinks about it are two very different thoughts, as much as color itself differs from the self who thinks about it. And as I conceive that other beings are also entitled to say ‘I,’ or that it could be said on their behalf, I thereby conceive what is called *substance* in general, and it is also the consideration of myself that provides me with other *metaphysical notions*, such as cause, effect, action, similarity, etc., and even those of *logic* and *ethics*. So it can be said that there is nothing in the understanding that did not come from the senses except the understanding itself, or the one who understands.¹¹⁵

It is contrary to experience that we are not substances, although we may actually have no acquaintance with substance, except from an innermost experiences of ourselves, although we perceive the ‘I,’ and by that example we may grant the name of substance to God himself and to other monads.¹¹⁶

In addition to sense experience or sense perception, then, we are also capable of a kind of inner experience or internal perception, that is, self-reflection. And it is through these acts of self-reflection, that is, reflection on what one is, does, and is capable of, that we can derive key metaphysical notions which then serve as material for our reasonings, for example our reasonings about substances and about God.¹¹⁷ Although Leibniz calls these notions *innate*, this does not mean that we are born knowing them. Rather, because their source is one’s own self, which exists from the moment of birth onwards (and indeed, from the moment of creation onwards), the notions are always in us virtually, that is, potentially, waiting to be discovered, once we start looking inwards.

Given the importance of ‘substance’ in the *Monadology*, 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. This spares him from having to defend the usefulness of the notion, and from having to justify his identification of ourselves, God, and other monads as substances.

31. Our reasonings are based on *two great principles*: first, the *principle of contradiction*, in virtue of which we judge false that which includes a

¹¹⁵ LTS, p. 240.

¹¹⁶ TI, p. 558.

¹¹⁷ As Leibniz says in the *New Essays*, ‘quite often “a consideration of the nature of things” is nothing but the knowledge of the nature of our mind’. NE, p. 84.

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contradiction, and *true* that which is opposed or contradictory to the false;

Theodicy §44. §169.

Having established that reason separates minds from other (animal) souls, Leibniz now proceeds to show what it involves. The principle of contradiction outlined here is intended to be an axiom, as indeed is the principle of sufficient reason outlined in M32. Leibniz often identified the principles of contradiction and sufficient reason as the cornerstones of our thinking.

What Leibniz here terms the principle of contradiction is in fact two principles rather than just one. The first principle is: a thing cannot be and not be at the same time; in other words, 'A is not-A' is false. So if one were to say 'This square is not square' then that would be false, and it would be false because the claim contains a clear contradiction. The second principle mentioned by Leibniz is: that which is not false is true. This is what we would now call the law of excluded middle. Leibniz often ran the two principles together under the heading of the 'principle of contradiction'. Nowhere is this clearer than in the *New Essays*:

Stated generally, the principle of contradiction is: *a proposition is either true or false*. This contains two assertions: first, that truth and falsity are incompatible in a single proposition, i.e. that *a proposition cannot be both true and false at once*; and second, that the contradictories or negations of the true and the false are not compatible, i.e. that there is nothing intermediate between the true and the false, or better that *it cannot happen that a proposition is neither true nor false*.¹¹⁸

Leibniz sometimes claimed that the principle of contradiction amounted to the principle of identity, which states that 'A is A'. Hence to one correspondent he wrote that 'The great foundation of mathematics is the *principle of contradiction or identity*, that is, that a proposition cannot be true and false at the same time and that therefore *A* is *A* and cannot be non-*A*.'¹¹⁹

Although Leibniz did not attempt to formally prove the validity of the principle of contradiction, he did sometimes offer a qualified defence of it, by showing the undesirable consequences that would follow from its denial. He insisted that if one were to deny the principle of contradiction, and thus allow that something can be granted and denied at the same time, then 'every inquiry into truth would cease immediately from the start'.¹²⁰ Hence if we are to reason at all, then

¹¹⁸ NE, p. 362.

¹¹⁹ PPL, p. 677.

¹²⁰ SLT, p. 41.

we have to suppose some truths, or give up all hope of making demonstrations, for proofs could not go on to infinity. We should not ask for anything that is impossible, otherwise we would show that we were not serious in searching for the truth. So I will always boldly suppose that two contradictories could not be true, and that what implies contradiction could not be the case . . . or else it is to misuse words. Nothing clearer could be provided to prove these things. You yourself suppose them in writing and in reasoning, otherwise you could constantly defend the exact opposite of what you say.¹²¹

For Leibniz, the principle of contradiction is what determined necessary truths: ‘All truths of metaphysics, or all truths that are absolutely necessary, such as those of logic, arithmetic, geometry, and the like, rest on the former principle [sc. that of contradiction], for someone who denies them can always be shown that the contrary implies a contradiction.’¹²² In other words, a truth is necessary when its negation is contradictory, for example, ‘a bachelor is an unmarried man’ is necessary because its negation (‘a bachelor is not an unmarried man’) is contradictory (a bachelor is an unmarried man, so the negation amounts to saying that an unmarried man is not an unmarried man).

32. and second, the *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.

Theodicy §44. §196.

The principle of sufficient reason is the second of the two great principles on which reasonings are based. Over the course of his career Leibniz offered various formulations of this principle:

1. ‘nothing exists without reason, or rather that there is always *a reason why*’.¹²³
2. ‘nothing happens without a reason why it should be so rather than otherwise’.¹²⁴
3. ‘a reason can be given for every truth’.¹²⁵

¹²¹ A II 2, p. 89: <http://www.leibniz-translations.com/foucher1686.htm>

¹²² PE, p. 19.

¹²³ LTS, p. 355.

¹²⁴ PPL, p. 677.

¹²⁵ G VII, p. 199.

On the surface these do not look to be identical, since the first formulation applies to *things*, the second to *events* (because it refers to happenings), and the third to *truths*. Leibniz evidently wanted to apply the principle across the board, that is, to things, events, and truths. When applied to events, the principle is usually understood *causally*, that is, that every event must have a cause.¹²⁶ (This is sometimes known as the principle of causation, though Leibniz does not use that expression.)

The principle of sufficient reason was first explicitly expressed in the work of Leibniz's contemporary, Benedict de Spinoza, who asserted in his *Ethics*: 'For every thing a cause or reason must be assigned either for its existence or for its nonexistence.'¹²⁷ However Spinoza did not argue for this claim, nor did he refer to it as the principle of sufficient reason. The grand name was coined by Leibniz, who was fond of presenting certain of his ideas as principles.¹²⁸ As with the principle of contradiction, Leibniz considered the principle of sufficient reason to be an axiom of his philosophy. He did not think the principle could plausibly be denied, not least because we all assume the truth of it everyday, whenever we ask *why* and expect there to be an answer. Leibniz sometimes made empirical appeals in favour of the principle, for example, by claiming that it succeeds in all known cases, and/or that no exceptions to it have ever been found.¹²⁹ Such appeals clearly fall short of justification, but were unlikely to be intended as such anyway. They do, however, help to increase the intuitive appeal of the principle.

Many philosophers have assumed or even asserted that there must be reasons for certain things or events, but the principle of sufficient reason goes further than this, as it says that there must be reasons for *all* of them. So stated, many philosophers could not accept it, especially those who endorse a version of the doctrine of free will which holds that for the will to be free it must be able to initiate action or suspend action without any reason or cause for its doing so.¹³⁰ Such philosophers would exempt the will (at least) from the principle of sufficient reason, but Leibniz did not; he insisted that the principle had no exceptions. Consequently, he believed that everything in the universe is potentially explicable, that is, amenable to reason. However as Leibniz notes in M32, in many cases

¹²⁶ See for example SLT, p. 49.

¹²⁷ Spinoza, *Ethics* 1p11d2. From Spinoza, *Complete Works*, p. 222.

¹²⁸ For example, Leibniz offers the principle of the best, the principle of fittingness, the principle of the identity of indiscernibles, and the principle of uniformity, among others.

¹²⁹ For example, PPL, p. 717.

¹³⁰ Leibniz calls this a 'freedom of indifference', but today it is better known as libertarianism. Leibniz advances many reasons against it, chief among them that it involves a violation of the principle of sufficient reason. See for example SLT, pp. 93ff.

we do not know what that reason is; all we know is that there must be one. The principle does not guarantee in any given case that we can (or even will) ascertain the reason for this or that thing or event. In fact, in many cases we simply would not be able to do so. This is because of what Leibniz understands a sufficient reason to be: it is 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 Pete walking across his kitchen to the fridge to get a drink. What is the reason for this action? A simple answer might be: because Pete was thirsty. We might think this answer to be adequate for everyday purposes, but it falls a long way short of a full account of Pete's action. To obtain that, we would need to know many other things, such as why Pete is thirsty at that particular moment, which in turn would require us to know what Pete had drunk previously, as well as full details of human physiology in general and Pete's physiology in particular; we would also need to know how Pete had come to believe that there was a drink in the fridge, and the source of his knowledge that drinking it would quench his thirst, and so on. In short, to put together a full account of Pete's action we would have to gather a large amount of information about Pete and his life, which in turn could only be explained by broadening the enquiry still further, to encompass Pete's 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 Pete getting a drink from a fridge (see M36). Nevertheless, Leibniz's position is that we would be right to presume that there is a complete explanation, or sufficient reason, of Pete's action, even if it is beyond our abilities to discern it in all its detail.

33. There are two kinds of *truths*: truths of *reasoning* and truths of *fact*. Truths of reasoning are necessary and their opposite is impossible, and truths of fact are contingent and their opposite is possible. When a truth is necessary, the reason for it can be found by analysis, by resolving it into simpler ideas and truths until we come to the primary ones.

Theodicy §170. §174.

§189. §280–2.

§367. Abridgement, objection 3.

Leibniz now further elucidates the two principles of reasoning introduced in M31–2. The division of truths into (necessary) truths of reasoning and (contingent) truths of fact here looks to be axiomatic.

A necessary truth is one whose opposite is impossible. Hence 'green grass is green' would qualify as a necessary truth because its opposite ('green grass is not green') is impossible. Moreover, a necessary truth can be proved by analysing it further and further, into simpler truths and the ideas of which they are composed. Although not explicit here, Leibniz often says that necessary truths ultimately resolve to identities, that is, tautologies, such as 'the green grass is green' where the concept of the predicate being asserted of a subject (green) is already contained within the concept of the subject (the green grass). The 'resolving' of a truth tends to involve substituting some or all of its terms for their definitions. So the resolution of the truth 'a bachelor is unmarried' would involve substituting the definition 'an unmarried man' for 'bachelor', to give 'an unmarried man is unmarried', which is an identity.

A truth of fact, on the other hand, is one whose opposite is possible. Hence 'the grass is wet' would qualify as a truth of fact because its opposite ('the grass is not wet') is possible, in that there is no contradiction in the notion of the grass not being wet. Truths of fact are sometimes called particular truths, or contingent truths.¹³¹ They concern that which exists contingently, that is, those things which are not necessary, and so whose non-existence is/was possible. For this reason, Leibniz sometimes says that truths of fact depend upon the will of God;¹³² after all, it is God who decides which contingent things will exist (see M47–48).

For us (and other finite creatures), truths of fact are established by experience. This includes sense experience, but is not limited to it, since Leibniz also allows that we can come to know certain truths of fact by inner experience, for example:

As for primary truths of fact, these are inner experiences which are immediate with the *immediacy of feeling*. This is where the first truth of the Cartesians and St Augustine belongs: *I think, therefore I am*. That is, *I am a thing which thinks*. But . . . not only is it immediately evident to me that *I think*, but it is just as evident that *I think various thoughts*: at one time *I think about A* and at another *about B* and so on.¹³³

34. This is how the speculative *theorems* and practical *canons* of mathematicians are reduced by analysis to definitions, axioms, and postulates.

¹³¹ See LTS, p. 308.

¹³² See SLT, p. 43.

¹³³ NE, p. 367.

Leibniz now suggests that the method of analysing necessary truths described at the end of M33 is akin to the mathematical method of resolving theorems into definitions, axioms, and postulates. In both cases, the aim is to reduce a proposition down to its primitive parts by means of reductive analysis.

35. And finally there are simple ideas of which no definition can be given. There are also axioms and postulates, or in a word *primary principles*, which cannot be proved and also have no need of proof. And these are *identical propositions*, whose opposite contains an explicit contradiction.

The claim that there are simple ideas which cannot be defined, and primary principles which cannot be proved, is here advanced as an axiom. Leibniz here supposes that the substitution of terms in conceptual analysis (that is, replacing one term by its definition) is not a process that can go on indefinitely, in which case it must reach 'simple ideas', that is, primary concepts that admit of no further analysis. Concrete examples are hard to come by – Leibniz is often happier making the argument that analysis must eventually reach simple ideas than he is actually identifying what these might be. In some early writings he claims that the simple ideas are the attributes of God (that is, goodness, power, knowledge, and so on), as everything else can be resolved into (some combination of) them.¹³⁴

As for primary principles, Leibniz identifies them as identical propositions, that is, tautologies. Primary principles are therefore of the form 'A is A', or some variation thereof, such as 'A is not not-A, . . . *each thing is what it is, each thing is like itself or is equal to itself, nothing is greater or less than itself*'.¹³⁵

35. But a *sufficient reason* must also be found in *contingent truths*, or *truths of fact*, that is, in the series of things spread throughout the universe of created things, where resolution into particular reasons could go on into endless detail because of the immense variety of things in nature and the division of bodies to infinity. There is an infinity of shapes and motions, both present and past, which enter into the efficient cause of my present writing, and there is an infinity of minute inclinations and

¹³⁴ DSR, p. 79, p. 81; LPW, p. 77.

¹³⁵ SLT, p. 48.

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dispositions of my soul, both present and past, which enter into its final cause.

Theodicy §36. §37. §44. §45. §49.
§52. §121. §122.
§337. §340. §344.

As we have just seen, the sufficient reason for necessary truths is that they are all ultimately resolvable into identities by a process of reductive analysis. Leibniz now intimates that the sufficient reason for contingent truths (that is, truths of fact) is that they too are all ultimately resolvable into identities by a process of reductive analysis, the difference being that necessary truths are resolvable in a finite number of steps, while the resolution of contingent truths requires an infinite number of steps. In both cases, the reason the truth is true is that the concept of the predicate is contained in the concept of the subject. With necessary truths, the number of steps of analysis required to show this is finite (consider the way that 'a bachelor is unmarried' can be resolved into 'an unmarried man is unmarried' in just one step), whereas with contingent truths it is infinite. Leibniz illustrates the latter using the truth that he wrote M36, this being a contingent truth since its opposite, that he did not write M36, is possible. He claims that the sufficient reason of this truth, that is, the full account of why he wrote M36, will involve the infinite complexity of the universe, both at the time of his writing and at all moments prior to that. Accordingly, if we had access to Leibniz's complete concept, and were capable of carrying out infinite steps of analysis, we would be able to show that the concept of the predicate 'wrote M36' is contained in the concept of the subject 'Leibniz', and hence determine the sufficient reason for his writing M36. In practice, however, we cannot do this, as we do not have access to Leibniz's complete concept, nor are we capable of feats of infinite analysis. Consequently, although we happen to know through experience that it was Leibniz who wrote M36 and not anybody else, from the information available to us we cannot determine the sufficient reason for this truth, though we know from M32 that there must be such a reason.

It might look as though there is a tension between Leibniz's claim here, that there is an infinity of external factors that enter into the act of his writing, and his claim in M7, that there is no causality between substances. The reason is that Leibniz is treating of different levels or aspects of reality, which he only really hints at in M36. First, there is the realm of three-dimensional physical objects in space, and second there is the metaphysical realm of monads. With regard to objects in space, Leibniz takes there to be infinite complexity here, because all physical objects relate to – and have an effect on – all other physical objects. Consequently, the sufficient reason

for any particular physical event (like a hand moving a quill over a page) will involve every other physical thing and event in the entire universe. Leibniz endorses the doctrine of the plenum, which holds that space is full (see M61). In such a case, if one thing changes place then the effect of that change will ripple through to affect everything else, though the effect diminishes with distance, and the effect of faraway things is for practical purposes negligible (as we shall see, Leibniz does not think that things literally push each other, in the sense of exchanging force, but he does allow that it is acceptable to talk that way; see M49–52, and M61). The second aspect of reality is the metaphysical realm of monads; this is where his soul is to be found, along with all other monads. In this realm there is no influence between monads and so no causality between one thing and another. Whatever happens to any given monad is determined entirely by that monad's own internal principle of activity. In spite of being causally isolated, Leibniz says that there is an infinity of factors that enter into his (soul's) decision to write. He won't be drawn on what these are as he holds that the vast majority lie below the threshold of consciousness, and so cannot be identified. Leibniz has not explicitly drawn this distinction between different realms, but arguably he should have done as it makes some of his claims difficult to reconcile otherwise.

Leibniz ends M36 by anticipating an idea he will develop in greater detail later on (in M79), namely that any event can be given an explanation in terms of efficient causes and in terms of final causes. Hence his writing M36 can be explained in terms of physical (efficient) causes, which operate on his body and led his hand to write, and in terms of psychical (final) causes, which operate on his soul and led it to formulate and strive for its own ends.

37. And as all this intricate *detail* includes nothing except other contingents which are earlier or even more detailed, each of which in turn needs a similar analysis in order to explain it, we are no further forward, and so it must be that the sufficient or ultimate reason lies outside the succession or *series* of this detail of contingencies, however infinite it may be.

Leibniz now argues that the sufficient reason for a contingent thing must be found outside the universe, understood as the series of contingent things. The crucial part of the argument is the claim that the sufficient reason for a contingent thing cannot be found in other contingent things. To understand why this should be so, consider our example of Pete walking to the fridge to get a drink. A genuinely sufficient reason of this will be nothing less than an account of his action that is complete, with

nothing left unexplained. Now suppose that Pete's action is part of a universe consisting entirely of contingent things, and that nothing else exists besides the universe. Suppose also that the universe has always existed, that is, that it had no beginning. In such a case, it will not be possible to give a sufficient reason for Pete's trip to the fridge, or any other contingent thing, because the trail of explanations stretches back without end, which rules out a sufficient (that is, a complete) explanation. Moreover, it would not help to suppose that the universe had existed for a finite time, that is, that it began to exist at a definite point in the past. In such a scenario, it will also not be possible to give a sufficient reason for Pete's trip to the fridge, or anything else, because the trail of explanations will go cold as soon as we reach the very first moment of the universe, which would be inexplicable (a 'brute fact', in modern parlance). Consequently, there can be no sufficient reason for anything if all that exists are contingent things. The upshot of Leibniz's argument is that a genuinely sufficient reason must ultimately involve something non-contingent, in other words, something necessary, because only this can provide the completeness (the sufficiency) of the explanation. This is the inference he will draw in M38.

38. And thus it is that the ultimate reason of things must lie in a necessary substance, in which the intricate detail of changes exist only eminently, in the source as it were, and this is what we call *God*.

Theodicy §7.

The claim here follows from M37, for if the sufficient (or final) reason for things cannot be found in the contingent, then it must be found in what is necessary. Leibniz's immediate identification of God as this necessary being is likely to come across as being rather hasty nowadays; after all, he has not considered whether there might be any other candidates. Also, at this stage he has shown only that there must be a necessary being: it is not yet clear whether this being has the attributes traditionally ascribed to God, such as omnipotence, omniscience, and perfect goodness. Leibniz will proceed to argue in M40–1 that the necessary being does have these attributes, and is therefore God.

The one thing we are told about the necessary being in M38 is that it contains eminently the detail of changes (of contingent things). The adverb 'eminently' is a Scholastic term connected with causation, and means 'in the cause in a higher or nobler form'.¹³⁶ For the Scholastics, an effect had to

¹³⁶ See Thomas Aquinas, *Summa Theologiae* I, Q.4, Art. 2, ad.

be contained in the cause in some way, and there were three ways in which it could be: *formally*, *virtually*, or *eminently*. To say that an effect is contained formally in a cause is to say that the same nature or form is present in both cause and effect, for example, a newborn plant or animal is the same nature as its parents; an effect is contained virtually in a cause if this is not the case, for example, an architect who causes the building of a house does not share the same nature as the house; and an effect is contained eminently in a cause when the cause is more perfect than the effect. Therefore to say that the intricate detail of contingent changes exists eminently in God, as Leibniz does in M38, is to say that God is a different, more perfect kind of thing than these contingent changes.

Taken together, M37 and M38 constitute a version of the cosmological proof for the existence of God.¹³⁷ Leibniz presented substantially the same proof in a number of other writings; the classic, or definitive statement of it is to be found in a paper entitled 'On the ultimate origination of things' (1698):

Let us imagine that the book of the elements of geometry has always existed, one always copied from another; it is evident that, even if a reason can be given for the present book from a past one, from which it was copied, nevertheless we shall never come upon a full reason no matter how many past books we assume, since we would always be right to wonder why such books have existed from all time, why books existed at all, and why they were written in this way. What is true of books is also true of the different states of the world; for a subsequent state is in a way copied from a preceding one (although according to certain laws of change). And so, however far back you go to earlier states, you will never find in those states a full reason why there should be any world rather than none, and why it should be such as it is. Therefore, even if you should imagine the world eternal, because you still suppose only a succession of states, and because you will not find a sufficient reason in any of them, and indeed no matter how many states you assume you will not make the least progress towards giving a reason, it is evident that the reason must be sought elsewhere . . . From this it is evident that not even by supposing the eternity of the world can we escape the ultimate, extramundane reason of things, i.e. God.¹³⁸

¹³⁷ It is worth noting that many of the arguments for God's existence are traditionally referred to as 'proofs'. This does not mean that they are logical demonstrations, or akin to such (with the possible exception of the ontological proof, which does purport to offer a logical demonstration for the existence of God), but rather that they constitute evidence for the existence of God. Hence in this context 'proof' should be understood to mean 'evidence' or 'argument' (which is the original sense of 'proof') rather than 'demonstration' (which is the more modern sense).

¹³⁸ SLT, pp. 31–2. See also LTS, pp. 98–9.

39. Now since this substance is a sufficient reason for all this intricate detail, which is also interconnected throughout, *there is only one God, and this God is sufficient.*

Leibniz now offers an argument for the uniqueness of God: because God (the necessary substance identified in M38) is a sufficient reason for all contingent things, which are themselves all connected, there is only one God, which is sufficient. In making this argument, Leibniz assumes that for any given thing, event, or truth (or set thereof), there will be exactly one sufficient reason, and hence no overdetermination, that is, no multiple sufficient reasons for one and the same thing, event, or truth. Why Leibniz would make this assumption is unclear, however, for the principle of sufficient reason, in all of its various formulations, does not state that there has to be just *one* sufficient reason for any given thing, event, or truth (or set thereof). Perhaps an answer can be found in Leibniz's reference to a single God as 'sufficient': he can be read here as saying that as the universe can be explained by a single God, there is *no need* to posit more than one. This can be seen as the application of a principle of parsimony, such as Occam's razor, which is often formulated as 'entities are not to be multiplied beyond necessity'. But of course from the fact that there is *no need* to posit more than one God it would not follow that there is *actually* just one. Yet Leibniz clearly wishes to make the latter claim too.

It is possible to derive the uniqueness of God from the identity of indiscernibles (encountered in M9). To see how, consider the traditional definition of God as a being which is omnipotent, omniscient, and perfectly good. Now suppose that there are two Gods, A and B; if they are genuinely Gods then both would satisfy this definition. But the identity of indiscernibles holds that if everything that is true of A is also true of B (that is, they are indiscernible), then A and B are one and the same thing (that is, identical). In order for there to be two they would have to differ in some respect, but that would mean one of them not being either omnipotent or omniscient or perfectly good, and of course such a being could not be called 'God' at all because it would fail to satisfy the definition of God. In a writing from 1685 Leibniz put forward a proof of the uniqueness of God along these very lines: '*God is unique.* For if there are many, they will differ, and indeed they will differ in their perfections, because nothing else is understood in God, and so each one of them is lacking some perfection, contrary to the definition of God.'¹³⁹

In other writings, Leibniz offers yet another argument for the uniqueness of God, in connection with his doctrine of pre-established harmony,

¹³⁹ A VI 4, p. 2315.

which holds that there is a harmony between the states of every single monad in the entire universe, each one accurately representing in itself all of the others' changing states (see M49–52 and M56 for more details). In the *New System* (1695), Leibniz claims that 'this perfect agreement of so many substances, which have no communication with one another at all, could come only from a common cause'.¹⁴⁰ By 'a common cause' Leibniz means a single being (that is, one God) rather than many of them.

40. We may also conclude that since this supreme substance – which is unique, universal, and necessary – has nothing outside of it which is independent of it, and is a simple consequence of possible being, it must be incapable of limits, and contain just as much reality as is possible.

Having proved the existence of the necessary being in M38, Leibniz now proceeds to tell us more about it. Here he argues that God, the necessary being in question, contains as much reality as is possible. In the first part of the argument, Leibniz claims that God can have no limits, which he takes to follow from the fact that God has nothing outside of him that is independent of him. But what does it mean to say that God can have no limits? Presumably that none of God's attributes is limited, that is, he has them in the ultimate or maximum degree (for example, maximal power, maximal knowledge, maximal goodness, and so on). From that Leibniz concludes that God contains as much reality as possible.

We tend to think of 'reality' as a binary state, inasmuch as something either has reality (and thus exists) or does not (in which case it does not exist). But historically, reality has been understood in a different way. In Scholastic philosophy, 'reality' refers to the state of being a thing, or 'thingliness'. This state can come in degrees, such that one thing can have more reality (that is, be more of a thing) than another, despite both being fully existent. Descartes recognised three degrees of reality – the highest is enjoyed by God alone, as he alone is independent and self-sufficient (since his existence depends upon nothing else); the middle rank is enjoyed by substances (which depend upon God for their existence, but nothing else); the lowest rank is enjoyed by modes, or properties (which depend for their existence upon substances, which in turn depend for their existence upon God). As Descartes wrote:

I have . . . made it quite clear how reality admits of more or less. A substance is more of a thing than a mode; if there are real qualities or incomplete substances, they are things to a greater extent than modes, but to a lesser extent

¹⁴⁰ SLT, p. 76.

than complete substances; and, finally, if there is an infinite and independent substance, it is more of a thing than a finite and dependent substance.¹⁴¹

Reality, understood in this way, is intimately bound up with the notion of independence and self-sufficiency, such that the more reality a thing has the more independent it is from other things and the more self-sufficient it is. It thus follows that the most independent being is the one with the most reality. This, then, is Descartes' understanding of the idea of reality coming in degrees. *Leibniz's understanding is not the same.* What determines a thing's degree of reality for Leibniz is not how self-sufficient it is, or the number of qualities it has, but rather the magnitude of its qualities or attributes, such as power or knowledge. As there can be infinite degrees of these qualities, Leibniz holds that there can be infinite degrees of reality, as opposed to just the three recognised by Descartes. Unfortunately there is nothing at all about this in the *Monadology* or in the cognate text *The Principles of Nature and Grace*. Leibniz is more forthcoming in other writings, however. For example, in the *New Essays*, he draws a connection between a thing's degree of reality and its 'formalities'.¹⁴² What are formalities? In another text he explains that 'Whatever inheres in a subject can be called a formality'.¹⁴³ This suggests that the more reality a thing has, the more there is that inheres in it, that is, the greater the magnitude of its qualities. This is borne out by still other texts, such as one from the late 1670s in which Leibniz writes that the being with the highest degree of reality is the one which contains 'no limits of presence, of duration, of knowledge or of operation, and possesses as much of these as is possible to be possessed by one being'.¹⁴⁴ This contrasts sharply with nothingness, which has no qualities,¹⁴⁵ and hence, quite literally, no reality whatsoever.¹⁴⁶

Leibniz's various descriptions of God in M40 are worthy of note. His initial description of God as 'unique, universal, and necessary' repeats the claims made in M38–9: Leibniz determined that God is necessary in M38 and unique in M39. In describing God as 'universal', Leibniz most likely

¹⁴¹ Descartes, *The Philosophical Writings of Descartes*, II, p. 130.

¹⁴² NE, p. 486. The translation by Remnant and Bennett for some reason renders the French 'formalités' as 'attributes'.

¹⁴³ G. W. Leibniz, *Voraussetzung zur Reihe VI (Philosophische Schriften) in der Ausgabe der Akademie der Wissenschaften der DDR*, ed. Leibniz-Forschungstelle der Universität Münster (Münster, 1991), p. 1084.

¹⁴⁴ SLT, p. 190.

¹⁴⁵ A VI 4, p. 551.

¹⁴⁶ To illustrate the difference between God, who has the highest degree of reality, and nothingness, which has no reality at all, Leibniz sometimes appealed to the binary system, which was of his own invention: here we are to take God as the analogue of 1, and nothingness as the analogue of 0. See for example SLT, p. 39; PPL, p. 368.

means not that God is everywhere, that is, omnipresent, but that God is the cause of all things. Not only does this follow from what has been said already, in M39, it also corresponds with what he says in other writings. For example in a text from 1685 Leibniz writes of God that ‘his action [is] so universal that all things depend on him’.¹⁴⁷ Finally, Leibniz’s description of God as ‘a simple consequence of possible being’ anticipates the ontological proof for God’s existence that he will go on to give in M44.

41. From which it follows that God is absolutely perfect, since *perfection* is nothing other than magnitude of positive reality, taken in the strict sense by setting aside the limits or boundaries in the things which have it. And there, where there are no limits, that is, in God, perfection is absolutely infinite.

Theodicy §22

Theodicy Preface *4a

Leibniz often defined perfection as magnitude of positive reality, such that the more reality a thing has the more perfect it is.¹⁴⁸ Since God contains as much reality as possible (ascertained in M40), it follows that he is as perfect as possible. Leibniz allows that other things may have some reality, and hence a share of perfection, but since they are limited they are less real and hence less perfect. At the end of M41 he refers the reader to the preface of the *Theodicy*, in which he writes: ‘The perfections of God are those of our souls, but he possesses them in boundless measure; he is an ocean, of which we have received only drops: there is in us some power, some knowledge, some goodness, but in God they are all complete’ (T pref. *4a). Leibniz identifies power, knowledge, and will (goodness) as God’s perfections in M48.

42. It also follows that created things owe their perfections to the influence of God, but that they owe their imperfections to their own nature, which is incapable of being without limits. For it is in this that they are distinguished from God. [This *original imperfection* of created things is observable in the *natural inertia* of bodies.]

Theodicy §20. §27–31.

§[154]153. §167. §377 onwards.

§30. §380. Abridgement, objection 5.

¹⁴⁷ A VI 4, p. 2314.

¹⁴⁸ See for example SLT, p. 190; A VI 4, p. 867.

If created things were to have unlimited (absolute) perfection then they would be God, but Leibniz has already established that there is only one God (see M39) so their perfection cannot be unlimited. Hence creatures are naturally limited (or as he puts it in one text, 'limits are of the essence of creatures').¹⁴⁹ However, the perfections they do have must come from God, since God is the cause of all things (see M40).

Leibniz in fact holds that all created things possess the same properties as God, but to a limited extent:

there are in him [God] three primacies: power, knowledge and will; the result of these is the operation or creature, which is varied according to the different combinations of unity and zero; or rather of the positive with the privative, for the privative is nothing other than limits, and there are limits everywhere in a creature, just as there are points everywhere in the line. However, a creature is something more than limits, because it has received some perfection or power from God, just as the line is more than points. For ultimately the point (the end of the line) is nothing more than the negation of the progress beyond which it ends.¹⁵⁰

It is therefore only the presence of *limits* in created things that distinguishes them from God. They are not otherwise distinguished, for example, by having different kinds of properties, or fewer properties.

At the end of M42 Leibniz refers the reader to various passages from his *Theodicy*. Most are concerned with the issue of sin, more specifically, its source in the imperfection of creatures. In one of these passages (T20) Leibniz asserts that 'there is an *original imperfection in the creature* before sin, because the creature is essentially limited, which means that it cannot know everything, and that it can be deceived and make other mistakes'. Hence sin can be traced back to the limitation of creatures, and, as Leibniz often claims, there is nothing that God could have done about the limitation of creatures because creatures are limited by their very nature. This position has considerable value in theology, as it entails that God cannot (meaningfully) be blamed for the sins of created beings.

43. It is also true that in God is not only the source of existences but also the source of essences, insofar as they are real, or of what is real in possibility. This is because God's understanding is the region of eternal truths, or of the ideas on which they depend, and because without him

¹⁴⁹ SLT, p. 38.

¹⁵⁰ SLT, p. 39.

there would be nothing real in possibilities, and not only nothing existent, but also nothing possible.

Theodicy §20.

Leibniz now argues that God is the source of essences, or of the reality that essences have, but his argument is far from straightforward, not least because he slides from talking about essences, to possibilities, to eternal truths, to the ideas on which eternal truths depend, without making it clear how they are connected. An essence is an idea of a possible individual person or thing, or rather, all the attributes conceived in the idea of that individual or thing, taken together: 'An "essence" is everything which is conceived in a thing through itself, that is, the aggregate of all attributes.'¹⁵¹ For Leibniz, an essence is possible if the concept of it does not contain a contradiction. So a square triangle is not possible (because the property of being square contradicts the property of being a triangle), but a circle is (because there is no contradiction in the concept of a circle). Understood this way, the realm of the possible would extend not just to simple shapes and objects but also to people, events, histories, and even worlds. Hence Leibniz writes: 'There are as many series of things that can be imagined not implying contradiction as there are possible worlds . . . [F]or I call possible that which does not imply contradiction.'¹⁵² Facts that hold about all possible essences and their relations are expressed by the eternal truths, such as those of logic and mathematics. Hence for Leibniz, essences/ideas, possibilities, and eternal truths, are all connected.

Now in M43, Leibniz assumes that all essences/ideas (and therefore possibilities and eternal truths) have some reality. But in making this assumption Leibniz does not suppose that the essence of a possible-yet-fictional person such as Macbeth is real in the same way that an actual flesh-and-blood person is real, because of course it is not. Nevertheless he thinks the essence of Macbeth, along with that of every other possible thing, does have some reality, insofar as it possesses certain qualities (recall from the comments on M40 that to have reality is to have some qualities). Moreover, the thrust of his argument is such that Leibniz must also suppose that an essence only possesses reality insofar as it is conceived. As an essence, then, Macbeth can be said to exist *ideally*, that is, as an idea in the mind of someone or something, and therefore whatever reality this essence has must be derived from this mind. Leibniz insists that this is the case with all essences, possibilities, and eternal truths: they all derive whatever reality they possess from being conceived by a mind. In identifying

¹⁵¹ DSR, p. 95.

¹⁵² TI, p. 390.

this mind as that of God, Leibniz might be appealing to God's attribute of omniscience (which would enable him to know all there is to know, including all essences, possibilities, and eternal truths), though Leibniz only establishes that God is omniscient later, in M48.

44. For if there is a reality in essences or possibilities, or indeed in eternal truths, it must be the case that this reality be grounded in something existent and actual, and consequently in the existence of the necessary being, in whom essence includes existence, or in whom it is enough to be possible in order to be actual.

Theodicy §184. §189. §335.

This continues the theme of M43, but contains a much sharper argument for the existence of God. The basic argument is this: if essences, possibilities, or eternal truths have any reality, then this must be grounded in something that actually exists, and therefore in the necessary being. We should not be taken in by the use of the hypothetical ('if') here; Leibniz is not seriously entertaining the thought that essences or eternal truths don't have any reality: he thinks they do. So the hypothetical is merely a rhetorical device, and what he really means is: *given that* there is reality in essences or eternal truths, this must come from something that actually exists. In making this claim, Leibniz clearly supposes that the reality of a thing must come from something that itself has reality; in the *Monadology* this is merely assumed, though in other texts it is stated explicitly (for example, in T184 he states: 'Every reality must be founded on something existent'). The thinking is that only an already-existing thing is in a position to impart reality to something else. In M44 Leibniz identifies the already-existing thing that imparts reality to essence and eternal truths as God. In doing so, he seems to overlook the possibility that it might be other, finite minds, such as those of humans. After all, finite minds think about essences and eternal truths, and these finite minds have reality too: could it not be the case, then, that essences and eternal truths get whatever reality they have from finite minds rather than from God? Leibniz would find such a suggestion highly problematic. To see why, suppose that eternal truths were grounded in finite minds. Now what would happen if, even for a moment, an eternal truth would cease to be thought by any finite mind? There are two possible answers. First, that the eternal truth in question would hang unsupported in the air (so to speak) for however long it remained unthought of by finite minds. But this would mean that its reality was ungrounded for that time, which is impossible. The second option is that, if every finite mind ceased to think about an eternal truth for a time, then

for however long it remained unthought of by finite minds the eternal truth would have no reality at all, that is, it would quite literally be nothing. This presumably means that it would, for that time, not be true at all. But it is absurd to suppose that there might be a time when ' $2 + 2 = 4$ ' (for example) ceases to be true, no matter how brief that time might be. By definition an eternal truth is eternal, which means it always subsists, and consequently the source of its reality must likewise always subsist. This automatically rules out finite minds as a candidate, and indicates that the source of its reality must be an eternal mind. And such a mind is the mind of a necessary being, as a necessary being is one whose non-existence is impossible. It is therefore eternal inasmuch as it always has existed and always will exist.

M44 concludes with Leibniz offering a version of what has, since the time of Kant, become known as the ontological proof for the existence of God. Versions of it can be found in Anselm, Descartes, and Spinoza. Leibniz spends a lot more time on it in other writings; here it is squashed into the second half of a single sentence, with key steps omitted. Leibniz gives a more complete version of the proof elsewhere:

If one's essence includes necessary existence then one's essence is inseparable from existence.

The essence of God (i.e. the necessary being) includes necessary existence.

Therefore the essence and existence of God are inseparable.¹⁵³

Usually when discussing this argument, Leibniz claims that it tacitly assumes that God is possible. Because of that, what he thinks the argument actually shows is that *if* God is possible *then* he exists. (This may seem more obvious once one remembers that, for Leibniz, 'essence' just is 'possible existence'.) Consequently it falls short of a true demonstration of God's existence. To qualify as that, it needs to be shown that the concept of God is possible, that is, free from contradiction. Leibniz will go on to show that God is possible in M45. Sometimes when presenting the ontological argument, however, he argues that God should be *presumed* possible until shown to be otherwise, for example in the *New Essays*:

We are entitled to assume the possibility of any being, and above all of God, until someone proves the contrary; and so the foregoing metaphysical argument does yield a demonstrated moral conclusion, namely that in the present state of our knowledge we ought to judge that God exists and to act accordingly.¹⁵⁴

¹⁵³ This version is found in SLT, p. 184.

¹⁵⁴ NE, p. 438.

45. Thus God alone (or the necessary being) has this privilege, that he must exist if he is possible. And as nothing can prevent the possibility of that which possesses no limits, no negation, and consequently no contradiction, this alone is sufficient for the existence of God to be known *a priori*. We have proved it through the reality of eternal truths also.

But we have now just proved it *a posteriori* too, since contingent beings exist, and they cannot have their ultimate or sufficient reason except in the necessary being, who has the reason for his existence in himself.

The conclusion that God must exist if he is possible follows from what was said at the end of M44. Having drawn that conclusion, Leibniz proceeds to offer a proof for the possibility of God. He has already established that God has no limits (see M40), and here he shows that a corollary of that is that God is possible. A being without any limits contains no negation, and no negation means no contradiction, and it is the absence of contradiction that guarantees a thing's possibility. Negation is a result of limits – if a thing is limited in some way then there is some respect in which it is not. And contradictions are derived from negations (since they involve the simultaneous affirmation and denial of something, that is, a thing is both X and not-X). Possibility, of course, is determined by the absence of contradictions, and since there can be none in God, he must be possible.

Leibniz now claims to have given *a priori* and *a posteriori* proofs for the existence of God. Since the time of Immanuel Kant (1724–1804), *a priori* has been taken to mean 'non-empirically' or 'independently of experience', and *a posteriori* has been taken to mean 'empirically' or 'through experience'. But in Leibniz's day, the terms had different meanings. This is apparent enough from a famous seventeenth-century logic textbook, the *Port Royal Logic*, which explains that discovering and comprehending truths is done in two ways: 'either by proving effects through their causes, which is called demonstrating *a priori*, or by demonstrating, on the contrary, causes through their effects, which is called proving *a posteriori*'.¹⁵⁵ If we are demonstrating effects through their causes we are working our way 'outward' from the cause to certain effects which follow from it; for example, if we start with an understanding of magnetism (cause), we can work out from that how much attractive power a magnet of a certain size will have (effect). So *a priori* explanations run from cause to effect, in this way. Conversely, *a posteriori* explanations run the other way around, from effect to cause, for example by starting with

¹⁵⁵ [Arnauld and Nicole], *La logique*, p. 390.

the attractive power of a particular magnet (effect) we can then work our way back to its cause (magnetism). Leibniz's *a posteriori* proof for the existence of God works this way also, as it starts with the effect (contingent beings) and proceeds back to the cause (the necessary being). Conversely, the proof for the existence of God in M44, as an *a priori* proof, runs in the opposite direction, starting with the cause (the essence of the necessary being) and from that proceeding to prove the effect (the actual existence of the necessary being). This might suggest that God literally causes himself to exist,¹⁵⁶ but is better understood as meaning that he is self-explanatory, that is, he explains his own existence.

In all, then, Leibniz has offered three proofs for the existence of God. The cosmological proof in M37–8, the argument from eternal truths in M43, and now an ontological proof in M44–5. It might be wondered whether three proofs is overkill, since if one of them works then there is no need for any others. But it was not uncommon for early modern thinkers to multiply proofs for the existence of God; Descartes, for example, offered three separate proofs in the *Meditations* (some say four). In any case, over the course of his career Leibniz put forward more proofs for the existence of God than just the three found in the *Monadology*. Most notably, he argued that God's existence was established by his doctrine of pre-established harmony (see comment on M39).¹⁵⁷

46. Yet we must not imagine, as some do, that the eternal truths, being dependent on God, are arbitrary and depend on his will, as Descartes, and afterwards Mr Poiret, seem to have supposed. This is true only of contingent truths, whose principle is *fittingness* or the choice of the *best*, whereas necessary truths depend solely on his understanding, and are its internal object.

Theodicy §180–4. §185. §335.
§351. §380.

It is a Leibnizian mantra that God does not *create* eternal truths (or indeed, essences) but rather *discovers* them in his understanding. This is in direct opposition to Descartes, who had claimed that God did create eternal truths:

¹⁵⁶ Spinoza very famously referred to God as *causa sui* (self-caused), though he did not mean it literally. He claimed 'By that which is self-caused I mean that whose essence involves existence; or that whose nature can be conceived only as existing.' Spinoza, *Ethics*, 1d1. The translation is from Spinoza, *Complete Works*, p. 217.

¹⁵⁷ SLT, p. 76.

The mathematical truths which you call eternal have been laid down by God and depend on him entirely no less than the rest of his creatures. Indeed to say that these truths are independent of God is to talk of him as if he were Jupiter or Saturn and to subject him to the Styx and the Fates. Please do not hesitate to assert and proclaim everywhere that it is God who has laid down these laws in nature just as a king lays down laws in his kingdom.¹⁵⁸

Although not a follower of Descartes, Pierre Poiret (1646–1719) endorsed the same view, finding it absurd to suppose that God could simply discover eternal truths in his understanding ‘without having any right over them’.¹⁵⁹ The problem, for both, lay in the consideration that unless God had created these truths they would be independent of him, that is, not under his control. This can be seen to threaten God’s sufficiency and perfection. As Poiret put it, ‘if there were ideas and truths different from those of the divine essence, which God must know necessarily, and, approve independently of his will, God would not be a God which is sufficient to himself through himself, alone necessary to himself, nor perfect through himself’.¹⁶⁰ The position endorsed by Descartes and Poiret is often referred to now as *theological voluntarism*.

Leibniz rejected voluntarism; indeed, he was scathing about the idea of God creating eternal truths, and railed against it often. That he should do so is not surprising, since it involves a clear violation of the principle of sufficient reason: if God had to create eternal truths, such as the truths of mathematics, then there would be no reason for him to decree (for example) that $2 + 2 = 4$ rather than $2 + 2 = 5$. Similarly, if God had to create the laws of logic, then there would be no reason for him to decree the law of identity ($A = A$) as opposed to its opposite ($A = \text{not-}A$). Without a reason to decree certain truths of mathematics and logic over others, he would not act, and so would not create any. In the *Monadology*, however, Leibniz does not expand on his opposition to voluntarism.

While eternal truths are rooted in God’s understanding, contingent truths (that is, truths that could have been otherwise) depend on God’s will. Leibniz holds that as God is perfectly good, his will always chooses the best.¹⁶¹ This is sometimes encapsulated in what Leibniz calls the *principle*

¹⁵⁸ Descartes, *The Philosophical Writings of Descartes*, III, p. 23. Some years later, Descartes would even claim that notions of truth and goodness depend on God, that is, that he decided what truth is, and what goodness is, without being guided in his choice by any prior considerations. See *The Philosophical Writings of Descartes*, II, pp. 293–4.

¹⁵⁹ Pierre Poiret, *L’oeconomie divine, ou Systeme universel et démontré des oeuvres & des desseins de Dieu envers les hommes*, 7 books (Amsterdam, 1687), I, p. 54.

¹⁶⁰ Poiret, *L’oeconomie divine*, I, p. 54.

¹⁶¹ For example, ‘his [God’s] will is always inexorable and is always directed at the best’ (T obj. VIII).

of the best. As Leibniz will explain later (in M55), God's adherence to the principle of the best ultimately leads him to choose for creation the best of all possible worlds.

47. Thus God alone is [the primitive simple substance or monad] the primitive unity, or original simple substance, which produces all created or derivative monads, which are born, so to speak, by continual fulgurations of the divinity from moment to moment, limited by the receptivity of their created nature, the essence of which is to be limited.

Theodicy §382–91. §398. §395.

That God produces all other monads is taken to follow from M46, inasmuch as their existence is contingent, and therefore depends upon God's will. In an earlier draft of M47 Leibniz described God as 'the primitive simple substance or monad', but ultimately changed it to 'the primitive unity, or original simple substance' in the final copy. However, elsewhere he does identify God as a monad, or primitive monad: in 1711 he informed a correspondent that a monad is either primitive, in which case it is God, or derivative, in which case it is called a 'created monad', of which there are three kinds, namely minds, souls, and bare monads.¹⁶² The primitive monad God differs from created monads not only by being more perfect (see M41), but also by being the only unembodied monad, for while God has no body,¹⁶³ 'every created monad is endowed with some organic body'.¹⁶⁴

In M47 Leibniz explains how God produces other monads: by 'fulgurations', which are literally 'lightning-flashes'. This is a clear reference to the ancient doctrine of *emanation*, though ultimately Leibniz's understanding of it is not an orthodox one. In neo-Platonic thought, all existing things are produced by God not out of choice but as unwilled outpourings (or overflows) of his own being. Although this is a continual process it does not involve any loss to God of his own essence, just as the continual emission of light does not thereby cause the sun to lose any of its own brightness. The metaphor of light continuously radiating from the sun was a fruitful one and often used to illustrate key components of the doctrine. For example, just as light is dependent on the sun for its existence, so do created things

¹⁶² G VII, p. 502.

¹⁶³ See LTS, p. 357.

¹⁶⁴ G VII, p. 502.

depend for their existence upon God. Leibniz typically uses the language of emanation to illustrate the process by which he thinks God conserves or sustains the world, namely *continuous creation*, which holds that God continually (re)creates the world at each moment to stop it passing out of existence: 'Now it is clear, first of all, that the created substances depend on God, who conserves them and even produces them continually by a kind of emanation, as we produce our thoughts.'¹⁶⁵ Thus for Leibniz, emanation involved an ongoing recreation (conservation) of created things rather than an ongoing generation of things. The use of the lightning-flash metaphor over the neo-Platonic sun metaphor is intended to capture that. However, there is no indication in the *Monadology* as to his grounds for endorsing the continual fulgurations account.

It might seem that the doctrine of continuous creation takes Leibniz dangerously close to occasionalism, if not all the way there. After all, if God continuously (re)creates things at every moment, then he would seem to be responsible for the existence of these things, and their states, at each moment, which does not seem to leave room for any causal activity aside from his own.¹⁶⁶ In T386–7, Leibniz outlines objections of this sort, which seek to show that, under continuous creation, God is the only causal agent. In his response, Leibniz appeals to the doctrine of *concurrence*, which holds that while created beings are causally active, their actions occur only with the concurrence (that is, the co-operation) of God. Concurrence thus sees creaturely activity as a joint enterprise, brought about by the causal activity of the creature itself together with that of God. Leibniz notes that concurrence applies not to the substance of these creatures, but rather to

¹⁶⁵ PPL, p. 311.

¹⁶⁶ Malebranche based one of his arguments for occasionalism on the doctrine of continuous creation, arguing that under that doctrine God alone is responsible for all the changes in created minds and bodies. To see how the argument works, consider a particular body, such as a tennis ball. Now when God (re)creates the universe, as he does at each moment, either he (re)creates that body in exactly the same place it was in at the previous moment, or he (re)creates it in a different place from the one it was in at the previous moment. If the body is (re)created in the same place it is said to be at rest; if it is (re)created in a different place then it is said to be in motion. In effect, then, God has to (re)create bodies – all bodies – either in motion or at rest. But irrespective of whether God (re)creates a body in motion or whether he (re)creates it at rest, it is God who has put it wherever it happens to be. This must be so, according to Malebranche, because God is the only causal agent in this scenario, and indeed the only causal agent there can be, for under continuous creation there is just no room at all for the causal activity of anything other than God. Hence what we think of as motion is just God continuously (re)creating a thing in successively different places. A parallel argument can be made for minds and their thoughts. See Nicolas Malebranche, *Dialogues on Metaphysics and on Religion*, trans. Nicholas Jolley and David Scott (Cambridge: Cambridge University Press, 1997), p. 115.

their modifications. That is, God does not concur in keeping the substance of these creatures in existence, as he alone is causally responsible for that. He does, however, concur with the internal operations of these creatures, in which creatures themselves also have a causal role. Hence Leibniz says in T391 that a created thing concurs with God ‘for the production of its internal operation, as would be thought or a volition, things really distinct from the substance’. Leibniz thus envisages concurrence as leaving space for the genuine causal activity of substances, notwithstanding God’s continuous (re)creation of all things at every moment; if successful, it enables him to resist occasionalism.¹⁶⁷

48. There is in God *power*, which is the source of everything, then *knowledge*, which contains the detail of ideas, and finally *will*, which brings about changes and products in accordance with the principle of the best.

Theodicy §7. §149. §150.

And these correspond to what there is in created monads: the subject or basis, the perceptive faculty, and the appetitive faculty. But in God these attributes are absolutely infinite or perfect, and in created monads or in *entelechies* (or *perfectihabies*, as Hermolaus Barbarus translated this word) there are only limitations¹⁶⁸ of them, in proportion to the perfection that they have.

Theodicy [§48] §87.

Leibniz has already made explicit references to God’s power (M47), knowledge (M43), and will (M46), but here he briefly notes how each is involved in the creation of the world. Further information will be given in M53–5. Leibniz then proceeds to associate these three attributes of God with three features of created monads, namely the subject or basis, perception, and appetite. This underscores the point made in M42, that monads differ from God only in degree: their attributes are those of God, but whereas his are infinite theirs are always finite. The associations Leibniz makes are as follows:

¹⁶⁷ Not all scholars are convinced that Leibniz does enough to keep his position from collapsing into occasionalism, however. See for example David Scott, ‘Leibniz’s model of creation and his doctrine of substance’, *Animus* 3 (1998), pp. 73–88.

¹⁶⁸ The final draft has ‘imitations’, but this looks to be a copying error as previous drafts had ‘limitations’ instead.

God	Created monads
Power	Subject or Basis
Knowledge	Perception
Will	Appetition

'Basis' means the principal foundation of something. A monad's basis is its active nature, that is, that which makes it a bearer of causal power. Leibniz often insisted that created things are by nature active, that is, have causal powers, even though these powers only operate on themselves (remember that Leibniz established in M7 that there is no inter-substantial causation). God's power, of course, is not so restricted. If the parallel between God's attributes and monads is a close one, as Leibniz suggests in M48, then we would expect him to hold that power is the most basic or fundamental of the three divine attributes, that is, that it is God's 'basis', as it were. And this is precisely his view: 'understanding presupposes the power to act, whilst will presupposes both the power to act and to understand'.¹⁶⁹ The same relationships presumably hold on the monadic side of the table, namely that perception presupposes activity, or causal power, and appetition presupposes both perception and activity.¹⁷⁰

As for the connection between knowledge and perception – Leibniz holds that God's knowledge involves him expressing or representing all things by their ideas,¹⁷¹ and we know from M14 that monadic perception involves the representation of a plurality within the unity. The only difference here seems to be one of degree – God expresses things with perfect clarity whereas in monads the expressions, or representations, are always confused to some extent. Similarly, the connection between the *will* and *appetite* is straightforward as both involve an inner desire or striving for something; God's will is guided by his perfect wisdom, and so always aims at the best, whilst the appetite of created monads always aims at the perceived best. As noted earlier (in the comments on M15), Leibniz also refers to the appetite of minds as 'will', insofar as it involves distinct inclinations supplied by reason rather than confused inclinations such as those of the passions.

¹⁶⁹ A VI 4, p. 2292. See also T149.

¹⁷⁰ An alternative reading of this passage has been provided by Nicholas Rescher, who takes Leibniz to be claiming that God's power corresponds to the 'reality (being)' of a created monad. See Rescher, *G. W. Leibniz's Monadology*, p. 168. This goes beyond what Leibniz says in the text. Also, it doesn't sound right: for Leibniz, as we know, 'reality' means 'perfection', and perfection is power, knowledge, and will, not just power.

¹⁷¹ A VI 4, p. 2317.

Leibniz again refers to created monads as entelechies (following M14, M18–19), this time throwing in an apparently approving reference to the medieval scholar Hermolaus Barbarus (1454–93), who sought to recover Aristotle’s real philosophy from the various Scholastic (mis)interpretations of it. There is a story that Barbarus was so dissatisfied by the Latin translations of Aristotle’s term ‘entelechy’ that he asked the devil to remove the confusion and provide him with the exact equivalent in Latin. The result was the coining of the term *perfectihabia*, which literally means ‘perfection-havers’.¹⁷² To understand the significance of this, consider how the term ‘entelechy’ was used by Aristotle: for him, it indicated the realisation of potency. Hence Barbarus’ *perfectihabia* captures the sense of completion inherent in the term, because ‘perfect’ in its original sense meant ‘complete’ (from the Latin *perficio* – to complete or do thoroughly; this is what used to be meant by referring to God as ‘perfect’: it meant he was complete, lacking nothing). Moreover, Barbarus’ translation also captures (albeit to a lesser extent) the *activity* involved in the process of realising potency; perfection-havers are those things that can realise their own potency. The fact that activity was central to Aristotle’s notion of entelechy led some of his earliest translators to translate the term as ‘act’ or ‘action’ (or, in the case of Cicero, ‘a certain continued and perpetual motion’).¹⁷³ Leibniz alludes to this when he discusses the matter in the *Theodicy*:

The same philosopher [Aristotle] gave to the soul the generic name of ‘entelechy’ or *actuality*. This word, *entelechy*, apparently comes from the Greek word which means ‘perfect’,¹⁷⁴ and for that reason the renowned Hermolaus Barbarus expressed it literally in Latin by *perfectihabia*, since actuality is a realization of potency. And in order to learn just that he had no need to consult the Devil, as he is said to have done. (T87)

Possibly the notion of activity that Barbarus captured in the expression *perfectihabia* is what induced Leibniz to use the term in the *Monadology* also, as in the next paragraph he will proceed to determine how created things act.

49. The created thing is said to *act* outwardly insofar as it has perfection, and to be *acted upon* by another insofar as it is imperfect. Thus *action* is attributed to the monad insofar as it has distinct perceptions and *passion* insofar as it has confused perceptions.

Theodicy §32. §66. §386.

¹⁷² Hermolaus Barbarus, *Themistii peripatetici lucidissimi paraphrasis in Aristotelis* (Venice, 1542), pp. 147–8.

¹⁷³ Cicero, *Tusculan Disputations*, I.10.

¹⁷⁴ In Greek, ‘perfection’ is ‘enteles’.

In M48 there was the barest hint of a link between a monad's perfection and its activity (through the reference to Barbarus' Latin translation of 'entelechy'), but here Leibniz makes the link explicit, and in so doing ties the degree of perfection a created thing has to the extent to which it acts outwardly. Consequently, the more perfect a thing is, the more it acts and the less it is acted upon. But as we know from M7, created monads do not really act outwardly at all. This leads Leibniz to construe a monad's so-called 'outward activity', that is, its effects on other monads, in terms of the relative distinctness of its perceptions (he will explain why in M50). To see what is involved in this, take our example of Pete walking to the fridge to get a drink. The story of this event can be told from the point of view of Pete's mind, which is of course a monad, or from the point of view of any of the monads in Pete's body. All will have perceptions of the event, but their perceptions both of the event itself and of what led up to it will be very different. The monad that is Pete's mind will have a very distinct perception of the sequence of events involved, from his acknowledgment of his thirst to his decision to get a drink to putting this decision into practice, whereby his body moves over to the fridge and opens it. (Recall from the discussion of M20 that a perception is distinct when the elements of it can be separately identified, and confused when the elements are not separately identifiable.) The monads that constitute Pete's body, however, will have a very confused perception of the event: their perceptions of the motion of their own bodies will be the least confused ones they have, but from these it will not be clear why their bodies are in motion; meanwhile, their perceptions of the motion of Pete's body as a whole, along with their perceptions of Pete's mind and its states, such as thirst and the forming of a resolution to get a drink, will be even more confused, and most likely be no more than little perceptions. Hence in this example Pete's mind can be said to be more perfect than any of the monads in his body, on account of it being more active, which means that it has more distinct perceptions.

Only God acts without being acted upon (which makes his action 'pure', as Leibniz puts it in T32); everything else acts and is acted upon, in the sense explained here.

50. And one created thing is more perfect than another when what is found in it serves to explain *a priori* what happens in the other; and this is why we say that it acts upon the other.

Leibniz now seeks to explain why he construes a monad's (causal) activity in terms of the distinctness of its perceptions, and his answer is: what

greater distinctness brings is greater explanatory power. To return to the example used earlier, if we want an explanation of why Pete went to the fridge to get a drink, we need to look to the monad that constitutes his mind rather than to any of those that form his body, and we do so because of the greater perceptual clarity of the former. The fact that Pete's mind contains the more distinct perceptions about the event 'explains' what happens in the same way that a cause 'explains' an effect, that is, it offers an *a priori* explanation. This permits Leibniz to talk of Pete's mind 'acting' on the body.

If it is difficult to understand Leibniz's claim that more perfect things explain *a priori* what happens in the less perfect, this is likely to be because we approach it with the modern, post-Kantian sense of a *a priori* in mind. We saw earlier, in the remarks on M45, that from Kant's time onwards, *a priori* has been taken to mean 'non-empirically' or 'independently of experience', and *a posteriori* has been taken to mean 'empirically' or 'through experience', whereas in Leibniz's day these terms were understood differently. For Leibniz and his contemporaries, as well as those before him, *a priori* demonstrations were those that proved effects through their causes, while *a posteriori* demonstrations were those that proved causes through their effects. If we approach Leibniz's reference to a *a priori* explanation in M50 with this in mind, we can see that it is a clear reference to the direction of illumination, so to speak, that is, the fact that he is looking to the cause (the monad with the most distinct perceptions) to explain the effect (Pete's walking to the fridge), rather than the other way around. And it is for this reason, Leibniz claims, that 'we say that' the one has acted on the other; for example, 'we say that' Pete's mind has acted on his body. Nevertheless there is no true action of one on the other, as Leibniz's carefully chosen words indicate.

51. But in simple substances, 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. For since a created monad cannot have a physical influence on the interior of another, this is the only way that one can be dependent on another.

Theodicy §9. §54. §65. §66.
§201. Abridgement, objection 3.

Leibniz here argues that monads can influence each other only ideally. The argument looks to be a disjunctive syllogism with the following form:

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Premise 1. The influence of one monad over another is either physical or ideal.

Premise 2. Monads do not influence each other physically (this was the conclusion of M7).

Conclusion. Therefore the influence of one monad over another is ideal.

'Ideal' means 'in idea', that is, subsisting in the mind of something as opposed to existing in its own right in the real world. Hence in describing the influence of one monad on another as 'ideal' Leibniz is not merely reiterating the (negative) point that monads do not causally interact with each other, but also making the (positive) point that there is nevertheless still a sense in which one monad can be thought to influence another. We can see in this a desire to retain some of the language of causality (influence, dependence) in describing how monads relate to each other. Here Leibniz explains the relation of monads in terms of the *correspondence* that holds between them. Or rather, their *coordination*, since he holds that God has actively accommodated monads to each other so that they mutually correspond. Because his understanding is the realm of all possibles, God is able to inspect monads prior to creation. When he inspected the monad of Pete's mind, he saw that it not only contained perceptions of the event of Pete walking to the fridge, but also 'explained' this event by virtue of having more distinct perceptions of it than the monads of Pete's body. Thus when deciding to create the monad that is Pete's mind, God's desire for mutual accommodation ensures that he also creates other monads, such as those of Pete's body, which are then so adjusted that they (confusedly) perceive moving towards the fridge at the same time as Pete's mind (distinctly) perceives his body doing so. In this way, the less perfect can be said to depend on the more perfect, that is, because God has chosen to adjust the former to the latter. This is all Leibniz means when he talks of one monad *demanding* that God accommodate others to it; the remark should not be taken literally.

Leibniz's talk of God 'organising' monads also has the potential to mislead. He does not envisage God as interfering with one monad so as to adjust it to other monads with which it otherwise would not have corresponded. Rather, he is thinking of a process of *selection*, whereby God sorts all possible monads into consistent sets, each set being a different possible world. Hence the set that includes the monad of Pete's mind also includes (among others) the monads of his body. God's 'mutual accommodation' of these monads therefore amounts to little more than his decision to create the possible world of which they are all a part. This mutual accommodation of substances is sometimes referred to by Leibniz as 'universal harmony' (see, for example, M59). It is, we learn elsewhere

(for example, T7, T8, and T84), a feature of all possible worlds; that is, every possible world, not just our own, is a set of mutually accommodated substances.

Leibniz takes the mutual accommodation to be in place right at the point of creation; it is not something that continually requires God's intervention. Thus every monad is so adjusted from the outset that its perceptions will always accord with those of every other created monad, despite there being no genuine influence or interaction between them. Nevertheless the mutual adjustment is so precise that it creates the impression of mutual causal interaction between substances.

52. And this is why actions and passions are mutual between created things. For when he compares two simple substances, God finds in each the reasons which oblige him to accommodate the other to it, and consequently what is active in certain respects is passive from another point of view: a created thing is *active* insofar as what is known distinctly in it serves to explain what happens in another, and *passive* insofar as the reason for what happens in it is found in what is known distinctly in another.¹⁷⁵

This expands on M51: we now learn that the ideal influence of one monad on another described there is not a one-way process. Instead, the influence is mutual. In other words, all substances, even those with very low degrees of perfection, have their effect on others, and are active to the extent to which they do. To illustrate (using an example from physics), if a bullet hits a clay target it might initially seem as though the bullet is entirely active and the clay target entirely passive, but a closer consideration reveals that both are active *and* passive, albeit to different degrees, for the bullet and the clay target that it hits act upon each other; the bullet may well cause serious damage to the clay target, but the target in turn will slow the bullet down, or change its course, or possibly even fragment it. It would seem to follow from this that no created thing is so active that it is not acted upon by other created things, and no created thing is so passive that it does not act upon other things.

53. Now as there is an infinity of possible universes in the ideas of God, and as only one of them can exist, there must be a sufficient reason for

¹⁷⁵ Some transcriptions of the *Monadology* include a reference to *Theodicy* §66 here (for example, G VI, p. 615), but there is no such reference in the manuscript.

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God's choice, determining him to one rather than to another.

Theodicy [§7.] §8. §10.
§44. §173. §196 onwards.
§225. §414–16.

Leibniz now argues that there must be a sufficient reason for God's choice of universe, given that he could only choose one out of an infinity of possible universes. While the argument itself is straightforward, it is not immediately apparent why Leibniz should hold (a) that there is an infinite number of possible universes, and (b) that God can create only one of them. First, then, why is there an infinite number of possible universes? In a letter from 1712 Leibniz writes 'When I say that there is an infinity of possible worlds, I mean those which do not imply a contradiction, just as one can invent stories that never exist and which are nevertheless possible.'¹⁷⁶ (Note that, for Leibniz, 'possible world' means the same as 'possible universe', and he sometimes uses the terms interchangeably, as we shall see in M54.) Hence a universe (= a complete set of possible monads) is said to be possible if it does not contain a contradiction, and there seems to be no limit to how many of those there can be because there is no limit to how many things a universe can contain or the ways in which they can be arranged.

Why, though, can only one of these possible universes exist? Why can't God create them all, or create one universe which includes all possibles? To this, Leibniz's answer is: because not all possibles are *compossible*, that is, not all possibles are able to exist in the same universe. As far as one can tell, Leibniz did not advance a reason for this view; in one text from 1680 he even states that it is 'unknown to men' why certain things are impossible.¹⁷⁷ Despite that, Leibniz consistently maintained that 'there are many possible universes, each collection of compossibles making up one of them'.¹⁷⁸

The fact that there is an infinity of possible universes, only one of which can exist, ensures that God will need to choose which one to create. It would be difficult to overstate the importance of this for Leibniz. Spinoza had argued in his *Ethics* (1677) that God acted not out of choice but rather the necessity of his own nature, and from that he concluded that whatever is logically possible (that is, does not imply a contradiction) must be

¹⁷⁶ SLT, pp. 207–8.

¹⁷⁷ SLT, p. 30. Of course by this he might have meant that it was unknown to men *other than him!*

¹⁷⁸ PPL, p. 662.

actualised at some time or other.¹⁷⁹ For this (and other teachings) he was vilified, not least by Leibniz himself, who believed that if God acted out of necessity he would not be good (see T173); after all, it would mean that he would create without any consideration of the goodness or worthiness of what it was he was creating.¹⁸⁰

It might seem odd that in M53 Leibniz insists that God has a choice only to proceed to state that there is a sufficient reason ‘determining’ God’s choice. But ‘determining’ here does not mean ‘forcing’ or ‘necessitating’ but rather something softer like ‘resolving’, that is, the sufficient reason is what enables God to whittle down the number of available choices to just one and makes him want to choose it.

In insisting that there must be a sufficient reason for God’s choice of world, Leibniz thereby denies that God’s choice of world is arbitrary, or random. In Leibniz’s day it was not uncommon for thinkers to hold that God chooses what to do by a sheer act of will, unmoved by any prior reasons. Samuel Clarke (1675–1729) maintained such a view in his correspondence with Leibniz in 1715–16; although he agreed with Leibniz that God needed a sufficient reason to act, he claimed that ‘this sufficient reason is oftentimes no other than the mere will of God’.¹⁸¹ Leibniz objected that if God’s will were moved without a reason, as Clarke maintained, it would violate the principle of sufficient reason.

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. [Thus there is nothing which is wholly arbitrary.]

Theodicy §74. [§78] §167. §350.
§201. §130. §352[–354]. §345 onwards.
§354.

In M53 Leibniz argued that there has to be a sufficient reason for God’s choice of universe, and now he identifies what that reason is. His answer – that this reason can only be found in the various degrees of perfection that these universes contain – is a postulate, for Leibniz merely assumes that in choosing a universe God’s concern is with degrees of perfection alone, and not any other feature (such as the relative worthwhileness of the lives

¹⁷⁹ See Spinoza, *Ethics*, Ip16, in *Complete Works*, p. 227.

¹⁸⁰ Leibniz did, however, occasionally flirt with the thought that God acts out of necessity rather than choice. See PPL, p. 146; TI, p. 336; SLT, p. 114.

¹⁸¹ PPL, p. 680.

of its creatures, or the total number of happy beasts it contains, and so on). But once one supposes that God's concern is with degrees of perfection, then it seems safe to say that the greater the degree of perfection a possible world has, the stronger the reason God has to create it. Leibniz doesn't elaborate on what he means by 'degrees of perfection' in this context, but he presumably has in mind the notion of perfection given in M41, which stated that perfection is magnitude of positive reality. It thus follows that possible worlds differ in terms of the quantity of positive reality that they contain.

Leibniz's use of a legal metaphor, in which possible worlds are described as having 'the right to claim existence in proportion to the[ir] perfection', betrays his background in law. The same point can be made less prosaically by saying that the more perfection a possible world contains, the more attractive it is to God.

55. And this is the cause of the existence of the best, which God's wisdom makes him know, his goodness makes him choose, and his power makes him produce.

Theodicy §8. §78. §80.

[§81.] §84. §119. §204 [and onwards].

§206. §208. Abridgement, objection 1, objection 8.

Leibniz's language here suggests that he takes God's choice of the best possible world to follow from the central claim of M54, that the greater the degree of perfection a possible world contains, the stronger the reason God has to create it. His thinking is that as the best possible world is the one which contains the greatest degree of perfection, God will have more reason to create it than he would any other possible world.

It seems reasonable to ask why Leibniz is so confident that there is a single best possible world, as it seems conceivable that there might be two best (that is, unsurpassable) possible worlds, or three, or even an infinity of them. Leibniz considers this issue in the *Theodicy* and argues that 'among an infinity of possible worlds there is the best of all, otherwise God would not have been determined to create any of them' (T416). Leibniz thus holds that if there had been two or more possible worlds that were equally unsurpassable then God would not have had a sufficient reason to choose one over the other, and without a sufficient reason he would be unable to make a choice. Consequently he would not have created anything. But of course we know that he *did* create (as our world exists), so it must have been the case that when surveying the range of possible worlds he found a single best.

It might be thought that Leibniz would also be able to deduce that God would choose the best possible world from the fact (affirmed in M46) that God's will operates according to the principle of the best, that is, that it always aims at the perceived best. But in itself this is not enough to deduce that God will create the best possible world, as if his wisdom is lacking then it could be that what he perceives to be the best is not in fact the best, or if his power is lacking then it could be that he is just not able to create the best. In M55 Leibniz makes it clear that neither God's wisdom nor power is lacking: God's perfect wisdom ensures that he knows which possible world is best, and his perfect power ensures that he is able to produce it. Hence God will have produced the best of all possible worlds. This is a good example of *a priori* reasoning, in the sense of reasoning that runs from cause to effect, for it is from a consideration of the nature of God alone (cause) that Leibniz infers that this must be the best of all possible worlds (effect). Leibniz did not think it was possible to argue in reverse, that is, from the fact that this is the best of all possible worlds (effect) to the supreme perfection of God's nature (cause). This is because it is impossible for us to determine, through experience, that ours is the best of all possible worlds. As Leibniz writes in the *Theodicy*: 'for can I know and can I represent infinities to you and compare them together? But you must judge with me *ab effectu* [from the outcome], since God has chosen this world as it is' (T10).

God's will is not unique in operating according to the principle of the best, as according to Leibniz, all wills, even those of created beings, aim at the perceived best course. Created beings do not always have a proper and clear perception of what is truly best, however, which means that they can and frequently do choose to act in ways that are less than the best. God is not similarly hampered because his wisdom is perfect; this means that he can never be ignorant of what is best or more perfect, and consequently 'God cannot fall into error in choosing, and therefore always chooses what is most fitting.'¹⁸²

56. Now this *interconnection*, or this accommodation of all created things to each other and of each to all the rest, means that each simple substance has relations which express all the others, and that consequently it is a perpetual living mirror of the universe.

Theodicy §130. §360.

With its reference to the mutual adaptation of substances this seems to pick up the threads from M52. The argument here is as follows: the fact that

¹⁸² MPE, p. 117.

monads are adapted to each other entails that each one is related to all of the others; this relation will be expressed through its perceptions, presumably because there is no other way it could be expressed. Consequently every monad continually expresses every other monad, in such a way that it is a 'living mirror of the universe'.

Each monad is a *perpetual* mirror because it is itself a perpetual being (as Leibniz established in M4 and M5). However, sometimes Leibniz reaches this conclusion via a different argument, namely this: as souls (monads) are by their nature mirrors of the universe, and the universe is perpetual, so must souls be perpetual: ('with each soul being a mirror of the universe in its way, it is easy to conclude that each soul is as imperishable and incorruptible as the universe itself').¹⁸³ This argument does not appear in the *Monadology*, though in M77 Leibniz appears to have it in mind when he describes the soul as 'the mirror of an indestructible universe'. Leibniz was very fond of the mirror metaphor, and repeated it often, mostly in writings intended for himself,¹⁸⁴ for very limited circulation,¹⁸⁵ or letters to sympathetic correspondents such as Electress Sophie,¹⁸⁶ Nicole Remond,¹⁸⁷ and Pierre Dancicourt.¹⁸⁸

In earlier writings, the claim that every single substance contains within itself a 'representation' or 'reflection' of everything else in the universe was taken to be a consequence of the 'complete concept' theory. For if the concept of every substance is complete, then it will have to contain predicates that spell out in complete detail the various relations of that substance to all the other things outside of it. And of course when any of these other things happens to change, these changes will have to be reflected in that substance, its predicates changing to keep up with what was going on outside of it. So with substances, 'when a change occurs in one, there follows some corresponding change in all the others',¹⁸⁹ and consequently the states of one 'mirror' or 'reflect' the states of all the others.

¹⁸³ LTS, p. 347.

¹⁸⁴ For example, TI, p. 554f: <http://www.leibniz-translations.com/pascal.htm>

¹⁸⁵ For example, LTS, p. 290.

¹⁸⁶ See LTS, p. 152.

¹⁸⁷ See 'Appendix on Monads' (p. 279).

¹⁸⁸ SLT, p. 54. It is interesting that the metaphor should be absent from important works like the *New Essays* and the *Theodicy*, not to mention various journal articles that Leibniz wrote in the early years of the eighteenth century. However it does appear in at least one text written for publication, namely 'Reply to the comments in the second edition of M. Bayle's Critical Dictionary, in the article "Rorarius", concerning the system of pre-established harmony' (1702). See LNS, p. 111.

¹⁸⁹ SLT, p. 51.

57. The same town, when looked at from different places, appears quite different and is, as it were, multiplied *in perspectives*. In the same way it happens that, because of the infinite multitude of simple substances, there are just as many different universes, which are nevertheless merely perspectives of a single universe according to the different points of view of each monad.

Theodicy §147.

Leibniz now claims that each monad mirrors the entire universe from its own unique perspective. He does not reveal his basis for this claim, but it would seem to follow from the fact that no two monads are alike (M9) and that they all mirror the same universe (M56), that each one must mirror the universe differently. Each monad is thus a microcosm, that is, the entire world in miniature, with each one perceiving or expressing the world from its own particular point of view. Ultimately, the differences in ‘perspective’ or ‘point of view’ enjoyed by each monad are nothing more than differences in the relative distinctness and confusedness of each monad’s perceptions of one and the same universe, as Leibniz will go on to explain in M57. Nevertheless, it seems fair to say that the universe is multiplied in each monad.

In M57 Leibniz affirms that there are an infinity of monads in the universe; this looks to be a natural consequence of M36, which established the division of bodies to infinity and the ‘endless detail’ of the things of nature. In 1712 a correspondent asked him why he believed there to be an infinity of monads, and Leibniz offered two different reasons:

you ask why there is an actual infinity of monads. I respond that the possibility of this will suffice to establish it, since it is obvious how bountiful the works of God are. But the order of things demands the same thing; otherwise the phenomena would not correspond to all assignable perceivers.¹⁹⁰

58. And this is 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.

Theodicy §120. §124. §241 and onwards.
§214. §243. §275.

We already know from M55 that God will choose to create the world with the greatest amount of perfection, and now we discover that this is in fact

¹⁹⁰ LDC, p. 277.

the world Leibniz has just described in M57, that is, the world containing an infinity of monads all expressing the others from its own particular point of view.

At first sight, Leibniz's definition of perfection here as maximal variety and the greatest order seems to sit uneasily with the definition of it that he gave in M41, where he claimed that perfection is 'nothing but quantity of positive reality'. But on closer inspection the two definitions converge, and are perhaps even alternative ways of saying the same thing. By 'variety' Leibniz is referring to things which differ in some way. Given that all monads are different from each other (established in M9), maximal variety will be achieved by creating as many monads as possible. As for 'order', elsewhere Leibniz explains that

order is the relation of several things, through which any one of them can be distinguished from any other.¹⁹¹

order is simply a distinctive relation of several things; confusion is where several things are present, but there is no way of distinguishing one from another.¹⁹²

Order, then, is present in a collection of things where each thing is distinguishable from everything else. The greatest order would thus seem to be a natural by-product of creating as many monads as possible, given that every monad is different from every other. Maximal perfection is thus obtained by the creation of as many (different) monads as possible; such an act would also bring into being as much positive reality as possible too, indicating that Leibniz's two definitions of 'perfection' are not as radically dissimilar as they may initially appear to be.

M58 suggests that Leibniz has a very 'metaphysical' understanding of what constitutes a world's perfection. His claim that our world is the most perfect is easily (and often) derided on the basis that, for many creatures, life is (in Thomas Hobbes' famous expression) 'nasty, brutish and short'.¹⁹³ But to object to Leibniz this way is to miss his point entirely, as the hardships and travails of the world's creatures are not obviously inconsistent with the world being perfect in Leibniz's sense of the term, as containing as many different monads as possible. In any case, as it happens Leibniz also holds that the most perfect world in this metaphysical sense is also the most perfect in a moral sense, and is that which ultimately offers the

¹⁹¹ Leibniz, *Die Leibniz-Handschriften der Königlichen Öffentliche Hannover*, ed. Eduard Bodemann (Hanover: Hahn, 1895), p. 124.

¹⁹² LPW, p. 146.

¹⁹³ Thomas Hobbes, *Leviathan parts 1 and 2*, revised edn, ed. A. P. Martinich and Brian Battiste (London: Broadview, 2011), p. 124.

greatest advantage to rational creatures such as ourselves (the hardships of this life notwithstanding). However this claim is made only much later; see M85 and M90.

59. Also, this hypothesis (which I dare to say has been demonstrated) is the only one which properly exalts the greatness of God. Mr Bayle recognised this, when in his *Dictionary* (article 'Rorarius') he made objections to it, in which he was even tempted to believe that I ascribed too much to God, and more than is possible. But he could not put forward any reason why this universal harmony, which ensures that each substance expresses exactly all the others through the relations it has to them, should be impossible.

Leibniz is here referring to his theory of pre-established harmony, which he has outlined in M49–52 and M56 (he will not actually refer to the theory by that name until M78). Given that he believes his theory has been demonstrated, it might seem odd that he should refer to it as a 'hypothesis', but in Leibniz's day the French term 'hypothese' not only meant 'hypothesis' (in the sense of an unproved theory which fits the facts) but also 'system' (in the sense of a set of principles and doctrines which one uses to explain phenomena), and it is in this sense that Leibniz uses the term in M59. His bold claim that his system alone 'properly exalts the greatness of God' has the potential to come across as rather hollow because he does not identify any rival systems, let alone indicate how they fall short in this regard. However it is likely that Leibniz has in mind here the systems developed by Descartes, Malebranche, and Spinoza, as he has a tendency to see these as his main rivals, and he commonly complains that each fails to do proper justice to God. He alleges that both Descartes and Spinoza rob God of justice and goodness, the former by making God act arbitrarily (a complaint already made in M46), the latter by making him act out of necessity,¹⁹⁴ and complains of Malebranche that he has God act with less than perfect wisdom, because he supposes that God, as the only causal agent in Malebranche's occasionalist system, constantly has to intervene in the world, with each intervention counting as the performance of a miracle.¹⁹⁵ Leibniz believed that his own system suffered from none of these flaws, and in fact showed the true extent of God's greatness. This was acknowledged (perhaps ironically) by Bayle in the second edition of his *Dictionnaire historique et critique* (1702), in which he expanded the article

¹⁹⁴ See, for example, A II 1 (2nd edn), p. 786.

¹⁹⁵ See, for example, SLT, p. 74.

'Rorarius', adding a further note (L) devoted entirely to Leibniz's theory. There he wrote:

We are indebted to Leibniz for it [sc. the pre-established harmony]; and there is nothing else we can imagine that gives so exalted an idea of the intelligence and power of the Author of all things. This . . . would make me prefer this theory to that of the Cartesians, if I could conceive some possibility in the way of 'pre-established harmony'.¹⁹⁶

We know that Leibniz was proud of Bayle's verdict that no other theory offered such an exalted idea of God because he often enthusiastically reported it to his correspondents (usually breezing over Bayle's charge of impossibility in the process).¹⁹⁷ In doing so he clearly believed that Bayle had identified an attractive feature of the pre-established harmony that rival theories could not match.

Leibniz's complaint in M59, that Bayle 'could not put forward any reason why this universal harmony . . . should be impossible', is rather puzzling because Bayle in fact put forward a number of such reasons. In the first of these, Bayle claimed that Leibniz's theory 'raises the power and intelligence of divine art above what we can conceive',¹⁹⁸ in other words, that it demands more of God than he could achieve. Bayle illustrates his charge using the example of a ship which steers itself successfully for several years, avoiding rocks and other dangers, despite having no sensation or knowledge. Bayle claims that 'the ship's nature is not capable of receiving this power [sc. of self-direction] from God. However, what Leibniz supposes about the mechanisms of the human body is more wonderful and more surprising than all of this'.¹⁹⁹ Bayle then proceeds to show some of the 'surprising' things that, according to Leibniz's theory, the human body is able to do. For example, he claims that on Leibniz's theory, Caesar's body would have carried out all of its acts (such as attending senate at such and such a day and time) even if God had annihilated Caesar's soul. This, according to Bayle, is simply incomprehensible.²⁰⁰ Bayle alleges that further problems for Leibniz's theory emerge when one focuses on what the theory says about happenings in the soul. Suppose, for

¹⁹⁶ Bayle, *Dictionnaire historique et critique*, III, p. 2610 (article 'Rorarius', note L)/*Historical and Critical Dictionary*, p. 245.

¹⁹⁷ For example, see G III, p. 336: <http://www.leibniz-translations.com/masham.htm>

¹⁹⁸ Bayle, *Dictionnaire historique et critique*, III, p. 2610 (article 'Rorarius', note L)/*Historical and Critical Dictionary*, p. 247.

¹⁹⁹ Bayle, *Dictionnaire historique et critique*, III, p. 2611 (article 'Rorarius', note L)/*Historical and Critical Dictionary*, p. 247.

²⁰⁰ Bayle, *Dictionnaire historique et critique*, III, p. 2611 (article 'Rorarius', note L)/*Historical and Critical Dictionary*, p. 247.

example, that as an infant Caesar had been pricked by a pin immediately after having been suckled; in such a case, because of the causal independence of substances, Caesar's soul would have experienced the sweetness of milk at one moment and the sensation of pain in the next, despite the fact that nothing had acted upon it. This, according to Bayle, violates the principle that a thing always remains in the same state unless something else acts on it.²⁰¹ In these cases, and others, Bayle explicitly states that the objection shows Leibniz's theory to be impossible. Upon reading these objections in 1702 Leibniz put together a detailed response (which was not published until 1716). He was unconvinced by Bayle's efforts to show his theory to be impossible, suggesting that Bayle had confused what was impossible (that is, involved a contradiction) with what was merely surprising: 'I want to see [from Bayle] some positive argument which leads me to some contradiction, or the denial of some established truth. It would be no objection just to say that it is surprising.'²⁰² Given that he had prepared a point-by-point response to Bayle's objections and therefore clearly knew that they sought to show his theory to be impossible, it is odd to find Leibniz claiming in M59 that Bayle 'could not put forward any reason why [the pre-established harmony] should be impossible'. The two most likely explanations are (a) Leibniz had forgotten the substance of Bayle's objections in the years between 1702 and 1714, or (b) his remark in M59 means only that he did not consider Bayle's objections to be successful in showing the theory to be impossible.

60. Moreover, evident in what I have just said are the *a priori* reasons why things could not happen in a different way. For since God, in organising the whole, had regard for each part, and particularly for each monad, and since a monad's nature is to represent, nothing can limit it to representing just a part of things. However, it is true that its representation is merely confused as to the detail of the whole universe, and can be distinct only for a small part of things, that is, those which are either the nearest or the largest in relation to each of the monads, otherwise each monad would be a divinity. It is not in the object, but in the modification of the knowledge of the object, that monads are limited. They all go confusedly to infinity, to the whole, but they are limited and distinguished by the degrees of their distinct perceptions.

²⁰¹ Bayle, *Dictionnaire historique et critique*, III, p. 2611 (article 'Rorarius', note L)/*Historical and Critical Dictionary*, p. 251.

²⁰² LNS, p. 118.

Leibniz here offers a new argument for the claim that every monad represents the whole universe. It is, we are told, the *nature* of the monad to represent, and so nothing can restrict them from representing everything. The argument has three distinct steps, the first of which is not made explicit in M60:

1. If it is in the nature of a monad to represent then it will represent everything unless restricted in some way from doing so.
This is an assumption which Leibniz does not make explicit when laying out his argument.
2. It is the nature of the monad to represent.
This is what Leibniz established earlier, in M13–14, and is affirmed elsewhere too.²⁰³
3. Nothing can restrict a monad from representing.
If we consider a single monad and ask what could possibly restrict it from representing everything, there look to be two possible answers. First, another created monad (or set of monads) might somehow restrict it from representing; we can rule this out on the basis that monads do not causally interact (see M7), so there is no way for one monad to restrict the nature or operation of another. Second, God might restrict it from representing everything; presumably God, being omnipotent, *can* restrict a monad's natural tendency to represent, but there is no reason to think that he will do so. Hence this step in the argument perhaps should be revised to say that 'Nothing will restrict a monad from representing.'

The argument leads to the conclusion that each monad represents the whole universe. The conclusion itself is counter-intuitive, inasmuch as you and I do not seem to be perceiving the whole universe at all, just a small part of it, that is, generally whatever is close to us. Leibniz's response to this is to say that it seems this way only because we are supposing our perception of the universe to be exhausted by our distinct perceptions. Yet as Leibniz has already explained, these are only a very tiny percentage of all of the perceptions we have: many of our perceptions are not distinct at all, but confused, and the vast majority of our perceptions are so small that they lie below the threshold of consciousness. Consequently it is not surprising that it should seem to us as though we are perceiving only a small part of the universe rather than the whole.

Leibniz then draws a distinction between the object of perception and

²⁰³ For example, LTS, p. 346: 'Your Electoral Highness asks me what a simple substance is. I reply that its nature is to have perception, and consequently to represent composite things.'

the mode of perception. For any given monad, the object of perception is every other monad, that is, the entire world of monads. So each monad perceives the whole. But their mode of perception differs, that is, each monad differs in *how* they perceive the whole, or rather in how distinctly they perceive each of its parts. What distinguishes one monad from another is the distinctness of perceptions they have (this develops the claim made in M57). However, being created monads, their perceptions are always confused to some extent; a created monad never has distinct perceptions alone, otherwise it would be God. So it is the fact that we have confused perceptions that distinguishes us from God.

The claim that all monads perceive the whole, albeit confusedly, is sometimes called the doctrine of *confused omniscience*. The most well-known expression of it is to be found in PNG13: ‘Each soul knows the infinite, knows everything, but confusedly.’

61. And in this, compounds are analogous to simples. 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. Consequently every body is affected by everything that happens in the universe, so much so that the one who sees all could read in each body what is happening everywhere, and even what has happened or will happen, by observing in the present that which is remote both in time and space: *σύνμνησις πάντα*, as Hippocrates said.²⁰⁴ But a soul can read in itself only what is distinctly represented there; it cannot unfold all at once all that is folded within it, for this proceeds to infinity.

Leibniz’s attention now switches from monads (simples) to compounds, by which he means the physical things of the world of everyday experience. As noted earlier, Leibniz’s position in the *Monadology* is that a compound ‘is nothing but an accumulation or *aggregate* of simples’ (M2), where an aggregate is understood not as a mere grouping or cluster of simples, but as a grouping or cluster of simples which are united, or aggregated, by a mind, on the basis of the connections between them. With this in mind, Leibniz now argues that the interconnectedness of all things is not

²⁰⁴ ‘all things conspire’.

restricted to the level of monads, but is also a feature of the physical world, there thus being a clear parallel between the two levels of reality. At the level of the physical world, we are told that this interconnectedness comes about because the universe is a plenum, that is, full, which means that there is no empty space between bodies. Hence when one body moves, it pushes against its neighbours, which in turn push against *their* neighbours, and so on, with the motion of the first body rippling through to every other, like a universe of infinite dominoes. But while all bodies push against each other, or rather, transmit motion to their neighbours, the effect decreases with distance, so the further apart any two bodies are the less effect their changes will have on the other. Of course there is not just a single wave of motion which ripples through from one body to every other, but many such waves operating at the same time, in fact an infinite number of them. There is thus a continuous transmission of motion from one body to the next, with each body registering the effect of every other body.

While M61 paints a picture of a world of compounds transmitting motion or exchanging force, it is worth remembering that Leibniz ultimately denied causal interaction between simples (M7), and since compounds are accumulations of simples (M2), it follows that there can be no causal interaction between compounds either. Yet Leibniz is happy to talk of interaction at the level of compounds as it fits with appearances, that is, preserves our ordinary ways of speaking.²⁰⁵ He has already explained (in M49–52) what he means by terms like ‘action’, and how influence between monads is only ideal.

62. Thus although each created monad represents the whole universe, it represents more distinctly the body which is particularly affected by it, and whose entelechy it is. And because this body expresses the whole universe through the interconnection of all matter in the plenum, the soul also represents the whole universe by representing this body, which belongs to it in a particular way.

Theodicy §400.

The question of how souls relate to bodies is here answered: each 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 anything else. Taking Pete to be a soul, then, what makes Pete’s body *his* body is the fact that the monads of which it is composed are more distinctly represented by his soul than are those of any other body.

²⁰⁵ See for example SLT, p. 76.

There is some looseness in the language of M62 which could easily lead to misinterpretations. We should exercise caution about two claims in particular. The first is that a monad represents more distinctly ‘the body which is particularly affected by it’. The use of ‘affect’ could suggest causal interaction between body and soul. Although Leibniz is happy to allow talk of causality at the level of bodies – consider what he said in M61 about bodies touching each other and mutually communicating motion – he does not accept that there is any causality between bodies and souls, that is, between compounds and simples. So the soul cannot causally interact with the body, or vice versa. In this context ‘affected’ should be taken to mean ‘connected’ or ‘associated’ (which is in line with the meaning of the verb ‘affecter’ in Leibniz’s day).

The other part of this passage we should be careful of is the final clause: the phrasing here might lead one to suppose that Leibniz is claiming that the reason why one monad represents every other is because its body is affected by every other body. If so, this would reverse the proper order of explanation, because he holds that bodies (and their properties) are in some way explained by monads (and their properties), not vice versa.

63. The body belonging to a monad, which is its entelechy or soul, constitutes together with the entelechy what may be called a *living thing*, and with the soul what is called an *animal*. Now this body of a living thing or animal is always organic; 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.

Theodicy §403.

Leibniz starts with two definitions: (1) the combination of an entelechy (that is, a bare monad) and its body make a living thing, and (2) the combination of a soul and its body make an animal. Then follows an argument that is designed to show that the body of living things and animals is organic. But what does Leibniz mean by ‘organic’? In his day it was common for the term to be applied to things which had organs, whether living or not. Leibniz, however, takes it to refer to something with infinitely structured organs, for example in PNG3 he states that a body is organic ‘when it forms a kind of automaton or natural machine, which is a machine not only as a whole, but also in its smallest observable parts’. In other words, a body is organic when it has organs, and its parts have organs, and their parts have organs, and so on *ad infinitum*. In another text,

Leibniz refers to an 'organic machine' as one 'having infinite recesses'.²⁰⁶ For Leibniz, then, the term 'organic' is applied to that which has nested organisation, or rather, *infinitely* nested organisation. Hence his argument that bodies are always organic is designed to show that bodies have such infinitely nested organisation. The argument itself is not straightforward. It starts with Leibniz noting that every monad represents the universe (established in M56), and then claiming that the universe is regulated in a perfect order, which in all likelihood is an allusion to Leibniz's view (established in M57) that the universe consists of an infinite series of monads, each of which differs from every other in terms of perception and therefore perfection. Because of the representative nature of both soul and body, the order inherent in this infinite series will be reproduced not just in the perceptions of each soul (established in M60), but also in the structure of each body, which therefore itself has a nested organisation, in the sense of being ordered in each of its infinite parts. And this of course makes it organic.

64. Thus each organic body of a living thing is a kind of divine machine, or natural automaton, which infinitely surpasses all artificial automata, because a machine which is made by the art of man is not a machine in each of its parts; for example, the tooth of a brass wheel has parts or fragments which are no longer artificial as far as we are concerned, and no longer have anything about them to indicate the machine for whose use the wheel was intended. But the machines of nature, that is, living bodies, are still machines in their smallest parts, to infinity. It is in this that the difference between nature and art consists, that is, between divine art and ours.

Theodicy §134. §146. §194. §483.

The findings of M63 allow Leibniz to draw a clear distinction between the productions of God and those of man: God's machines have infinite complexity, each part being itself a machine consisting of parts and so on, whereas manmade machines have only finite complexity. The most organised of manmade machines will contain some parts which are themselves machines, but as we work our way down we quickly get to parts which are not. For example a computer contains parts such as a processor, memory chips, and a hard drive, which are themselves machines, and these in turn may contain parts which are also machines, but eventually we get down to the level of parts which are not machines, such as bits of plastic or metal or silicon.

²⁰⁶ LTS, p. 274.

65. And the author of nature was able to practise this divine and infinitely marvellous craftsmanship because each portion of matter is not only divisible to infinity, as the ancients recognised, but also actually subdivided without end, each part into further parts, each of which one has some motion of its own: otherwise it would be impossible for each portion of matter to be able to express the whole universe.

Preliminary discourse §70.

Theodicy §195.

The infinite subdivision of matter would follow from the fact that the bodies composed of matter are organic, that is, have infinitely nested organisation, which Leibniz established in M64. However here he opts to establish the infinite subdivision of matter in a different way. The central claim of his argument is that matter could not express the infinite complexity of the universe (as M61 showed that it does) unless it too were infinitely complex. And for matter to be infinitely complex means not only that it be infinitely divisible, but actually subject to infinite subdivision as well. Hence matter actually is infinitely subdivided.

Leibniz's remark that 'the ancients recognised' the infinite subdivision of matter is intended as an appeal to authority. He probably had in mind Aristotle, who claimed in the *Physics* that matter is infinitely divisible.²⁰⁷ It is often suggested that philosophers of the early modern period were much less inclined than their forebears to appeal to the traditional authorities (such as Aristotle and the Bible) when advancing their theories, preferring instead to ground their theories in empirical investigation and the use of reason.²⁰⁸ While it is true that early modern philosophers tended not to use appeals to authority exclusively, it was nevertheless not uncommon for them to make such appeals to support a theory that could also boast empirical or rational support. Leibniz certainly saw value in appealing to authority whenever he felt it would enhance his case. Such appeals also serve a defensive function: in an age which still frowned upon unorthodoxy, and was suspicious of 'novelty' and 'innovation' (both pejorative terms at the time), philosophers wishing to advance new theories often found it beneficial to show how aspects of those theories were in line with the views held by respected authorities, such as the ancients. In any case, Leibniz's appeal to 'the ancients' is somewhat disingenuous, as he was well aware that some of the ancients, such as the atomists Leucippus and Democritus, had *denied*

²⁰⁷ Aristotle, *Physics*, 231b10–13, in *The Complete Works*, I, p. 391.

²⁰⁸ See for example Douglas J. Soccio, *Archetypes of Wisdom: An Introduction to Philosophy* (Belmont: Wadsworth, 2010, 7ed), p. 247 and p. 272.

the infinite divisibility of matter. Clearly he considered this to be unworthy of mention.

It is worth noting that the world Leibniz presents us with exemplifies what Pascal had called a 'double infinity',²⁰⁹ that is, an infinity above us and below us, for whether we consider the macro level or the micro level, what we are faced with is infinity: 'all matter is organic everywhere, and that, however small a portion one takes, it contains representatively, by virtue of the actual decreasing to infinity that it encloses, the actual increasing to infinity which is outside it in the universe'.²¹⁰ While Pascal was humbled by the contemplation of the infinite above him and below him,²¹¹ Leibniz took great delight in it. Indeed, in one writing on the subject, Leibniz's language approaches that of the ecstatic: 'What an infinity of infinities infinitely replicated, what a world, what a universe perceptible in any assignable corpuscle.'²¹²

66. From this it is evident that there is a world of created things – living things, animals, entelechies, souls – in the least part of matter.

The idea expressed here is sometimes referred to as the 'worlds within worlds' doctrine. Leibniz takes it to follow from the claim in M65 that matter is infinitely subdivided. However, although he does not mention it in the *Monadology*, Leibniz also held that this doctrine could be empirically corroborated. He writes, for example, that 'microscopes make us see, in the smallest atom, a new world of innumerable creatures'.²¹³ This is a reference to the findings of one of the first microscopists, Antony van Leeuwenhoek (1632–1723), who discovered in saliva and water droplets a whole world of microorganisms which he called 'animalcules' (which literally means 'little animals'). Leibniz met Leeuwenhoek in 1676, and very likely became acquainted with the latter's research then. In a number of subsequent writings he claimed that Leeuwenhoek's findings corroborated the 'worlds within worlds' doctrine, for example, he wrote to one correspondent that 'Mr. Leewenhoek has shown' that there is 'an infinity of small animals in the least drop of water'.²¹⁴

²⁰⁹ Pascal, *Pensées and Other Writings*, trans. Honor Levi, ed. Anthony Levi (Oxford: Oxford University Press, 1995), p. 68.

²¹⁰ TI, p. 554: <http://www.leibniz-translations.com/pascal.htm>

²¹¹ See Pascal, *Pensées*, pp. 66–72.

²¹² TI, p. 554: <http://www.leibniz-translations.com/pascal.htm>

²¹³ A VI 4, pp. 952–3.

²¹⁴ PPL, p. 345. Nicolas Malebranche entertained similar ideas, speculating on the basis of the microscopists' discoveries that 'perhaps there are in nature things smaller

67. Each portion of matter may be conceived as a garden full of plants, and as a pond full of fish. But each branch of a plant, each limb of an animal, each drop of its humours, is also such a garden or such a pond.

This is the same ‘worlds within worlds’ doctrine found in M66, this time presented as a simile.

68. And although the earth and the air interspersed between the plants in the garden, or the water interspersed between the fish in the pond, are not themselves plant or fish, yet they still contain them, though more often than not of a subtlety imperceptible to us.

This is a consequence of the ‘worlds within worlds’ doctrine presented in M66–7: even those parts of matter which might at first seem not to be organic, such as the intervening matter between the plants in a garden or the fish in a pond, in fact contain living bodies, albeit ones that are so small that we cannot see them. The implication, which Leibniz goes on to draw in M69, is that every part of matter is full of living bodies. Future research, he believed, would reveal this directly: ‘I strongly favour inquiry into analogies: more and more of them are going to be yielded by plants, insects and the comparative anatomy of animals, especially as the microscope continues to be used more than it has been.’²¹⁵

In some texts, Leibniz argues that there is life in every part of matter via his principle of uniformity, which holds that ‘*it is always and everywhere in all things just as it is here*’,²¹⁶ in other words, that the things we do not experience are fundamentally like those that we do. Among other things, this would lead us to suppose that faraway things are like nearby things, and the microscopic is like the macroscopic, since we should recognise ‘in substances beyond our sight and observation something parallel to what we see in those which are within our range’.²¹⁷ Now our experience reveals to us bodies possessing life and perception, and on the basis of the principle of uniformity it follows that ‘this part of matter which composes these bodies would be too privileged if it alone had this advantage; thus . . . there is life and perception everywhere’.²¹⁸

and smaller to infinity, standing in that extreme proportion of man to mite’. This, Malebranche suggested, would be in keeping with ‘the idea we have of an infinite craftsman’. See Malebranche’s *The Search after Truth*, p. 26.

²¹⁵ NE, p. 473.

²¹⁶ LTS, p. 312; cf. LNS, p. 205; PPL, p. 590.

²¹⁷ LNS, p. 204.

²¹⁸ LTS, p. 312.

69. Thus there is nothing uncultivated, nothing sterile, nothing dead in the universe, no chaos, no confusions, except in appearance. This is somewhat like what is apparent with a pond viewed from a distance, in which we see a confused motion and swarming of the pond's fish without making out the fish themselves.

Theodicy. Preface ***5b, ****b

From the existence of life in every part of matter (affirmed in M66 and M68) it follows both that there is nothing dead in the universe, and that there is nothing disordered in the universe. Where there seems to be something inert, or disordered (Leibniz appears to equate the two), it is only so because our perception of it is confused. If we could get ourselves into a position where our perception was distinct, we would find that what seemed dead or disordered it is in fact full of life and fully ordered.

The claim that there is nothing without life in the universe is one that Leibniz made often,²¹⁹ and in an early text from 1676 he also argued that it 'is the only opinion worthy of the supreme creator of things, who has bequeathed us nothing sterile, nothing fallow, nothing unadorned'.²²⁰ It is likely that he continued to hold this view when writing the *Monadology*: see M64–5.

70. From this we see that each living body has a dominant entelechy, which in the animal is the soul; but the limbs of this living body are full of other living things – plants, animals – each of which also has its dominant entelechy or soul.

The language here ('From this we see . . .') would suggest that Leibniz takes the claims made in M70 to follow from what was said in M69. However that is implausible. Leibniz's assertion that 'each living body has a dominant entelechy' follows from M62, which claimed that an animal's soul represents its body more distinctly than it does other things. The connection is not immediately apparent because Leibniz does not explain what makes an entelechy dominant (this is true not just of the *Monadology* but also of many other texts in which he speaks of dominant monads or entelechies). However, in a letter to Barthélémy des Bosses (1668–1738) he explains that 'considered in terms of the monads themselves, domination and subordination consist only in degrees of perception'.²²¹ Hence a

²¹⁹ See, for example, PPL, p. 348; PE, p. 171; NE, p. 72.

²²⁰ Leibniz, *The Labyrinth of the Continuum*, p. 211.

²²¹ LDC, p. 257.

particular entelechy or soul is dominant in a living body inasmuch as it possesses perceptions that are more distinct than those enjoyed by all the other entelechies or souls in that body.

The second claim in M70, namely that the limbs of a living body are full of other living things, follows from the series of claims made in M63 and M65–6. In M63 Leibniz claimed that a living creature consists of a monad (entelechy) and a body, and then showed that its body is always organic, that is, one that has infinitely nested organisation. In M65 he showed that this was made possible by the infinite subdivision of matter, and in M66 drew the conclusion that there is a world of creatures in the smallest parts of matter (the ‘worlds within worlds’ doctrine). From that it follows that the limbs of a living body, being made of matter, are full of other living things. Hence we now have a more nuanced account of a living creature than that given in M63: strictly speaking, a living creature consists of a dominant entelechy and a body which in turn consists of other living creatures, each consisting of a dominant entelechy and a body, and so on. Although it is not immediately apparent, Leibniz takes the dominant monad to serve as the living creature’s principle of unity, that is, that which brings together all of the parts of which its body is composed and makes it *one*.

71. But there is no need to suppose, as have some who have misunderstood my thought, that each soul has a mass or portion of matter of its own, or allotted to it forever, and that it consequently possesses other inferior living things which are forever destined to serve it. For all bodies are in a perpetual flux, like rivers, and parts are continually entering and leaving them.

Developing the claim of M70, Leibniz now argues that while a dominant entelechy always remains embodied, its body is subject to continual change such that no part of the body is permanently united to the entelechy. This corrects the mistaken view of Bayle: in note H of the *Dictionnaire* article ‘Rorarius’, Bayle claimed that Leibniz’s theory entailed that each soul retains the same body forever:

Leibniz’ hypothesis . . . leads us to believe, (1) that God, at the beginning of the world, created the forms of all bodies and, hence, all the souls of beasts, (2) that these souls have existed since that time, inseparably united to the first organized body in which God placed them.²²²

²²² Bayle, *Dictionnaire historique et critique*, III, p. 2607 (article ‘Rorarius’, note H)/*Historical and Critical Dictionary*, p. 236. In his private jottings on Bayle’s note H,

But why does Leibniz reject the suggestion that an animal retain the same body throughout its existence? Apparently because he accepts the ancient doctrine of perpetual flux, often attributed to Heraclitus. According to Plato, 'Heraclitus says somewhere that "everything gives way and nothing stands fast," and, likening the things that are to the flowing of a river, he says that "you cannot step into the same river twice"'.²²³ Leibniz gives no grounds for his endorsement of the Heraclitean doctrine of perpetual flux, and it would not seem to follow automatically from his earlier claim that every substance is subject to constant change (M10).

Although Leibniz here dismisses the thought that a soul may remain forever united to a particular piece of matter, this was a view he had endorsed in his youth, in the doctrine of the *flos substantiae*, or 'flower of substance'.²²⁴ The doctrine held that a person's soul was implanted into a tiny piece of matter no bigger than a mathematical point (the 'flower of substance'), which during life was located in the centre of the brain. After death, the soul remained attached to its flower of substance, and while the rest of the body would be destroyed – by fire, decomposition, devouring, and so on – the soul in its flower of substance remained indestructible, the indestructibility being guaranteed by the fact that the flower of substance was a mathematical point: 'a point is indivisible and so cannot be destroyed. So let the body be burned up and dispersed into all corners of the world – the mind will persevere safe and sound in its point. For who will be able to burn a point?'²²⁵ Leibniz abandoned the *flos substantiae* doctrine long before he came to write the *Monadology*; the last mention of it in his writings is in 1686.²²⁶

72. Thus the soul only changes body bit by bit and by degrees, so that it is never stripped of all its organs all at once. In animals there is often metamorphosis, but never metempsychosis or transmigration of souls; neither are there any entirely *separate souls*, nor genies without bodies. God alone is entirely detached from body.

Theodicy §90. §124.

Leibniz wrote: 'It is not that a certain mass always remains inseparable from the animal or the soul, but rather that certain organs always remain, at least by the substitution of an equivalent, as happens when a river remains the same, although matter of the same kind is always entering and leaving it.' LNS, p. 75.

²²³ Plato, *Cratylus* 402a, in *Plato: Complete Works*, p. 120.

²²⁴ See Lloyd Strickland, 'Leibniz, "the flower of substance," and the resurrection of the same body', *The Philosophical Forum* 40:3 (2009), pp. 391–410.

²²⁵ A II 1 (2nd edn), p. 181.

²²⁶ See A VI 4, p. 2454.

The claims made here are a straightforward consequence of what has come before. In M71 we learned that bodies are subject to constant change in terms of their composition. That this should happen by degrees follows from Leibniz's claim in M13 that all natural change happens by degrees. Leibniz then explains that this gradual change in bodily composition is consistent with metamorphosis, that is, a change of form, as would occur in the transformation of caterpillar to butterfly, for example. So even here, where the overall change is quite dramatic, the living body undergoes a gradual change of parts. The fact that a soul changes its body by degrees also rules out the possibility of metempsychosis, that is, the transmigration of the soul. After all, metempsychosis would involve the soul suddenly 'jumping' from one body to another, which is tantamount to saying that all the parts of a soul's body are replaced at once. This conflicts with the conclusion Leibniz has just drawn, namely that a soul changes its body by degrees.

Leibniz then insists that created souls always retain *a* body (even though its constituent parts are constantly changing). So there are no disembodied souls. This contradicts the position of Aquinas (1225–74), who held that human souls could exist in a disembodied state following separation from the body.²²⁷ Leibniz does not here reveal his reasons for rejecting this, but in other texts we can find two distinct arguments. The first states that souls without bodies would be incomplete.²²⁸ For, as created beings, they are necessarily imperfect, and hence a mixture of active and passive, with the body serving as its passive principle, that is, its limitation.²²⁹ Hence every created soul is necessarily accompanied by an organic body, and only God is able to enjoy disembodied existence. A second reason Leibniz sometimes offers for his rejection of disembodied souls is based on the need for order and harmony. Souls 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 (see M62ff); 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: 'God alone is above all matter, since he is its Author. But creatures free or freed from matter would be at the

²²⁷ See Aquinas, *Summa Theologiae* I, Q.75, Art. 2, ad.

²²⁸ See for example, LNS, p. 219.

²²⁹ See SLT, p. 65.

same time detached from the universal connection, and like deserters from the general order.²³⁰

Often when discussing his rejection of disembodied souls Leibniz would claim that his thinking was in line with the teaching of the Church Fathers, who had granted bodies even to angels.²³¹ His appeal to the authority of the Fathers in this matter may well be due to the fact that he knew that respected figures such as Aquinas and Descartes had accepted the existence of disembodied souls: in endorsing the contrary position, Leibniz felt obliged to offer more than just arguments. By reminding his readers of the theological pedigree of his own position, Leibniz hoped it would be taken more seriously than might otherwise have been the case.

73. It is also on account of this that there is never true generation, nor perfect death, taken in the rigorous sense of the term as consisting in the separation of the soul from the body. And what we call *generation* is development and growth, just as what we call *death* is enfolding and diminishing.

By insisting that souls are never separated from a body (M72), Leibniz is able to rule out both the true generation and death of a living creature. Traditionally, death was understood to be the separation of the soul from the body,²³² and clearly if souls are never separated from a body then they do not die. By parity of argument, absolute generation, understood as the joining of a soul with a body, does not occur either, because the soul is always joined to a body. Rather than retire the terms 'generation' and 'death', Leibniz revises their meaning: generation is now taken to be the process whereby a soul's body grows and develops (for example in childhood), while death is generation in reverse, that is, the process whereby a soul's body shrinks and becomes less developed (for example in decomposition).

74. Philosophers have been greatly puzzled about the origin of forms, entelechies, or souls. But today, when detailed studies of plants, insects, and animals have shown that the organic bodies of nature are never produced from chaos or from putrefaction but always through seeds,

²³⁰ PPL, p. 590 (translation modified).

²³¹ See, for example, PE, p. 170; G III, p. 457.

²³² See, for example, Plato, *Phaedo* 64c, in *Plato: Complete Works*, p. 56.

in which there was doubtless some *preformation*, it has been concluded not only that the organic body was already there before conception, but also that there was a soul in this body. In a word, it has been concluded that the animal itself was already there, and that by means of conception this animal has been merely made ready for a great transformation in order to become an animal of another kind. Even outside generation, something similar is observed when maggots become flies, and caterpillars become butterflies.

Theodicy §86. §89.

Preface ***5b and following pages.

§90. §187. §188. §403.

§86. §397.

In the *Theodicy* Leibniz explains the three traditional theories which sought to explain the origin of souls: (1) pre-existence, which held that souls existed elsewhere before being joined to a body and born into this world; (2) traduction, which held that the souls of children were produced from the souls of parents, just as one flame is started from another; (3) education, which held that souls are created from the power of matter alone.²³³ (We would today term the third theory *spontaneous generation*.) To these was added a fourth theory in the seventeenth century: preformationism. This theory held that all living things develop from miniature versions of themselves which existed in the semen of the parents.²³⁴ Birth was simply the enlargement of these animalcules or homunculi (little humans). The preformationist theory was boosted by Leeuwenhoek's discovery of spermatozoa in 1677, and developed further by the observations of Jan Swammerdam (1637–80) and Marcello Malpighi (1628–94). Leibniz was a keen adherent, and on the back of the evidence adduced by the microscopists he stated that 'it is doubtful that an entirely new animal is ever produced but that living animals as well as plants already exist in miniature in the seeds before conception'.²³⁵ He followed Malebranche in envisioning all living things as being nested inside each other at the moment of creation, like Russian dolls, such that all animals (men included) that were to develop throughout the course of the universe were present as animalcules in the semen of all previous generations of animals. Aside from the evidence from microscopists, Leibniz also found support for preformationism

²³³ H, p. 170f.

²³⁴ A rival version of the theory – endorsed by Malebranche among others – held that preformed animals were held in the female ova rather than the male sperm. Leibniz rejected this on the grounds that 'the ovaries have not yet shown anything animated'. G III, p. 564.

²³⁵ PPL, p. 589.

in the Bible; the theory, he claimed, 'is sufficiently in accordance with Holy Scriptures, which insinuate that seeds have existed from the beginning'.²³⁶

For Leibniz, then, conception does not mark the beginning of the animal (or indeed the soul), but rather the start of its development from animalcule to animal proper, which is merely a particular stage of its existence rather than the beginning of its existence. Such great transformations are not limited to conception and birth, however, as we also see caterpillars transforming into butterflies and worms (presumably larvae) transforming into flies. Leibniz sometimes suggests that these transformations we can see should alert us to the existence of those transformations that we cannot see: 'nature shows us . . . the transformation of caterpillars and other insects . . . to make us deduce that there are transformations everywhere'.²³⁷

75. *Animals*, some of which are raised by means of conception to the level of larger animals, may be called *spermatic*. But those of them which remain in their own kind, namely the majority of them, are born, multiply, and are destroyed like the large animals, and there are only a chosen few which pass through to a greater stage.

In Leibniz's day, 'spermatic' did not mean (as it does now for us) 'relating to sperm' but rather 'relating to seed' (indeed, our word 'sperm' originally meant 'seed'). Hence a spermatic animal is literally a seed animal, that is, an animal that exists (or once existed) in seed form. Leibniz held that all animals are seed animals.

A key claim of M75 is that animals have their own lifecycles: they begin as seeds, many then grow into larger animals after conception, then reproduce and die (in the sense of becoming smaller again). The process is the same no matter how large or small the seed animal happens to be. This is perhaps not such an odd thought, given that the microscopic organisms recognised today, such as bacteria and viruses, are held to have their own lifecycles of generation, growth, reproduction, and death.

A second key claim in M75 is that while most seed-animals remain in their own kind throughout the lifecycle, a small number do not, and go on to enjoy a higher status. Leibniz's remarks about this here are rather cryptic, but seem to foreshadow what he will go on to say in M82 about human souls. There he will claim that, prior to conception, human souls are no different from animal souls, but at the moment of conception they

²³⁶ LTS, p. 285. Leibniz is presumably thinking here of Genesis 1.11–12, in which God creates seed-bearing plants.

²³⁷ LTS, p. 285.

are suddenly elevated to the rank of rational souls (minds). Human souls thus undergo a change in kind (from animal to human), while all other souls remain in their own kind.

76. But this is only half the truth. I have therefore concluded that if the animal never begins naturally, neither does it end naturally, and that not only will there be no generation, but also no complete destruction, or death, in the rigorous sense of the word. And these arguments, which are *a posteriori* and drawn from experience, agree perfectly with the principles I deduced *a priori* above.

Theodicy §90.

In M73 Leibniz gave an *a priori* argument for the claim that there is no true generation, and immediately afterwards, in M74, he offered *a posteriori* grounds for it, appealing to the researches of the microscopists and the theory of preformationism that grew out of their observations. Hence Leibniz thought it possible to offer *a priori* and *a posteriori* grounds for the claim that animals never begin naturally.

But what about the second claim, that there is no true death, and that what we think of as death is merely the envelopment and diminution of an animal? Leibniz offered *a priori* grounds for this claim in M73, but does not attempt to give parallel *a posteriori* grounds for it. This is unsurprising, given that there was no more observational evidence in its favour in Leibniz's day than there is in ours.²³⁸ So Leibniz was only able to offer *a priori* (M73) grounds for the claim that there is no true death, though in M76 he also appears to try to infer it from the fact that there is no true generation. He might be thinking that the fact that there is no true generation makes it 'natural' to think that there is no true death either; certainly on occasion Leibniz argued this way:

There is nothing more natural than to think that whatever has no beginning will also never perish. When one recognizes that all generation is but the

²³⁸ The reason for this, according to Leibniz, is 'because generation proceeds in a natural manner, little by little, so that we have leisure to observe it, but death is a sudden reverse by a leap [*per saltum*] a return all at once to parts which are too small for us, because death ordinarily occurs in too violent a way to permit us to observe the details of the retrogression'. PPL, p. 345. On the face of it, Leibniz's characterisation of death here as involving a leap would seem to conflict with the law of continuity. But the conflict can no doubt be removed: the law of continuity actually demands that all natural changes take place continuously, and Leibniz would presumably say that while the change from life to death is very quick, it is nevertheless continuous, and does not involve an animal being reduced to a seed-like state in a single instant.

increase and development of an animal which is already formed, it is easy to be persuaded that corruption or death is nothing but the diminution and involution of an animal which does not cease to subsist and to remain alive and organized.²³⁹

77. Thus it may be said not only that the soul (mirror of an indestructible universe) is indestructible, but also the animal itself, although its machine may often perish in part, and cast off or put on organic integuments.

Leibniz established the indestructibility of the soul (along with all other kinds of monads) in M4–5. His description of the soul here as ‘the mirror of an indestructible universe’ hints at an argument for the soul’s immortality which is made in other writings (for details, see the comments on M56).

We are now told that animals are indestructible also. The indestructibility of animals follows from M73, in which Leibniz established that animals neither begin nor end naturally. But we have also learned (from M72) that animals are never without a body, and (from M74) that they can and do undergo great transformations. Leibniz thus reimagines an animal’s death not as consisting in the separation of its soul from its body, but rather as involving a great transformation of its body, that is, the loss of much of its mass and most of its organs. But even after death, the animal’s soul always remains attached to *some* organs, and thus is always embodied.

Although he does not say so explicitly, Leibniz must mean that animals are *naturally* indestructible, in that they cannot be destroyed in the course of nature. This of course leaves open the possibility that they might be destroyed by a supernatural process, as would happen if God were to annihilate them.

In the seventeenth and eighteenth centuries, the body (whether of an animal or a human) was often referred to as a ‘machine’, especially when viewed mechanistically, that is, as operating in accordance with natural laws. As for ‘integuments’, these are coverings, normally in the sense of the natural coverings of an organism, such as its skin or shell. To say that an animal’s machine may ‘cast off or put on particular organic integuments’ is to say that it changes in terms of its composition.

²³⁹ PPL, p. 345.

78. These principles have given me a way of naturally explaining the union, or rather the agreement, of the soul and the organic body. The soul follows its own laws, and the body likewise follows its own, and they coincide by virtue of the pre-established harmony between all substances, since they are all representations of one and the same universe.

Preface ***6

Theodicy §340. §352. §353. §358.

The doctrine espoused here, that of pre-established harmony, is the one for which Leibniz was most famous in his own lifetime (so much so that he even signed one of his later articles ‘by the author of the system of the pre-established harmony’).²⁴⁰ The doctrine holds that God so established things from the very beginning that the states of the body and the states of the soul are always in harmony, and are so entirely as a result of body and soul following their own laws rather than because there is any interaction between them, or because one is constantly adjusted to the other by an outside agency (such as God). The soul follows its own psychical laws, while bodies follow the laws of motion, and together these laws ensure agreement between soul and body. Hence at the moment that the psychical laws operating on Pete’s soul lead him to decide to raise his hand, the laws of motion at work on his body make his hand rise. Similarly, when the laws of motion lead to an object hitting Pete’s leg, the psychical laws bring about in his soul a feeling of pain. By way of illustration, Leibniz sometimes used the example of two clocks. Suppose a sufficiently skilled clockmaker makes two clocks which both keep perfect time of their own accord: their agreement is thus due to the supreme artisanship of the clockmaker at the outset, rather than to any influence between the clocks, or on account of any intervention of the clockmaker.²⁴¹

The pre-established harmony of soul and body follows from the pre-established harmony of all monads as detailed in M56. For the soul is a monad and the body consists of monads, and since all monads agree in their states, the soul and all of the monads of the body must agree in their states also. Leibniz holds that the union of the soul and body consists in nothing more than their mutual agreement;²⁴² they are thus not bound together in any other way. As he explains in the *New System* (1695): ‘It is this mutual relationship, arranged in advance in each substance of the universe, which produces what we call their communication, and which

²⁴⁰ See PPL, p. 586.

²⁴¹ See SLT, p. 77.

²⁴² SLT, p. 75.

alone constitutes *the union of the soul and the body*.²⁴³ In 1703, this claim was challenged by René Joseph de Tournemine (1661–1739), who argued that

*correspondence, or harmony, does not make a union, or essential connection. Whatever parallels we imagine between two clocks, even if the relation between them were perfectly exact, we could never say that these clocks were united just because the movements of the one correspond to the movements of the other with perfect symmetry.*²⁴⁴

In his response (1708), Leibniz claimed that Tournemine had misunderstood what he had meant by ‘the union of the soul and the body’. Leibniz insisted that when he spoke of this union he meant only ‘the relation we perceive between the soul and the body’, in other words, the mutual adjustment of the two. Tournemine, on the other hand, took ‘union’ to be something more than this; specifically, he thought it required some kind of metaphysical bond or glue that made soul and body into a single thing. Leibniz claimed that if there was such a ‘metaphysical union’ it was, like the mysteries of faith, something beyond human understanding, and therefore he could not explain it.²⁴⁵ Perhaps wary of being misunderstood again, in M78 Leibniz makes it clear that by ‘the union of the soul and body’ he means only the agreement between soul and body.

The name ‘pre-established harmony’ was coined only in 1695.²⁴⁶ Prior to that, Leibniz referred to the doctrine as the ‘hypothesis of concomitance’²⁴⁷ or the ‘hypothesis of agreements’.²⁴⁸

79. Souls act according to the laws of final causes through appetitions, ends, and means. Bodies act according to the laws of efficient causes, or laws of motion. And the two kingdoms, that of efficient and that of final causes, are in harmony with each another.

This section elaborates on the preceding one, which simply stated that souls and bodies follow their own laws. We are now told what these laws are. Souls are driven from one state to another by the laws of final causes, or as Leibniz puts in PNG3, ‘the laws of appetites, or *final causes of good and evil*, which consist in the observable perceptions’. More simply, what

²⁴³ SLT, p. 75.

²⁴⁴ LNS, p. 249.

²⁴⁵ See LNS, pp. 250–1. See also LDV, p. 331.

²⁴⁶ See A III 6, p. 505.

²⁴⁷ SLT, p. 46.

²⁴⁸ SLT, p. 75.

drives the internal changes of souls is their appetite, or *will*, which forms volitions to bring about desired ends, namely those which are perceived to be the best. However, the will itself is inclined by all of a soul's (infinite) perceptions taken together at any given moment, the vast majority of which are confused, which means that the perceived best course is often not the actual best course. Nevertheless, the form of causality operative in souls is final causality, because souls are constantly driven to attain desired ends.

Bodies, on the other hand, are pushed from one state to another by the natural laws of motion and impact, and are thus affected by efficient causality only. Efficient causality is 'blind' inasmuch as it is not directed by knowledge and does not work towards an end.

The two kinds of cause – final and efficient – operate strictly within their own realms: final causes only on souls, efficient causes only on bodies. Hence one should not explain the states of the soul by means of efficient causes, nor the movement of bodies by means of final causes. Nevertheless souls and bodies always agree, because of the pre-established harmony between them.

80. Descartes recognised that souls cannot impart force to bodies because there is always the same quantity of force in matter. However, he believed that the soul could change the direction of bodies. But this is because the law of nature which also affirms the conservation of the same total direction in matter was not known in his day. If he had noticed this, he would have come across my system of pre-established harmony.

Preface ****

Theodicy §22. §59. §60. §61.

§63. §66.

§345. §346 onwards. §354. §355.

Leibniz now seeks to support his system of pre-established harmony in an indirect way, by undermining one of its main rivals, namely the 'way of influence' endorsed by Descartes.²⁴⁹ Descartes had recognised the existence of minds (mental substance), the essence of which is thought, and body (material substance), the essence of which is extension. He also held that there was causal interaction between the two, mediated via the pineal gland at the centre of the brain. Leibniz's understanding of Descartes'

²⁴⁹ The 'way of influence' is Leibniz's own description of Descartes' hypothesis, and was not used by Descartes. See SLT, p. 77.

position was that such interaction involves the non-material soul changing the direction of the pineal gland, which in turn changes the direction of animal spirits which circulated throughout the nervous system, and thus leads to physiological changes. Such interventions, Leibniz argues, are fully consistent with the conservation principle endorsed by Descartes, which holds that the total quantity of motion in the material world is always held constant. After all, on the scenario just outlined, the soul only changes the direction of motion of the pineal gland, and does not add to or detract from the total quantity of it. However, in his own physics, Leibniz demonstrated that it was not just motion that was conserved, but also *direction of motion*. This led to him ruling out as impossible the sort of interaction between soul and pineal gland that he thought Descartes had advanced.²⁵⁰

However it is not entirely certain that Leibniz's reading of Descartes is accurate. While there is clear textual evidence that Descartes held the position that the soul interacts with the pineal gland by changing the direction of its motion (he claims that the pineal gland 'can be pushed to one side by the soul and to the other side by the animal spirits'),²⁵¹ it is less clear that the textual evidence supports the claim that he believed the soul interacts with the pineal gland *only in this way*, which is the position Leibniz ascribes to him. In fact, the textual evidence seems to point in a different direction. For example, in §34 of *The Passions of the Soul*, the work in which Descartes dealt with the topic of interaction at some length, Descartes talks of the gland being moved 'in many different ways' by the soul.²⁵² And in §41 he writes that 'the activity of the soul consists entirely in the fact that simply by willing something it brings it about that the little gland to which it is closely joined moves in the manner required to produce the effect corresponding to this volition'.²⁵³ Such passages could quite readily be interpreted as claiming that there are various ways in which the soul affects the state of the pineal gland; changing the direction of its motion would be one such way, but perhaps not the only one.

It is interesting to note that in the earliest text in which Leibniz advances

²⁵⁰ Leibniz frequently levelled this objection. See, for example, LNS, pp. 51–2; PPL, p. 587.

²⁵¹ Descartes, *The Philosophical Writings of Descartes*, I, p. 346.

²⁵² Descartes, *The Philosophical Writings of Descartes*, I, p. 341. The point is developed by Daniel Garber in his *Descartes Embodied* (Cambridge: Cambridge University Press, 2000), pp. 133–67, especially pp. 144–9. Garber also claims that while Descartes held that motion is conserved, he may not have treated this as a universal law, and may have wished to exempt animate (human) bodies from it. See Garber, *Descartes Embodied*, pp. 150–2.

²⁵³ Descartes, *The Philosophical Writings of Descartes*, I, p. 343.

his reading of Descartes, a letter from 1687, he does so somewhat hesitantly, as though making a tentative suggestion as to what Descartes may have believed or may have intended ('... as, it seems, Descartes wishes to say ...').²⁵⁴ However, in later writings, such as the *Monadology*, this hesitancy is replaced by a confident assertion that Descartes *did* in fact believe that the soul only influenced the pineal gland by changing the direction of its motion. Why Leibniz became increasingly confident of his interpretation of Descartes is unclear. One possibility that is difficult to dismiss, especially given that Leibniz failed to amass any positive textual evidence in favour of his interpretation, is that his frequent repetition of his interpretation eventually strengthened his confidence in it.²⁵⁵

81. This system means that bodies act as if there were no souls (although this is impossible), and souls act as if there were no bodies, and both act as if each influenced the other.

This is a succinct summary of the pre-established harmony between soul and body. In some texts Leibniz develops one of the scenarios briefly mentioned here, and considers what would happen if all souls were suddenly removed from the world while the bodies remained: because bodies are not and never were affected by souls, but only by the laws of motion and impact, they would continue to behave exactly as before, and so human bodies would continue to read and write books, though there would be no souls to understand what was being read or written.²⁵⁶ (The scenario, Leibniz insists, would never come to pass, though this does not detract from its usefulness as an illustration of the independence of the realms of soul and body.)

82. As for *minds* or rational souls, although I find that, fundamentally, what we have just said holds good of all living things and animals (namely

²⁵⁴ PE, p. 83.

²⁵⁵ Similar to this, Peter Remnant suggests that Leibniz may have engaged in 'a piece of creative elucidation' in his presentation of Descartes' position. Peter Remnant, 'Descartes: body and soul', in Georges J. D. Moyal (ed.), *Descartes: Critical Assessments Volume III* (London: Routledge, 1991), p. 329. Not all scholars think that Leibniz misinterpreted Descartes, however; Peter McLaughlin, for instance, claims that Leibniz's reading – and criticism – of Descartes, is fair. See Peter McLaughlin, 'Descartes on mind-body interaction and the conservation of motion', *The Philosophical Review* 102:2 (1993), pp. 155–82.

²⁵⁶ See A VI 4, p. 367: <http://www.leibniz-translations.com/howthesoul.htm>

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that the animal and the soul only begin with the world, and no more come to an end than the world does), nevertheless rational animals are distinctive in that their little spermatric animals, for as long as they are only spermatric 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.

Theodicy §91. §397.

Leibniz now turns his attention to rational souls (minds), which will remain his focus for the remainder of the text. The claim he makes here was hinted at earlier, in M75, and is this: before conception, rational souls are no different from animal souls, but are raised in status (given the spark of reason) at the moment of conception. This is a view Leibniz adopted in the 1680s, after writing a series of short texts in which he wrestled with the problem of the origin of human souls.²⁵⁷ In these texts, Leibniz considers and rejects various alternative hypotheses, for example:

- that human souls existed from the outset in human seeds ('if we suggest that human souls are . . . created in the beginning by God to lie hidden in seeds and await conception, we fall into [a] paradox, because evidently innumerable human souls may remain unused in seeds and never come to use reason'.²⁵⁸ Such waste – most sperm do not fertilise ova and so do not develop into human beings – does not seem consistent with God's wisdom).
- that human souls do not exist in seeds, and are instead created at the point of conception (this 'makes human seeds inferior to the seeds of beasts, for who would believe that souls are rather inside the seeds or eggs of animals, but no souls are in humans alone?')²⁵⁹

As a result of these considerations, Leibniz reasoned that it is more in keeping with reason to suppose that each human seed contains an animal soul which God supplements with reason at the moment of successful conception. In later years he referred to this process as *transcreation*.

Leibniz appears to have conceived two different ways in which transcreation might take place. In T91 he claims that transcreation involves 'a particular operation', that is, God's immediate operation, which supports his claim elsewhere that it is a miraculous process.²⁶⁰ However his discom-

²⁵⁷ See SLT, pp. 61–3.

²⁵⁸ SLT, p. 63.

²⁵⁹ SLT, p. 63.

²⁶⁰ See for example LDB, p. 127.

fort with the idea of admitting so many miracles ('I would prefer to do without a miracle in the generation of man' he writes in T397) led him to develop a naturalistic alternative, in which the rationality of human souls does pre-exist in human seeds but remains latent until some pre-ordained time, namely the moment of conception, at which point its powers naturally develop:

either this [sc. elevation to the degree of rationality] is brought about miraculously through a divine superaddition or, in those seminal souls that are destined for humanity, it is already concealed in a prearranged act. In the latter case, it will finally be uncovered and reveal itself when the organic body proper to such a soul, through a final conception, is also partly uncovered and partly transformed into a human body, for a human organism certainly has only been pre-established in the bodies of these souls, while an infinity of other souls and seminal animalcula (if such are acknowledged), or at any rate preformed living organic bodies, remain within the limits of a sensitive degree of nature, with respect to both prearranged and exercised acts, as the schools say.²⁶¹

Leibniz entertains this idea in T397 also. Leibniz thus offers a miraculous account and a naturalistic account of how certain animal souls may come to be elevated to the rank of reason. There is insufficient information in M82 to determine which of these accounts he had in mind at the time of writing the *Monadology*.

83. Among other differences which exist between ordinary souls and minds, some of which I have already pointed out, there is also this one: that souls in general are living mirrors or images of the universe of created things, whereas minds are also images of the divinity itself, or of the very author of nature, capable of knowing the system of the universe, and of imitating something of it through their own smaller-scale constructions, each mind being like a little divinity in its own sphere.

Theodicy §147.

The differences between minds and ordinary souls were detailed in M29–30: minds can know necessary truths through reason, are self-conscious, and have a concept of God. We now learn that while souls are living mirrors of the universe, minds are also images of God. That every soul and mind is a living mirror of the universe can be deduced from M56, in which Leibniz claimed that every monad is a living mirror of the universe. That minds

²⁶¹ LDB, p. 151.

are more than that, being also images of God, is due to their possession of reason (M29). This enables them to know the system of the universe and to imitate it, to some extent.

But to imitate it how? Here there is some uncertainty as to what exactly Leibniz meant. Much of the problem is due to Leibniz's use of the obscure phrase 'echantillons architectoniques' which literally translates as 'architectonic samples', where 'architectonic' means 'relating to the art of construction'. Because the literal translation is not very illuminating, Leibniz's translators have opted to translate 'echantillons architectoniques' in a different way. These are some of the suggestions:

Translator	Translation
Robert Latta	architectonic patterns ²⁶²
Roger Ariew and Daniel Garber	schematic representations ²⁶³
Anthony Savile	constructive exemplars ²⁶⁴

Each translation comes with, or invites, its own interpretation of M83. Latta takes Leibniz's 'echantillons architectoniques' to refer to 'subsidiary creations or imitative constructions'. He explains: 'Man can not merely express in himself the "machine" of the universe, but he can also make for himself small "machines," constructed on similar principles.'²⁶⁵ Here, then, 'echantillons architectoniques' are to be understood as manmade machines, and Leibniz's point would be that we imitate God by constructing them. Ariew and Garber, on the other hand, take Leibniz's 'echantillons architectoniques' to be 'schematic representations'; this seems to take Leibniz to be saying that we imitate God by devising mathematical or physical accounts of the universe. However, in M83 Leibniz states that minds are capable of knowing the universe *and* of imitating something of it. If this imitation is nothing more than the ability to produce 'schematic representations', it is difficult to see that it amounts to anything more substantial than knowing the system of the universe (since to devise a mathematical account of the universe is just a way of coming to know it), in which case Leibniz would be effectively repeating himself. Lastly, Savile translates 'echantillons architectoniques' as 'constructive exemplars', and in so doing construes Leibniz as saying that

We exert our intellectual powers in the pursuit of knowledge in science, in the construction of artefacts (engineering and art) and in the devising of politi-

²⁶² MPW, p. 266.

²⁶³ PE, p. 223.

²⁶⁴ Savile, *The Routledge Philosophy Guidebook*, p. 238.

²⁶⁵ MPW, p. 266.

cal and social organizations for the orderliness of our lives. In this exercise of power, knowledge, wisdom and spiritual goodness we imitate God.²⁶⁶

As plausible as this might look at first glance, at its heart is an interpretation of the French expression ‘*echantillons architectoniques*’ which looks to be untenable: ‘*architectonique*’ refers to construction in the architectural sense, rather than the devising of political or social structures. This sense informs my own translation of ‘*echantillons architectoniques*’ as ‘smaller-scale constructions’; this translation suggests Leibniz’s point to be that not only can minds know the system of the universe, they can also construct little models or machines based on the same principles. This of course is Latta’s interpretation also. It is worth noting, however, that the matter is far from clear cut. At the end of M83 Leibniz refers the reader to T147, where he explains that God allows man to govern his own little world, that is, his own life, in accordance with reason. If M83 is to be read in light of this, it suggests a different sense of minds being images of God. To complicate matters still further, in PNG14 Leibniz claims that minds are images of the divinity in part because they are able to produce something of God’s works, which he there takes to mean that they can invent things in dreams, act freely, and make scientific discoveries.

However it is understood, the claim that minds are images of God has clear echoes of the common Judeo-Christian motif that humans have been made in God’s image, asserted in Genesis 1.27–8, 5.1–2, and 9.6. It is one of the few such motifs to be found in the *Monadology* (another occurs at M85), which otherwise largely presents a metaphysician’s account of God and his activity.²⁶⁷ Note that by claiming that *minds* are made in God’s image Leibniz goes beyond what is said in Genesis, which very clearly states that *human beings* are made in his image: for Leibniz, the category of ‘minds’ includes not just human beings but also higher (superhuman) beings such as genii and angels; this is not very clear in the *Monadology* itself (though see M72) but is affirmed in numerous other writings.²⁶⁸

84. It is for this reason that minds are capable of entering into a kind of society with God, and that his relation to them 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.

²⁶⁶ Savile, *The Routledge Philosophy Guidebook*, pp. 214–15.

²⁶⁷ This has led one scholar to claim that ‘the *Monadology* could be read as being compatible with an eighteenth-century deist perspective’. Peter Loftson, ‘Introduction’, in G. W. Leibniz, *Discourse on Metaphysics and Other Writings* (London: Broadview, 2012), p. 26.

²⁶⁸ For example, PNG15; LTS, p. 349.

This claim follows directly from M83: because minds are endowed with reason there is an affinity between them and God, which enables them to enter into a personal relationship with him. Lesser beings cannot, as they lack the requisite moral and intellectual capacities. Moreover, because minds are images of God, his interest in them is not one of curiosity (as would be the relationship of an inventor to his machine) but rather one of concern and love (as would be the relationship of a benevolent monarch to his subjects and of a father to his children).

The belief that God's relationship to humans is like that of a father to his children is a common one in Christianity; it is affirmed, for example, in the opening line of a number of creeds, such as the Apostle's Creed ('I believe in God, the Father Almighty . . .') and the Nicene Creed ('We believe in one God, the Father, the Almighty').

85. From this it is easy to conclude that the assemblage of all minds must make up the City of God, that is, the most perfect possible state under the most perfect of monarchs.

Theodicy §146.

Abridgement, objection 2.

The claim here follows from a number of others. All minds are capable of entering into society with God (M84), and because of their special status as images of God (M83) the resulting community will be the best one possible. Moreover, as God is perfectly good (M48), he will be concerned with the welfare of all minds, so God will be the most perfect monarch of this community.

In referring to this community as the 'City of God' Leibniz deliberately employs another Christian motif, as the notion 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 (as such it is contrasted with the Earthly City). The idea of such a City Of God is rooted in Scripture, for example Psalm 87.3, Psalm 48.1, and Psalm 46.4. Leibniz's City of God, on the other hand, has two distinct features: it is populated not just by Christian minds but by all minds (on which basis he sometimes refers to it as the 'republic of minds' or 'commonwealth of minds'), and it is the best-governed state of all, on account of it being ruled by God.²⁶⁹

²⁶⁹ Both of these features are affirmed in other texts. See for example T obj. 2, and PNG15. When discussing the 'City of God' Leibniz appears only to have these two features in mind.

86. This City of God, this truly universal monarchy, is a moral world in the natural world, and is the most exalted and the most divine of God's works, and it is in this that God's glory truly consists, since there would be no glory if his greatness and his goodness were not known and admired by minds. It is also in relation to this divine city that he may properly be said to have goodness, whereas his wisdom and his power are apparent everywhere.

Leibniz starts by affirming that the City of God has a moral dimension, which would seem to follow directly from the way it was characterised in M85. That it should be the most exalted and most divine part of God's work is due to the fact that it is an assemblage of all minds: as minds (and minds alone) are images of God (established in M83), together they must form the most exalted and divine part of creation. Leibniz then claims that God's glory can be found in this City of God. To understand this we need to know what Leibniz understands by the glory of God. Traditionally, God's glory was thought to consist in his own perfect nature, and/or in his expression of that nature.²⁷⁰ But Leibniz clearly thinks there is more to glory than this; specifically, he thinks that God's glory also requires other beings to recognise his supreme qualities, since he claims in M86 that if there were no such recognition then God would have no glory. Hence for Leibniz it would be correct to say that God's glory requires (a) that God have a perfect nature, (b) that he express that perfect nature, and (c) that his perfect nature be recognised by other creatures (that these are individually necessary for glory should be clear from the fact that (c) is not possible without (b), which in turn is not possible without (a); taken together, they are for Leibniz jointly sufficient conditions for glory).²⁷¹

Lastly, Leibniz claims that whilst God's wisdom and power are manifested in all parts of creation, his goodness is most apparent in the City of God. If creation consisted merely in the machine of the universe, with all parts following only the (efficient) 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.

87. As we have established above a perfect harmony between two natural kingdoms, the one of efficient causes, the other of final causes, we ought here to point out yet another harmony between the physical

²⁷⁰ See for example Nicolas Malebranche, *Dialogues on Metaphysics and on Religion*, p. 153.

²⁷¹ The position Leibniz adopts here is consistent with that endorsed elsewhere. See for example SLT, p. 108.

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kingdom of nature and the moral kingdom of grace; that is, between God as architect of the machine of the universe, and God considered as monarch of the divine city of minds.

Theodicy §62. §74. §118. §248.
§112. §130. §247.

Leibniz was very fond of harmonies, and identified them wherever he could. The harmony between the realms of efficient causes (in bodies) and final causes (in souls) was affirmed in M78–9, and M81. He is now alerting us to the existence of another harmony, that which holds between the kingdoms of nature and grace. As he states, the ‘kingdom of nature’ refers to the machine of the universe, that is, the physical universe subject to laws of nature, while the ‘kingdom of grace’ refers to the City of God, that is, the entire community of minds. Leibniz will explain what this harmony involves in the final three sections of the *Monadology*.

It is notable that in the *Monadology* Leibniz offers no reason for his claim that there is a harmony between the kingdoms of nature and grace. In the *Theodicy* he suggests that it follows from God’s wisdom, for ‘it is in accordance with God’s wisdom that everything be harmonic in his works’ (T91).

88. This harmony means that things lead to grace by the very ways of nature, and that for example this globe must be destroyed and repaired by natural ways at the times the government of minds demand it for the punishment of some and the reward of others.

Theodicy §18 and onwards. §110.
§244. §245. §340.

Leibniz starts by explaining what is meant by the harmony of nature and grace: God’s plans for minds are effected by the normal workings of nature. Leibniz’s choice of example is of the world being destroyed, and then subsequently repaired, by natural means, at the very times when such destruction and repair is morally required. While it is clear enough how the harmony is supposed to work in practice, Leibniz’s choice of example may come as a surprise, because it insinuates that there will be a series of apocalyptic upheavals, which might seem to be more in keeping with Stoic teachings than with traditional Christian doctrine. The ancient Greek Stoics held that the world is subject to an eternal cycle of conflagrations and renewals,²⁷² whereas Christian doctrine has it that the world as we

²⁷² See for example A. A. Long, ‘The Stoics on world-conflagration and everlasting recurrence’, in *From Epicurus to Epictetus: Studies in Hellenistic and Roman Philosophy* (Oxford: Oxford University Press, 2006), pp. 256–82.

know it ends at the time of the Last Judgement, and is then restored so that the blessed may enjoy eternal life under Christ's rule. Despite initial appearances, however, it is unlikely that Leibniz is brazenly endorsing a heterodox position in M88. Nothing he says is actually inconsistent with Christian doctrine: he is not, after all, asserting that the cycle of destruction and renewal will be everlasting, so there is no reason to attribute such a view to him. Moreover, if we consider Leibniz's geological work we can get a good idea of how he envisaged the world being naturally destroyed and repaired. In the *Protogaea* (1691–93), for example, Leibniz describes the formation of the Earth and its subsequent upheavals, including earthquakes, great floods, and volcanic eruptions. He believed that some of these events had been very devastating, for example, he describes floods of such magnitude that they submerged almost the entire surface of the Earth. But not only did he think that the deluges responsible for such great floods had occurred solely through natural processes, he also held that it was through natural processes alone that the waters had drained away each time.²⁷³ (Among these naturally occurring floods Leibniz seems to have included the great flood described in Genesis 6–9.) He had at his disposal, therefore, an entirely naturalistic model of how a series of destructions and renewals might occur. There is some evidence that it was what he had in mind when composing the *Monadology*, for at the end of M88 he refers the reader to T244 and T245, in which he describes some of the (natural) upheavals that had occurred on the Earth, such as conflagrations and floods.

89. 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.

Leibniz here draws out a further corollary of the harmony of nature and grace: punishments and rewards are administered by the order of nature rather than by special interventions of God. In M88 Leibniz identifies one way in which this might happen, namely the natural destruction of the Earth as a punishment for the sins of its inhabitants. According to Genesis 6, the great flood was sent by God as punishment for the wickedness of humanity. Given Leibniz's inclination to explain that flood naturally, he may have been inclined to identify the great flood as an example of the harmony of nature

²⁷³ See G. W. Leibniz, *Protogaea*, trans. and ed. Claudine Cohen and Andre Wakefield (Chicago: Chicago University Press, 2008), pp. 15–19.

and grace at work, that is, at the very time when the wickedness of humanity had reached the point when punishment was warranted, there occurred by natural means a deluge which flooded the Earth. Although there is evidence that suggests Leibniz may have thought this way, it is far from conclusive, and unfortunately Leibniz shies away from providing precise examples of sins leading naturally to their punishments, and virtues leading naturally to their rewards. His belief in the natural punishment of sin/reward of virtue is thus *a priori*, in the sense of running from cause (God's instigation of a harmony between the realms of nature and grace) to effect (such a harmony involves the natural distribution of desert).

A very different explanation of the natural punishment of sins can be found in an early work, the *Philosopher's Confession* (1672–73), in connection with the punishment of the damned in the afterlife. Leibniz there states that the damned are those who are discontented with the world, that is, God's work, and with God himself. When such people die, they carry their hatred with them into the afterlife, and because they no longer have any sense organs to provide them with new material to think about, their hatred grows stronger and stronger via a process of positive feedback:

*Whoever dies malcontent dies a hater of God . . . And now . . . since access to his senses has been closed off, he nourishes his soul, which has withdrawn into itself, with that hatred of things already begun, and with that misery and disdain, and with indignation, envy, and displeasure, all of them increasing more and more.*²⁷⁴

Leibniz goes on to claim that the hatred, anger, and misery of the damned person is not eased by the return of his bodily senses in the resurrection, because by that time he is so twisted that his pain is somehow pleasing to him. Consequently, after being resurrected, he will deliberately seek out things which incense him. The upshot is that his hatred of God and the world continues without end, as does the torment that this hatred brings. Although Leibniz only offers what we might call a 'psychology of the damned', it is possible to piece together a cognate 'psychology of the saved', as it were. For in the *Philosopher's Confession* Leibniz holds that any given person's final thoughts (or state of mind) will dominate his posthumous thoughts (or state of mind), irrespective of whether he is saved or damned:

For since the soul is not open to new external sensations from the moment of death until its body is restored to it, it concentrates its attention only on its last thoughts, so that it does not change but rather extends the state it was in at death.²⁷⁵

²⁷⁴ Leibniz, *Confessio Philosophi*, trans. and ed. R. Sleigh Jr. (New Haven: Yale University Press, 2005), p. 91.

²⁷⁵ Leibniz, *Confessio Philosophi*, pp. 35–7.

There thus seems no reason to suppose that this would not hold good of those who are saved as well as those who are damned. In the case of the saved, of course, they die *loving* God and his work. These thoughts of love are what they will think about between the time of death and resurrection, and by a similar process of positive feedback they can be expected to intensify to the point where the souls experience a kind of bliss. This would very much be a natural psychological process, not requiring any special intervention of God, just as the descent into permanent self-punishing madness experienced by the damned can be seen as a natural psychological process, in that it is just what happens when an evil and disgruntled will is left to reflect on its own thoughts in the afterlife. There is certainly no suggestion in Leibniz's works that God actively makes the wicked mad. Although these would qualify as examples of natural punishment of sin/reward of virtue, it is far from certain that they were what Leibniz had in mind when composing the *Monadology*. The crucial claim on which the examples are based, that the posthumous attention of the dead is focused solely on their final thoughts, does not seem to appear again in Leibniz's writings after 1686, almost thirty years before the *Monadology* was written. Although Leibniz's later writings do contain numerous statements about how death affects human psychological activity, they are much less detailed. The following passage is representative of Leibniz's later thought:

In death . . . we do not lose life, sensation or reason, but what prevents us from noticing that for a time is the confusion, that is, the fact that at that time we have an infinity of little perceptions all at once, in which there is no single one which is clearly distinguished from the others. That is why in a dream that is barely distinct, and in a fainting fit, we remember nothing.²⁷⁶

These remarks do not sit easily with the idea that the dead focus their attention on their final thoughts; indeed, they suggest that death is akin to a deep state of unconsciousness. This is confirmed elsewhere, with Leibniz describing the psychological state of the dead as being akin to a 'stupor'.²⁷⁷ At the time of writing the *Monadology*, then, Leibniz's other philosophical commitments may have prevented him from accepting the naturalistic process of punishment that he had outlined more than forty years beforehand, in the *Philosopher's Confession*.

Yet in spite of this, it is far from clear that the mature Leibniz entirely ruled out this psychological account, or at least something like it. For in an appendix to the *Theodicy*, Leibniz discusses a similar theory that had been advanced by William King, and says 'These thoughts are not to be

²⁷⁶ LTS, p. 296.

²⁷⁷ SLT, p. 65.

despised, and I have sometimes had similar ones, though I am careful not to make a decisive judgement about them.²⁷⁸ Moreover, he writes to Rudolf Christian Wagner in 1710:

since this [the Commonwealth of God] is governed with the utmost justice and beauty, it follows that, by the laws of nature themselves, souls are rendered more suited for rewards and punishments by the force of their own actions, on account of the parallelism between the Kingdom of grace and [the Kingdom of] nature. And in this sense it may be said that virtue brings about its own reward, and crime its own punishment, because by a sort of natural consequence of the very last state of the soul, according as it departs expiated or unexpiated, there arises a sort of natural watershed, preordained in nature by God, and consistent with divine promises and threats, and with grace and justice; and also with the additional intervention of good and bad genii, according to which side we have joined. The operations of these genii are undoubtedly natural, although their nature is more sublime than ours.²⁷⁹

It is possible that Leibniz's reference here to a 'natural watershed' that arises from 'a sort of natural consequence of the very last state of the soul' harks back to the psychological doctrine of posthumous self-punishment developed almost forty years earlier, or something of that order anyway. But there is insufficient detail to allow for certainty on the matter. Indeed, it is possible that in the Wagner letter Leibniz has something rather more mundane in mind, perhaps nothing more than the thought that it is the state of one's soul at death that determines whether one is destined for rewards or punishments in the afterlife, with the 'good' and 'bad' souls thereafter following different paths.²⁸⁰

But the Wagner letter does reveal one way in which rewards and punishments might be naturally distributed in the future life: by genii, that is, angels and demons. That Leibniz should have recourse to angels and other genii to facilitate the harmony between nature and grace is fully consistent with what he says about their role elsewhere. In the *Theodicy*, for example, Leibniz claims that 'God employs the ministry of angels in order to govern mankind, without the order of nature suffering thereby'.²⁸¹ Leibniz is able to count the actions of angels as part of the natural order, rather than as

²⁷⁸ H, p. 441.

²⁷⁹ Leibniz, *Opera omnia*, vol. II, 1, p. 229.

²⁸⁰ This of course entails that one's fate is essentially fixed by the state of one's soul at death, such that a soul which is damned (for example) does not become un-damned by turning over a new leaf in the afterlife. And this is in fact Leibniz's position; he says in the *Theodicy*: 'there is always in the man who sins, even when he is damned, a freedom which renders him culpable, and a power, albeit remote, of recovering himself, although it never passes into action'. H, p. 292.

²⁸¹ H, p. 439.

a deviation from it, because of the sharp distinction he draws between the nature of created beings (that is, finite substances), and the nature of God.²⁸² Those actions of created beings which are in accordance with their own natures are squarely part of the order of nature. This order is disturbed only by those actions of created beings which are beyond their own natures, for which they must be assisted by God. As this does not apply to the normal actions of genii, these actions fall within the order of nature, and so are not genuinely supernatural or miraculous.

90. Finally, under this perfect government there will be no good action without reward, no bad action without punishment, and everything must turn out right for the good, that is, those who are not malcontents in this great state, who trust in providence after they have done their duty, and who love and imitate the author of all good as they ought to, delighting in the consideration of his perfections in accordance with the nature of true *pure love*, which makes us take pleasure in the felicity of the beloved. This it is which makes the wise and virtuous work for everything that seems to conform to the presumptive or antecedent divine will, and yet leaves them contented with what God actually makes happen by his secret, consequent or decisive will. For they 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.

Theodicy §134 end.

Preface *4ab

Theodicy §278.

Preface *4b

The central claim here is that everything will turn out well for the good for those who love God, and Leibniz may have intended it as a corollary of points already made; certainly, from the assertion made in M89, that God has so established things as to bring about the natural punishment of sin and reward of virtue, it would seem to follow that no good action will go unrewarded and no sin unpunished. But as we shall see, this does not

²⁸² See for example LTS, p. 88.

adequately capture all that Leibniz means when he claims that everything will turn out for the good for those who love God. The claim itself very closely echoes Romans 8.28 ('all things work together for the good for those who love God') which Leibniz sometimes quoted approvingly.²⁸³ Alternatively, it can be derived from God's perfect justice, that is, his perfect goodness conformed to perfect wisdom.²⁸⁴

What does a love of God involve? As Leibniz notes, it involves taking pleasure in God's perfections. But for this to be possible at all, one must first know his perfections ('we could not love God without knowing his perfections or his beauty').²⁸⁵ One corollary of a true love of God is that we attempt to imitate God insofar as this is possible for us. We do this by willing what he wills, that is, we align our will with that of God. Or rather, we align our will with what we presume God's will to be, since we cannot be certain of its detail.²⁸⁶ Leibniz's distinction between God's 'presumptive or antecedent will' on the one hand, and his 'secret' or 'consequent' or 'decisive' will on the other, is important here.²⁸⁷ The distinction was first made by St John Damascene (c. 676–749),²⁸⁸ and became a staple of Scholastic theology, being found in the work of Aquinas and others.²⁸⁹ The antecedent will is God's desire for the good for each person taken individually, that is, abstracted from the whole. Hence God antecedently wills that all live a virtuous life, for example. God's consequent will, however, is his overall preference, having taken all things and all circumstances into consideration. Hence God's consequent will is to permit certain people to lead unvirtuous lives, because he has determined that this will be for the best of the whole. Leibniz describes God's consequent will as 'secret' because, as finite creatures, we are incapable of taking all things into consideration as he can, which means that we cannot know his consequent will. Since there is no way we could even attempt to act in accordance with God's consequent will, we are therefore left with no option but to act in accordance with his antecedent will, which desires the good in each specific circumstance for each individual. Hence we should act so as to procure the good of others

²⁸³ See for example SLT, p. 202.

²⁸⁴ See for example LTS, p. 124; G. W. Leibniz, *Political Writings*, 2nd edn, trans. and ed. Patrick Riley (Cambridge: Cambridge University Press, 1988), p. 59.

²⁸⁵ SLT, p. 297.

²⁸⁶ 'One of the strongest indications of a love of God which is sincere and disinterested is being satisfied with what he has already done, in the assurance that it is always the best: but also trying to make what is yet to happen as good and in keeping with his presumptive will as is possible for us.' LTS, p. 178.

²⁸⁷ In the *Theodicy* Leibniz also refers to the latter as God's final will. See H, p. 189.

²⁸⁸ John Damascene, *An Exposition of the Orthodox Faith*, book II, chapter 30.

²⁸⁹ See Aquinas, *Summa Theologiae* I.q19a6 ad. 1.

as we presume God wills it. But sometimes our actions do not turn out in the way that we hoped, or things happen which do not seem to contribute towards the good. We should not be discouraged by this: God will have permitted such cases by his consequent will, unknown to us in advance, so all we can do is trust that he has made the best and wisest choice, even if it might not seem that way to us, from our very limited perspective. If we were somehow able to see the whole, from God's perspective, we would see that everything contributes to the perfection and order of the whole, which could not be better than it is.

Such a picture has the potential to give the impression that God is happy to sacrifice the goods of some individuals for the benefits of the whole. Leibniz, however, flatly denies this, at least with regard to *virtuous* individuals. This is what grounds his assertion in M90 that it is impossible for the universe to be better 'for ourselves in particular, if we cleave to the author of all as we ought to'. The virtuous, then, can be confident that God is concerned not only for the world as a whole, but also for their own welfare. They 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 – and Leibniz conceded that often it did not – then we can be certain that it will happen in the next. As Leibniz makes clear in PNG16, the root of this certainty lies in what can be deduced by *reason*, for 'although reason cannot teach us the detail of the great future, which is reserved for revelation, this same reason assures us that things are accomplished in a manner which exceeds our desires'. That is, the virtuous can deduce that everything will turn out well for them from the fact that God is perfect and always acts for the best (cf. M48, M55). The virtuous thus have grounds to feel satisfied or contented, 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.

Appendix

1. THEODICY¹

Preface *4a and b² (referenced in M30, M41, and M90)

It is clear that Jesus Christ, completing what Moses had begun, wished that the Divinity be the object not only of our fear and veneration, but also of our love and ardour. This was to make men blessed in advance, and give them here below a foretaste of future felicity. For there is nothing so agreeable as loving that which is worthy of love. Love is that affection which makes us take pleasure in the perfections of the beloved, and there is nothing more perfect than God, nor anything more delightful. To love him it is sufficient to contemplate his perfections, which is easy since we find the ideas of these perfections within ourselves. The perfections of God are those of our souls, but he possesses them in boundless measure; he is an ocean, of which we have received only drops: there is in us some power, some knowledge, some goodness, but in God they are all complete. Order, proportions, harmony, delight us; painting and music are examples

¹ Source: G. W. Leibniz, *Essais de Theodicée sur la bonté de Dieu, la liberté de l'homme, et l'origine du mal*, 2nd edn (Amsterdam, 1714). Some later editions of the Theodicy, such as that printed in Gerhardt's edition of Leibniz's works (G VI, pp. 1–462), have many slight differences.

² In the very early editions of the *Theodicy*, the pages containing the preface were left unnumbered. However there were symbols and numbers printed at the bottom of all of the left-hand pages, and it is to these that Leibniz refers in the *Monadology* when citing various passages from the preface of the *Theodicy*. The opening left-hand page of the preface is marked with *2, and subsequent left-hand pages are marked by *3, *4, **, **2, **3 and so on. The right hand pages have no symbols or numbers, but in the *Monadology* Leibniz refers to them using 'a' (for the left-hand page) and 'b' (for the right-hand page).

of these. God is all order; he always maintains the accuracy of proportions, he makes the universal harmony: all beauty is an effusion of his rays.

It manifestly follows that true piety, and even true felicity, consists in the love of God, but in an enlightened love, the fervour of which is accompanied by insight. This kind of love arouses that pleasure in good actions which showcases one's virtue and, in relating everything to God, as to the centre-point, transports the human to the divine. For in doing one's duty, by obeying reason, one fulfils the orders of supreme reason, one directs all one's intentions to the common good, which does not differ from the glory of God. One finds that there is no greater individual interest than to espouse the general interest, and one gains satisfaction for oneself by taking pleasure in procuring real benefits for men. When one is resigned to God's will and knows that what he wills is best, one is content with what happens whether one succeeds or not. But before God declares his will through the event, one tries to be in accord with it by doing that which appears to be most in conformity with his commands. When we are in this state of mind, we are not put off by a lack of success, we regret only our faults. . .

Preface *5b (referenced in M69 and M74)**

. . . in reality, mechanism is sufficient to produce the organic bodies of animals, without need of other plastic natures, provided that added to it is the already completely organic *preformation*³ in the seeds of bodies that are born, contained in the seeds of the bodies from which they are born, all the way back to the first seeds. This could only come from the author of things, infinitely powerful and infinitely wise, who, making everything in the beginning in an orderly way, had pre-established there all order and all future artifice. There is no chaos inside of things, and there is organism everywhere in a piece of matter, the arrangement of which comes from God. This is revealed more and more the further we go into the anatomy of bodies, and it would continue to be observed even if we could carry on to infinity, as does nature, and continue the subdivision in our mind just as nature has continued it in fact.

Preface *6 (referenced in M78)**

In order to explain this marvel *of the formation of animals*, I made use of a pre-established harmony, that is, of the same means I had used to explain another marvel, which is *the correspondence of the soul with the body*, in which I showed the uniformity and the fruitfulness of the principles I had employed. It seems that this reminded Mr Bayle of my system, which

³ Reading 'preformation' in place of 'reformation'.

explains this correspondence, and which he had previously examined. He declared (in chapter 180 of his *Réponse aux Questions d'un Provincial*, page 1253 of book III) that it did not seem to him that God could give to matter or to any other cause the faculty of organising without communicating to it the idea and the knowledge of organisation, and that he was not yet disposed to believe that God, with all his power over nature and with all the foreknowledge he has of the contingencies that may happen, could have disposed things in such a way that, by the laws of mechanics alone, a vessel (for example) should go to its port of destination without being kept on course by some intelligent guide. I was surprised to see that limits were being placed on God's power, without putting forward any proof of them, and without showing that there was any contradiction to worry about on the part of the object, or any imperfection on the part of God. Indeed, I had shown before, in my response, that even humans often produce through automata something like the movements that come from reason, and that a finite mind (albeit one far above ours) could itself accomplish what Mr Bayle thought impossible for the divinity. Besides, as God adjusts in advance all things at once, the accuracy of the path of this vessel would be no more strange than that of a fuse which went the length of a cord in a firework, since all the adjustments of all things have a perfect harmony with each other, and are mutually determined.

Preface ** (referenced in M80) and ****b (referenced in M69)**

It seems to me that I have found the means of demonstrating the contrary, in a way that is enlightening and at the same time throws light on the interior of things. For having made new discoveries on the nature of active force and the laws of motion, I have shown that they are not of an absolutely geometrical necessity, as Spinoza seems to have thought, and they are not purely arbitrary either, even though this is the opinion shared by Mr Bayle and some modern philosophers. Instead, the laws of motion are dependent upon *fittingness*, as I have already pointed out above, or upon what I call *the principle of the best*. And one recognises in that, as in everything else, the marks of the prime substance, whose productions indicate a supreme wisdom, and form the most perfect of harmonies. I have shown also that it is this harmony which connects both the future with the past, and the nearby with what is faraway. The first kind of connection unites times, and the other unites places. This second connection is apparent in the union of the soul with the body, and generally in the communication of true substances with one another and with material phenomena. But the first connection holds good in the preformation of organic bodies, or rather of all bodies, since there is organism everywhere, although all masses do not compose organic bodies, just as a pond may very well be full of fish or

other organic bodies, although it is not itself an animal or organic body, but only a mass which contains them.

Preface **2b (referenced in M8)**

And for this reason it may also be said in a metaphysical sense that the soul acts upon the body, and the body upon the soul. Also, it is true that the soul is the *entelechy* or the active principle, whereas the corporeal alone, or the mere material, contains only the passive, and that consequently the principle of action is in souls, as I have explained more than once in the Leipzig journal,⁴ but more especially when responding to the late Mr Sturm, philosopher and mathematician of Altdorf, in which I have even demonstrated that if there was nothing in bodies except the passive, their different conditions would be *indiscernible*.⁵

Preliminary discourse §10 (referenced in M1)

The annihilation of all that properly belongs to us, carried quite far by the Quietists, might well be considered by some to be a disguised impiety. Like, for example, what is related about the Quietism of Foë, originator of a great Chinese sect: after having preached his religion for forty years, and sensing death to be near, he declared to his disciples that he had hidden the truth from them under the veil of metaphors, and that everything reduced to nothingness, which he said was the first principle of all things. That was even worse, it seems, than the opinion of the Averroists. Both doctrines are untenable and even fantastical, yet some moderns have had no difficulty in adopting this universal and unique soul that engulfs the others. It has encountered great praise only amongst the so-called freethinkers, and Mr de Preissac, a soldier and man of learning, who dabbled in philosophy, paraded it publicly in his discourses. The system of *pre-established harmony* is the one most capable of curing this evil. For it shows that there are necessarily substances that are simple and without extension spread throughout the whole of nature, that these substances must always subsist independently of every other except God, and that they are never separated from all organised body. Those who believe to be mortal those souls capable of feeling but incapable of reason, or who maintain that only rational souls can have feeling, hand victory to the Monopsychites.⁶ For it will always be difficult to convince men that beasts feel nothing, and once it is granted

⁴ That is, the *Acta eruditorum*, which was published out of Leipzig.

⁵ Leibniz is thinking here of his essay 'On nature itself', published in the *Acta eruditorum* in September 1698. See PPL, pp. 498–507.

⁶ Monopsychism is the doctrine that all human beings share a single active intellect. It is often associated with Averroes (1126–98).

that what is capable of feeling can perish, it is difficult to maintain through reason the immortality of our souls.

Preliminary discourse §65 (referenced in M28)

The *external senses*, properly speaking, do not deceive us. It is our *internal sense* which often makes us go too fast, and that also happens with the *beasts*, such as when a dog barks at its reflection in the mirror. For beasts have *consecutions* of perception which imitate *reasoning*, and which occur also in the internal sense of humans, when they act merely as *empiricists*. But beasts do nothing that obliges us to think that they have what deserves to be properly called a faculty of *reasoning*, as I have shown elsewhere. Now when the understanding uses and follows the false decision of the internal sense (such as when the famous Galileo thought that Saturn had two handles)⁷ it is deceived by the judgement it makes upon the effect of appearances, and it infers from them more than they imply. For the appearances of the senses do not promise us absolutely the truth of things any more than do dreams. It is we who deceive ourselves by the use we make of them, that is, by our consecutions. The fact is that we allow ourselves to be misled by probable arguments, and we are inclined to think that the phenomena we have found often connected together are so always. Thus, as it usually happens that what appears without angles has none, we readily believe that it is always like this. Such an error is excusable, and sometimes inevitable, when there is need to act promptly and to choose the most apparent; but when we have the leisure and the time to gather our thoughts, we are at fault if we take for certain that which is not. It is therefore true that appearances are often contrary to the truth, but our reasoning never is when it is carried out accurately and in a way in keeping with the rules of the art of reasoning. If by *reason* is meant in general the faculty of reasoning well or badly, I admit that it might deceive us, and in fact does deceive us, and that the appearances of our understanding are often as deceptive as those of the senses; but here it is a matter of the linking together of truths and objections in good form, and in this sense it is impossible for reason to deceive us.

Preliminary discourse §70 (referenced in M65)

It seems that Mr Descartes also concedes, in a passage in his *Principles*, that it is impossible to resolve the difficulties about the division of matter to infinity, which he nevertheless recognises as real.⁸ Arriaga and other Scholastics make pretty much the same admission, but if they took the trouble to put

⁷ See *Le opere di Galileo Galilei*, ed. A Favaro (Florence, 1890–1909), X, pp. 409–10.

⁸ Descartes, *The Philosophical Writings of Descartes*, I, pp. 201–2.

the objections into the form that they should have, they would see that there are mistakes in the conclusion, and sometimes false suppositions which cause problems. Here is an example of this: a clever man one day made me this objection: Let the straight line BA be cut into two equal parts at the point C, and the part CA at the point D, and the part DA at the point E, and so on to infinity; all the halves, BC, CD, DE, and so on, together make the whole BA, so there must be a final half, since the straight line BA finishes at A. But the idea of this final half is absurd, for since it is a line, it will be possible to cut it into two again. Therefore division to infinity cannot be admitted. But I pointed out to him that there is no justification for inferring that there has to be a final half, even though there is a final point A, for this final point applies to all the halves on its side. And my friend acknowledged it himself when he tried to prove this inference through a formal argument: on the contrary, even though the division goes on to infinity, there is no final half. And although the straight line AB is finite, it does not follow that its division has any final end. The same problem occurs in the *series of numbers* which go on to infinity. One conceives a last term, an infinite or infinitely small one, but these things are nothing but fictions. Every number is finite and assignable; every line is like that too, and the infinities or infinitely small signify only magnitudes that may be taken to be as great or as small as one wishes, to show that an error is smaller than that which has been assigned, that is, that there is no error. Alternatively, by the infinitely small is meant the state of the vanishing point or beginning of a magnitude, conceived along the lines of already-formed magnitudes.

§7 (referenced in M38 and M48)

God is the first reason of things: for limited things, such as are all the things we see and experience, are contingent, and have nothing in them that makes their existence necessary, it being obvious that time, space, and matter, united and uniform in themselves, and indifferent to everything, could have received completely different motions and shapes, and in a different order. One must therefore seek *the reason for the existence of the world*, which is the whole assemblage of *contingent* things, and one must seek it in *the substance which contains within itself the reason for its existence*, and which is consequently *necessary* and eternal. This cause must also be *intelligent*: for as this existing world is contingent, and as an infinity of other worlds are equally possible, and lay claim to existence, so to speak, as much as it does, the cause of the world must have had consideration for or made reference to all these possible worlds in order to decide upon one of them. And this consideration, or relation of an existent substance to simple possibilities, cannot be anything other than the *understanding* that holds the ideas of them; and deciding upon one of them cannot be anything

other than the act of the *will* which chooses. It is the *power* of this substance which makes its will efficacious. Power is directed towards *being*, wisdom or understanding *towards truth*, and will *towards the good*. And this intelligent cause must be infinite in all ways, and absolutely perfect in *power*, in *wisdom*, and in *goodness*, since it extends to all that is possible. And as everything is connected, there is no basis for admitting more than *one* of them. Its understanding is the source of *essences*, and its will is the origin of *existences*. Here, in a few words, is the proof of a single God together with his perfections, and through him the origin of things.

§8 (referenced in M53 and M55)

Now this supreme wisdom, united to a goodness that is no less infinite, cannot have failed to choose the best. For as a lesser evil is a kind of good, likewise a lesser good is a kind of evil if it stands in the way of a greater good: and there would be something to correct in the actions of God if there were a way of doing things better. And just as in mathematics, when there is no *maximum* or *minimum*, in a word nothing distinguished, everything is done equally, or when that is not possible nothing is done at all, the same may be said with regard to perfect wisdom, which is no less methodical than mathematics, that if there were not the best (*optimum*) among all possible worlds, God would not have produced any. I call '*world*' the whole series and the whole collection of all existent things, in order that it not be said that several worlds could exist at different times and different places, for they would all have to be reckoned together as one world, or, if you will, as one *universe*. And even if all times and all places were filled, it always remains true that they could have been filled in an infinity of ways, and that there is an infinity of possible worlds, from which God must have chosen the best, since he does nothing without acting in accordance with supreme reason.

§9 (referenced in M51)

Some adversary, not being able to respond to this argument, will perhaps respond to the conclusion with a counter-argument, saying that the world could have existed without sin and without sufferings: but I deny that then it would have been *better*. For it must be known that everything is *connected* in each of the possible worlds: the universe, whatever it may be, is all of a piece, like an ocean; the slightest motion extends its effect there to any distance whatsoever, although this effect becomes less perceptible in proportion to distance. In this way, God has adjusted everything there in advance, once and for all, having foreseen prayers, good and bad actions, and everything else; and each thing has contributed *ideally*, before its existence, to the resolution that has been taken about the existence of all things, such that nothing can be changed in the universe (any more than in

a number) except its essence or, if you will, except its *numerical individuality*. Thus, if the smallest evil that occurs in the world were missing in it, it would no longer be this world, which, all things considered, was found the best by the creator who chose it.

§10 (referenced in M53)

It is true that one can imagine possible worlds without sin and misfortune, and one could come up with some, like stories of Utopias or Sevarambias,⁹ but in any case these same worlds would be very inferior to ours in goodness. I cannot show you this in detail, for can I know and can I represent infinities to you and compare them together? But you must judge with me *ab effectu*,¹⁰ since God has chosen this world as it is. Besides, we know that often an evil brings about a good which would not have obtained without that evil. Indeed, often two evils have made a great good:

*Et si fata volunt, bina venena juvant. . .*¹¹

It is just as two liquids sometimes produce a solid – consider the spirit of wine and spirit of urine mixed by Van Helmont;¹² or as two cold and dark bodies produce a great fire – consider an acidic liquid and an aromatic oil combined by Mr Hoffmann.¹³ An army general sometimes makes a fortunate mistake which brings about victory in a great battle; and is it not sung the day before Easter in the churches of the Roman rite,

*O certe necessarium Adae peccatum
Quod Christi morte deletum est!
O felix culpa, quae talem ac tantum
Meruit habere Redemptorem!*¹⁴

§18 (referenced in M88)

There is a learned man who, pushing my principle of harmony to arbitrary suppositions which do not have my approval, has made for himself a

⁹ Leibniz is thinking here of Thomas More's *Utopia* (1516), and Denis Vairasse's *The History of the Sevarambians: A Utopian Novel* (1675).

¹⁰ 'From the outcome'.

¹¹ 'And if the fates wish it, two poisons are a good thing'. This is a slight misquoting of Ausonius' epigram 10.

¹² See Jean Baptiste van Helmont, *Opuscula Medica inaudita* (Amsterdam, 1648, 2nd edn), p. 23.

¹³ See Leibniz's letter to Friedrich Hoffman of 25 July 1702, in *Opera omnia*, II, 1, p. 100.

¹⁴ 'O truly necessary sin of Adam, which was erased by the death of Christ! O happy fault, that merited so great a Redeemer!' The lines are from the Exsultet, the Easter proclamation of the Catholic Church.

theology that is almost *astronomical*.¹⁵ He believes that the present disorder in this world below began when the Presiding Angel of the globe of the Earth, which was still a sun (that is, a star that was fixed and self-luminous), committed a sin with some lesser angels of his ministry, perhaps by rising inappropriately against an angel of a greater sun; that at the same time, by the *pre-established harmony* of the kingdoms of *nature* and *grace*, and consequently by natural causes occurring at the appointed time, our globe was covered with stains, rendered opaque, and driven from its place, which made it become a wandering star or planet, that is, a satellite of another sun, and perhaps of that very one whose superiority its angel did not want to recognise, and that the fall of Lucifer consists in that. He believes that now, the leader of the bad angels, whom Holy Scripture calls the prince and even the god of this world, being envious (along with the angels of his retinue) of that rational animal which walks on the surface of this globe, and which God has created there perhaps to compensate for their fall, strives to make him complicit in their crimes, and a participant in their misfortunes. At that point, Jesus Christ came to save men. He is the eternal Son of God, as he is the only son, but (according to some ancient Christians and the author of this hypothesis) having taken on at the outset, from the beginning of things, the most excellent nature of creatures in order to perfect them all, he placed himself among them, and this is the second filiation, whereby he is the first born of every creature. This is whom the Cabalists called *Adam Kadmon*. He had perhaps planted his tabernacle in this great sun which illuminates us, but he finally came to this globe of ours, he was born of the virgin and has assumed human nature in order to save men from the hands of their enemy and his. And when the time of judgement shall draw near, when the present surface of our globe shall be about to perish, he will visibly return to it in order to take away the good, by transplanting them perhaps to the sun, and to punish here the wicked together with the demons which have seduced them. Then the globe of the Earth will begin to burn, and will perhaps be a comet. This conflagration will last for who knows how many aeons. The tail of the comet is designated by the smoke which will ascend forever, according to the *Apocalypse*,¹⁶ and this fire will be hell, or the second death of which Holy Scripture speaks.¹⁷ But finally hell will return its dead, death itself will be destroyed; reason and peace will again start to reign in the minds which had been perverted. They will

¹⁵ Leibniz is probably referring to Francis Mercury van Helmont (1614–98), who held views very similar to those Leibniz goes on to describe. See *Francis Mercury van Helmont's Sketch of Christian Kabbalism*, trans. Sheila A. Spector (Leiden: Brill, 2012).

¹⁶ A reference to Apocalypse (that is, the Book of Revelation) 14.11.

¹⁷ Apocalypse 20.14.

be aware of their error, they will adore their creator, and will even begin to love him all the more since they will see the greatness of the abyss from which they emerge. At the same time (by virtue of the *harmonic parallelism* of the kingdoms of nature and grace) this long and great conflagration will have purged the Earth's globe of its stains. It will become a sun again: its Presiding Angel will take up his place with the angels of his retinue, men who were damned will be among the good angels, this leader of our globe will pay homage to the Messiah, leader of created beings. The glory of this angel reconciled will be greater than it was before his fall.

*Inque Deos iterum fatorum lege receptus
Aureus aeternum noster regnabit Apollo.*¹⁸

The vision seemed pleasant to me, and worthy of an Origenist,¹⁹ but we have no need of such hypotheses or fictions, in which wit plays a greater part than revelation, and in which even reason cannot find benefit. For there does not seem to be one principal place in the known universe which deserves to be, in preference to the others, the seat of the oldest of created beings, and the sun of our system at least is not it.

§19 (referenced in M88)

So if we keep to the established doctrine, that the number of men damned eternally will be incomparably greater than that of the saved, we must say that the evil would not fail to appear almost as nothing in comparison with the good, when one considers the true magnitude of the City of God. Coelius Secundus Curio wrote a little book, *De Amplitudine Regni Coelestis*, which was reprinted not so long ago;²⁰ but his understanding of the compass of the kingdom of heaven is lacking. The ancients had meagre ideas of God's works, and St Augustine, for want of knowing modern discoveries, was at a loss when it came to explaining the prevalence of evil. It seemed to the ancients that only our earth was inhabited, in which they were even afraid of its antipodes: according to them, the rest of the world consisted of some shining globes and some crystalline spheres. Today, whatever limits are given or not given to the universe, it must be acknowledged that there is an innumerable number of globes, as great as

¹⁸ 'And received among the Gods again by the law of the fates, Our golden Apollo will reign forever.' These are the last two lines of a verse passage found at the end of book two of the first edition of Thomas Burnet's *Telluris Theoria Sacra* (London, 1681), p. 306. They were not reprinted in later editions of the book. The themes of the passage recall Virgil's *Eclogue IV*, but are not a quotation from it.

¹⁹ That is, a follower of the early Church Father Origen (182–254 CE).

²⁰ Coelius Secundus Curio, *De amplitudine regni coelestis* (Frankfurt, 1617). This was a reprint of the original 1544 edition.

and greater than ours, which have as much right as it does to have rational inhabitants, though it does not follow that these inhabitants would be human. It is only one planet, that is, one of six principal satellites of our sun, and as all fixed stars are suns too, it is clear how small our earth is in relation to visible things, since it is only an appendage of one of them. It may be that all suns are inhabited only by blessed creatures, and nothing obliges us to think that many of them are damned, for few instances or examples are sufficient to show the utility that good derives from evil. Besides, since there is no reason to believe that there are stars everywhere, is it not possible that there may be a great space beyond the region of stars? Whether this is the Empyrean Heaven or not, forever may this immense space which surrounds the whole of this region be filled with happiness and glory. It may be conceived like the ocean, into which return the rivers of all blessed creatures when they have reached their perfection in the system of stars. What will become of the consideration of our globe and its inhabitants? Will it not be something incomparably less than a physical point, since our earth is like a point in comparison with the distance of some fixed stars? Thus, since the proportion of the part of the universe known to us is almost lost in nothingness compared with what is unknown to us and that we nevertheless have grounds to acknowledge, and since all the evils that may be brought forward against us are only in this virtual nothingness, it may be that all evils are also only a virtual nothingness in comparison with the goods in the universe.

§20 (referenced in M42 and M43)

But we must also address the more speculative and more metaphysical difficulties that have been mentioned, and which concern the cause of evil. First of all, it is asked, from where does evil come? *Si Deus est, unde malum? Si non est, unde bonum?*²¹ The ancients attributed the cause of evil to *matter*, which they believed uncreated and independent of God: but we, who derive all being from God, where shall we find the source of evil? The answer is that it must be sought in the ideal nature of the creature, insofar as this nature is contained in the eternal truths that are in God's understanding, independently of his will. For we must consider that there is an *original imperfection in the creature* before sin, because the creature is essentially limited, which means that it cannot know everything, and that it can be deceived and make other mistakes. Plato said in the *Timaeus* that the world had its origin in the understanding together with necessity.²²

²¹ 'If God exists, from where comes evil? If he does not exist, from where comes good?'

This is a quotation from Boethius' *The Consolation of Philosophy*, book 1, verse 4.

²² Leibniz is here thinking of Plato, *Timaeus* 48a, in *Plato: Complete Works*, p. 1250.

Others have joined God and Nature.²³ This can be given a good sense. God will be the understanding, and necessity, that is, the essential nature of things, will be the object of the understanding, insofar as it consists in the eternal truths. But this object is internal and is found in the divine understanding. And therein is found not only the primitive form of good, but also the origin of evil: this is the *region of the eternal truths*, which must take the place of matter when it comes to seeking the source of things. This region is the *ideal cause* of evil (so to speak) as well as of good: but, strictly speaking, the formal cause of evil has no *efficient* cause, for it consists in privation, as we shall see, that is, in that which the efficient cause does not produce. This is why the Scholastics are accustomed to call the cause of evil *deficient*.

§22 (referenced in M41 and M80)

But someone will say to me: why do you speak to us of *permitting*? Is it not God who does the evil, and is it not him who wills it? It is here that it will be necessary to explain what *permission* is, so that it is clear that this term is not employed without reason. But before that one must explain the nature of the will, which has its degrees: and in the general sense it may be said that *the will* consists in the inclination to do something in proportion to the good it contains. This will is called *antecedent* when it is separated, and is concerned with each good separately insofar as it is good. In this sense it may be said that God tends to all good insofar as it is good, *ad perfectionem simpliciter simplicem*,²⁴ to speak in a Scholastic way,²⁵ and that happens by an antecedent will. He has a genuine inclination to sanctify and to save all men, to exclude sin, and to prevent damnation. It may even be said that this will is efficacious *in itself* (*per se*), that is, in such a way that the effect would follow if there were not some stronger reason that prevents it: for this will does not make the ultimate effort (*ad summum conatum*), otherwise it would never fail to produce its full effect, since God is the master of all things. Entire and infallible success belongs only to the *consequent will*, as it is called. This will is complete, and it is with respect to it that this *rule* holds good, that one never fails to do what one wills to do when one is able to do it. Now this consequent, final, and decisive will results from the conflict of all the antecedent wills, both those which tend towards good as well as those which reject evil; and from the confluence of all these particular

²³ Leibniz is here thinking of Spinoza, and his description of God as ‘God, or Nature’. See *Ethics* IV, preface, in Spinoza, *Complete Works*, p. 321.

²⁴ ‘simply to simple perfection’.

²⁵ The phrase can be found, for example, in Alonso Penafiel, *Theologia Scholastica Naturalis* (Leiden, 1678), p. 152.

will comes the complete will, just as in mechanics, the compound motion results from all the tendencies that converge in one and the same moving body, and satisfies each one equally, insofar as it is possible to do at the same time. And it is as if the moving body were divided among these tendencies, in accordance with what I once showed in one of the Paris Journals (7 Sept. 1693), when giving the general law of compositions of motion.²⁶ It is also in this sense that it may be said that the antecedent will is efficacious in some way, and even successfully effective.

§27 (referenced in M42)

It is indeed beyond doubt that we must refrain from preventing the sin of others when we cannot do it without sinning ourselves. But someone will perhaps make the objection that it is God himself who acts, and who brings about all that is real in the sin of the creature. This objection leads us to consider the *physical concurrence* of God with the creature, after we have examined the *moral concurrence*, which is the more problematic. Some have believed, with the renowned Durand of Saint-Pourçain and Cardinal Aureolus, the famous Scholastic, that the concurrence of God with the creature (I mean the physical concurrence) is only general and mediate, and that God creates substances and gives them the force they need, and that afterwards he leaves them be and does nothing except conserve them, without assisting them in their actions. This opinion has been refuted by the majority of Scholastic theologians, and it seems that in the past it met with disapproval in Pelagius. Nevertheless, around 1630 a Capuchin called Louis Pereir de Dole wrote a book expressly to revive it, at least in relation to free actions.²⁷ Some moderns incline thereto, and Mr Bernier supports it in a little book on the free and the voluntary.²⁸ But with respect to God, one cannot say what it is *to conserve* without coming back to the common view. One must also bear in mind that the conserving action of God should have some regard to what is conserved, such as it is, and according to the state it is in; therefore his action cannot be general or indeterminate. These generalities are abstractions which are not found in the truth of individual things, and the conservation of a man standing is different from the conservation of a man seated. It would not be this way if conservation consisted only in the act of preventing and warding off some foreign cause which could destroy what one wishes to conserve, as often happens when men

²⁶ 'Règle générale de la composition des mouvemens', *Journal des sçavans* (7 September 1693), pp. 417–19.

²⁷ Ludovico a Dola, *Disputatio quadripartita de modo coniunctionis concursuum Dei et creaturae* (Leiden 1634). Leibniz made notes on this book in the 1680s; see A VI 4, pp. 1789–92.

²⁸ François Bernier, *Traite de libre, et du volontaire* (Amsterdam, 1685).

conserve something. But aside from the fact that we are obliged sometimes to nourish what we conserve, we should bear in mind that God's conservation consists in this immediate perpetual influence that the dependency of creatures demands. This dependency applies not only to the substance but also to the action, and perhaps it cannot be better explained than by saying, with the common run of theologians and philosophers, that it is a continued creation.

§28 (referenced in M42)

It will be objected that God therefore now creates man a sinner, he who created him innocent in the beginning. But it must be said here with regard to moral concurrence that as God is supremely wise he cannot fail to observe certain laws, and to act in accordance with the rules, both physical and moral, that his wisdom led him to choose. And the same reason that led him to create man innocent, but liable to fall, makes him recreate man when he falls, since on account of his knowledge the future is like the present to him, and he cannot retract the resolutions made.

§29 (referenced in M42)

And as for physical concurrence, here is where we must consider this truth which has already caused such a stir in the schools, since St Augustine pointed it out, that evil is a privation of being, whereas the action of God extends to the positive.²⁹ This response is considered somewhat ad-hoc, and even as something chimerical by the minds of many. But here is a rather similar example, which will be able to disabuse them.

§30 (referenced in M42)

The renowned Kepler and after him Mr Descartes (in his letters) have spoken of the *natural inertia of bodies*,³⁰ and this is something that may be considered as a perfect resemblance to and even as an example of the original limitation of creatures, to show that privation constitutes the formal cause of imperfections and disadvantages in the substance as well as in its actions. Suppose that the current of one and the same river carries along a number of boats, which differ from each other only in the cargo, some being laden with wood, others with stone, and some with more of these, others with less. That being so, it will happen that the most heavily laden boats will go more slowly than the others, provided we suppose that they are not assisted by the wind, or the oar, or some other similar means. Strictly speaking, it is not weight which is the cause of this arrestment,

²⁹ See Augustine, *Enchiridion* I.XI.

³⁰ See for example Descartes, *The Philosophical Writings of Descartes*, III, p. 135.

since the boats are going down and not up, but it is the same cause that also increases the weight in bodies with greater density, that is, which are less spongy and more filled with matter proper to them: for the matter which passes through the pores, not receiving the same motion, should not be taken into account. It is therefore the case that the matter is originally inclined to slowness, or privation of speed, rather than inclined to decrease this speed by itself once it has received it, for that would be to act. Instead, it is inclined to moderate by its receptivity the effect of the impression when it should receive it. And consequently, since there is more matter moved by the same force of the current when the boat is more laden, it must be the case that it goes more slowly. Moreover, experiments on the impact of bodies show – as does reason – that twice as much force must be employed to give the same speed to a body which is composed of the same matter but is twice as large. This would not be necessary if matter were absolutely indifferent to rest and motion, and if it did not have this natural inertia, about which we have just spoken, which gives it a kind of aversion to being moved. Now compare the force that the current exerts on the boats, and communicates to them, with the action of God, who produces and conserves whatever is positive in creatures, and gives them perfection, being, and force. Compare, I say, the inertia of matter with the natural imperfection of creatures, and the slowness of the laden boat with the defect found in the qualities and the action of the creature, and we shall find that there is nothing so apt as this comparison. The current is the cause of the boat's motion, but not of its arrestment; God is the cause of perfection in the nature and the actions of the creature, but the limitation of the receptivity of the creature is the cause of the defects that there are in its action. Thus the Platonists, St Augustine, and the Scholastics were right to say that God is the cause of the material aspect of evil, which consists in the positive, and not of the formal aspect, which consists in privation, just as it may be said that the current is the cause of the material aspect of the arrestment without being the cause of the formal aspect, that is, it is the cause of the boat's speed without being the cause of the limits of this speed. And God is no more the cause of sin than the river's current is the cause of the boat's arrestment. Therefore force is with regard to matter as spirit is with regard to the flesh: the mind is willing and the flesh is weak, and minds act

*quantum non noxia corpora tardant.*³¹

³¹ 'to the extent they are not prevented by harmful bodies'. A quotation from Virgil's *The Aeneid* 6.731.

§31 (referenced in M42)

Therefore there is a remarkably similar relation between such and such an action of God, and such and such a passion or reception of the creature, which in the ordinary course of things is perfected only to the degree permitted by its *receptivity*, as it is called. And when it is said that the creature depends upon God insofar as it exists and insofar as it acts, and even that conservation is a continual creation, the fact is that God always gives to the creature, and produces continually, whatever in it is positive, good and perfect, every perfect gift coming from the Father of lights.³² Meanwhile, the imperfections and the defects in operations come from the original limitation that the creature could not fail to receive with the first beginning of its being, on account of the ideal reasons that limit it. For God could not give it everything without making it a god; therefore there must be different degrees in the perfection of things, and also limitations of every kind.

§32 (referenced in M49)

This consideration will also help to satisfy some modern philosophers who go so far as to say that God is the only agent. It is true that God is the only one whose action is pure and not adulterated by what is called *suffering*; but that does not prevent the creature playing a part in actions too, since *the action of the creature* is a modification of its substance, which flows naturally from it and which contains a variation not only in the perfections that God has communicated to the creature, but also in the limitations that the creature brings with it, in order to be what it is. This also shows that there is a real distinction between the substance and its modifications or accidents, contrary to the opinion of some moderns, and especially of the late Duke of Buckingham, who spoke of it in a little discourse on religion recently reprinted.³³ Evil is therefore like darkness, and not only ignorance but also error and malice consist formally in a certain kind of privation. Here is an example of error which we have already used: I see a tower which from a distance appears round although it is square.³⁴ The thought that the tower is what it appears to be flows naturally from what I see, and when I dwell on this thought, it is an affirmation, it is a false judgement; but if I continue the examination, if some reflection makes me aware that appearances

³² An allusion to James 1.17, where God is called the Father of lights.

³³ See George, Duke of Buckingham, *A Short Discourse upon the Reasonableness of Men's having a Religion, or Worship of God* (London, 1685), pp. 8ff. The book was reprinted in 1708.

³⁴ This has been used as a stock example of perceptual error throughout the history of philosophy. See for example Sextus Empiricus, *Outlines of Scepticism*, p. 31; Descartes, *The Philosophical Writings of Descartes*, II, p. 53.

deceive me, then behold, I recover from the error. To remain in a certain place, or to go no further, not to catch sight of something noteworthy: these are privations.

§36 (referenced in M36)

But let us come to the difficulties. Philosophers today acknowledge that the truth of future contingents is determinate, that is, that future contingents are future, or rather that they will be, that they will happen: for it is as certain that the future will be just as it is that the past has been. It was already true a hundred years ago that I would write today, just as it will be true in a hundred years that I have written. Thus the future contingent, just because it is future, is no less contingent, and *determination*, which would be called *certainty* if it were known, is not incompatible with contingency. Often the *certain* and the *determinate* are taken to be one and the same thing, because a determinate truth is one that is able to be known, such that it may be said that the *determination* is an objective certainty.

§37 (referenced in M36)

This determination comes from the very nature of truth, and is no threat to freedom: but there are other determinations that are taken from elsewhere, and in the first place from God's foreknowledge, which some have thought contrary to freedom. For they say that what is foreseen cannot fail to exist, and they speak the truth, but it does not follow that what is foreseen is necessary, for a *necessary truth* is one whose contrary is impossible, or implies contradiction. Now this truth, that I shall write tomorrow, is not of that nature, it is therefore not necessary. But supposing that God foresees it, it is necessary that it happens, that is, the consequence is necessary, namely, that it exists, since it has been foreseen, for God is infallible: this is what is called a *hypothetical necessity*. But what we are concerned with here is not this necessity. In order to be able to say that an action is necessary, that it is not contingent, that it is not the effect of a free choice, an *absolute necessity* is required. And besides, it is very easy to reach the conclusion that foreknowledge in itself adds nothing to the determination of the truth of future contingents, except that this determination is known. This does not augment the determination or the *futurition* (as it is called) of these events, which we acknowledged at the outset.

§44 (referenced in M31, M32, M36, and M53)

Nevertheless, objective certainty or determination does not constitute the necessity of the determinate truth. All philosophers acknowledge this by admitting that the truth of future contingents is determinate and that they nonetheless remain contingent. *Contingency* consists in it being the case

that the thing would imply no contradiction in itself if the effect did not follow. To better understand this point, we should bear in mind that there are two great principles of our reasonings. One is the *principle of contradiction*, which holds that of two contradictory propositions one is true and the other false; the other *principle* is that of the *determinant reason*. This holds that nothing ever happens without there being a cause or at least a determinant reason, that is, something that can serve to explain *a priori* why it is existent rather than non-existent, and why it is thus rather than any other way. This great principle holds for all events, and a contrary example will never be given: and although most often these determinant reasons are not well known to us, we nonetheless sense that there are some. Without this great principle we could never prove the existence of God, and we would lose the countless very good and very profitable arguments that are founded on it. And this principle does not admit of any exception, otherwise its force would be weakened. There is nothing so weak as those systems in which everything is shaky and full of exceptions. This is not a defect of the system I approve, in which everything proceeds in accordance with general rules which are, at most, mutually restrictive.

§45 (referenced in M36)

We must therefore not imagine as do some Scholastics, who are somewhat given to fancies, that future free contingents are privileged over this general rule of the nature of things. There is always a prevailing reason which leads the will to its choice, and to preserve freedom of the will it is sufficient that this reason incline without necessitating. That is also the opinion of all the ancients, of Plato, of Aristotle, and of St Augustine. The will is never led to act except by the representation of the good, which prevails over the contrary representations. This is acknowledged even with regard to God, the good angels, and blessed souls, and it is recognised that they are no less free for that. God does not fail to choose the best, but he is not constrained to do so, and there is no necessity in the object of God's choice either, since another series of things is equally possible. It is for that reason that the choice is free and independent of necessity, because it is made between a number of possibles, and the will is determined only by the prevailing goodness of the object. It is therefore not a defect with respect to God and the saints: and on the contrary, it would be a great defect, or rather a manifest absurdity, if it were otherwise even in men here on earth, and if they were capable of acting without any inclining reason. No example of this will ever be found, and even when one takes a particular side out of caprice, to demonstrate one's freedom, the pleasure or advantage one thinks one finds in this foolishness is one of the reasons which leads one to it.

§49 (referenced in M36)

This is also what makes *the case of Buridan's ass between two meadows*, equally inclined to both, a fiction that cannot happen in the universe, in the order of nature, although Mr Bayle is of a different view.³⁵ It is true that, if the case were possible, it would have to be said that the ass would let itself die of starvation, but ultimately the question is about the impossible, unless God make the thing happen on purpose. For the universe cannot be bisected by a plane drawn through the middle of the ass, cut vertically along its length, so that everything is equal and alike on both sides, just as an ellipse, and every plane figure of the kind I call *ambidexter*, can be bisected in this way, by any straight line that passes through its centre. For neither the parts of the universe nor the innards of the animal are alike, nor are they evenly situated on either side of this vertical plane. Therefore there will always be many things inside the ass and outside the ass, although not apparent to us, which will determine it to go to one side rather than the other. And although man is free, which is not the case for the ass, it is nonetheless true for the same reason that even in man the case of a perfect equilibrium between two courses of action is impossible, and that an angel, or God at least, could always explain the course of action the man has taken, by assigning a cause or an inclining reason which actually led him to take it. However this reason would often be very involved and inconceivable for us, because the chain of causes linked together goes back a long way.

§52 (referenced in M36)

Everything is therefore certain and determined in advance in man, as everywhere else, and the human soul is a kind of *spiritual automaton*, although contingent actions in general and free actions in particular are not for that reason necessary, that is, of an absolute necessity, which would be truly incompatible with contingency. Thus this contingency and this freedom is not destroyed either by futurition in itself, however certain it is, or the infallible foresight of God, or the predetermination of causes, or the predetermination of God's decrees. This is acknowledged in regard to futurition and foresight, as has already been explained. And since God's decree consists merely in the resolution he makes, after having compared all possible worlds, to choose the one which is the best, and to admit it to existence along with everything this world contains, by means of the all-powerful word *Fiat*,³⁶ it is evident that this decree changes nothing in the constitution of things, and that it leaves them just as they were in the state

³⁵ See Bayle, *Dictionnaire historique et critique*, I, p. 742 (article 'Buridan', note B).

³⁶ 'Let it be done'.

of mere possibility, that is, it changes nothing either in their essence or nature, or even in their accidents, which are already represented perfectly in the idea of this possible world. Thus that which is contingent and free remains no less so under God's decrees than under foresight.

§54 (referenced in M51)

It will also be said that, if everything is adjusted, then God cannot perform miracles. But we should be aware that the miracles which happen in the world were also enfolded and represented as possible in this same world considered in the state of pure possibility; and God, who has since performed them, had decreed to perform them from the moment he chose this world. It will still be objected that vows and prayers, merits and demerits, good and bad actions, are all of no use since nothing can be changed. This objection is most problematic to ordinary folk, and yet it is a straightforward sophism. These prayers, these vows, these good or bad actions that occur today were already before God when he made the resolution to organise things. Those things which happen in this actual world, along with their effects and their consequences, were represented in the idea of this same world, as yet still possible; they were represented there, attracting God's grace, whether natural or supernatural, requiring punishments, requiring rewards: everything as it effectively happens in this world after God chose it. The prayer and the good action were from then on an *ideal cause* or *condition*, that is, an inclining reason, which can contribute to God's grace, or to the reward, as it does so now, in an actual way. And as everything is wisely linked together in the world, it is clear that God, foreseeing what would happen freely, organised everything else around that in advance, or (what is the same thing) he chose that possible world in which everything was organised in this way.

§59 (referenced in M80)

I have just shown how the action of the will depends upon its causes; that there is nothing so in keeping with human nature as this dependency of our actions, and that otherwise one would fall into an absurd and unbearable fatality, that is, into the *Fatum Mahometanum*,³⁷ which is the worst of all because it overthrows foresight and good counsel. Nevertheless it is good to show how this dependency of voluntary actions does not ultimately preclude there being in us a wonderful *spontaneity*, which in a certain sense makes the soul in its resolutions independent of the *physical influence* of all other creatures. This spontaneity, scarcely acknowledged until now, which extends our sovereignty over our actions to the greatest extent possible,

³⁷ 'The fate of Mohammedans', or 'Turkish fate'.

is a consequence of the *system of pre-established harmony*, of which it is necessary to give some explanation here. The philosophers of the school believed that there was a reciprocal physical influence between body and soul. But since it is rightly noted that thought and extended mass have no relationship with each other, and that they are created things which differ in every respect, a number of moderns have recognised that there is no *physical communication* between soul and body, even though there always subsists the *metaphysical communication*, which makes soul and body compose one and the same *suppositum*, or what one calls a *person*. This physical communication, if there were such a thing, would cause the soul to change the degree of speed and the line of direction of some motions in the body, and vice versa would cause the body to change the sequence of thoughts in the soul. But this effect cannot be inferred from any notion conceived in the body and in the soul, even though nothing is better known to us than the soul, since it is immediate to us, that is, immediate to itself.

§60 (referenced in M80)

Mr Descartes wanted to capitulate, and make a part of the body's action depend upon the soul. He thought he knew a rule of nature which, according to him, holds that the same quantity of motion is conserved in bodies. He judged that it was not possible for the influence of the soul to violate this law of bodies, but he believed that the soul could nevertheless have the power to change the direction of motions occurring in the body, somewhat as a rider, although not giving any force to the horse he rides, nevertheless controls the horse by directing its force whichever way he pleases. But as that occurs by means of the bridle, the bit, the spurs, and other material aids, we can conceive how it happens; but there are no instruments the soul can use to have this effect, nothing ultimately either in the soul or in the body, that is, either in the thought or in the mass, which can serve to explain this change of the one by the other. In a word, the idea of the soul changing the quantity of force, and of it changing the line of direction, are both equally inexplicable.

§61 (referenced in M80)

Moreover, two important truths on this subject have been discovered since Mr Descartes' time. The first is that the quantity of absolute force, which is indeed conserved, is different from the quantity of motion, as I have demonstrated elsewhere.³⁸ The second discovery is that the same direction is also conserved in all the bodies together that one supposes to act on

³⁸ See 'Brevis demonstratio erroris memorabilis Cartesii et aliorum circa legem naturae', *Acta Eruditorum* (March 1686), pp. 161–3. English translation in PPL, pp. 296–8.

each other, in whatever way they impact upon each other. If this rule had been known to Mr Descartes, he would have made the direction of bodies as independent of the soul as their force, and I think that that would have led him straight to the hypothesis of pre-established harmony, which is where these same rules led me. For aside from the fact that the physical influence of one of these substances on the other is inexplicable, I realised that without completely upsetting the laws of nature, the soul could not act physically upon the body. And I did not think that attention should here be paid to philosophers, very able otherwise, who bring in a God like the theatre's *Deus ex machina*, introduced in order to resolve the play, by maintaining that God expressly devotes himself to moving bodies in the way the soul wants and to giving perceptions to the soul in the way the body requires. The reason being that this *system*, called that of *occasional causes* (because it teaches that God acts on the body on the occasion of the soul, and vice versa), aside from the fact that it introduces perpetual miracles in order to bring about the communication of these two substances, does not stop the perturbation of the natural laws established in each of these same substances, a perturbation that their mutual influence would cause, according to common opinion.

§62 (referenced in M87)

Thus I was, on other grounds, convinced of the principle of *harmony* in general, and consequently of *preformation* and the pre-established harmony of all things between themselves, between nature and grace, between God's decrees and our foreseen actions, between all the parts of matter, and even between the future and the past, the whole in accordance with the supreme wisdom of God, whose works are the most harmonious it is possible to conceive. Because of this, I could not fail to come to this system, which holds that God created the soul from the outset in such a way that it must produce in itself and represent to itself in an orderly way that which happens in the body, and the body also in such a way that it should do of itself that which the soul ordains. So the laws that connect the thoughts of the soul in the order of final causes and in accordance with the evolution of perceptions, should produce images that match up and agree with the impressions of bodies on our organs. Also, the laws of motions in the body, which follow each other in the order of efficient causes, match up also, and are so much in agreement with the thoughts of the soul that the body comes to act at the time the soul wills it.

§63 (referenced in M80)

And far from this system being prejudicial to freedom, nothing could be more favourable to it. And Mr Jaquelot has shown rather well in his book

Conformité de la foi avec la raison,³⁹ that it is as if one who knows everything that I shall order a servant to do all day long tomorrow then made an automaton which perfectly resembles this servant, and which carries out tomorrow at the appointed time everything that I order. This would not prevent me freely ordering whatever I like, although there would be nothing free in the action of the automaton which served me.

§64 (referenced in M20)

Moreover, since everything that happens in the soul depends only upon the soul, according to this system, and its subsequent state derives only from it and from its present state, how can it be given a greater *independence*? It is true that there still remains some imperfection in the constitution of the soul. Everything that happens to the soul depends upon it, but this does not depend always upon its will: that would be too much. These things are not always even known by its understanding or apperceived distinctly. For there is in the soul not only an order of distinct perceptions, which make up its mastery, but also a series of confused perceptions or passions, which make up its enslavement. And one should not be surprised by that, as the soul would be a divinity if it had nothing but distinct perceptions. It nevertheless has some power even over these confused perceptions, albeit in an indirect way, for although it cannot change its passions right away, it can work on them from afar successfully enough, and give itself new passions and even habits. It even has a similar power over the more distinct perceptions, being able to indirectly give itself opinions and volitions, and to prevent itself from having such and such other ones, and to suspend or hasten its judgement. For we can seek the means in advance to stop ourselves, when the occasion presents itself, on the slippery precipice of a rash judgement; we can find some excuse to postpone our resolution, even if the matter appears ready to be judged. And although our opinion and our act of willing are not directly objects of our will (as I have already noted), one nonetheless takes measures sometimes to will, and even to believe, as time goes on, that which one does not presently will or believe. So great is the depth of the human mind.

§65 (referenced in M51)

Finally, to conclude this point about *spontaneity*, it must be said that, strictly speaking, the soul has within it the principle of all its actions, and even of all its passions, and that the same is true in all the simple substances scattered throughout nature, although there is freedom only in those which are intelligent. Yet in the popular sense, when speaking in accordance with

³⁹ Isaac Jaquelot, *Conformité de la foi avec la raison* (Amsterdam, 1705), p. 388.

appearances, we should say that the soul depends in some way on the body and on the impressions of the senses, somewhat as we speak with Ptolemy and Tycho in everyday talk, and think with Copernicus when it is a matter of the rising or setting of the sun.

§66 (referenced in M49, M51, and M80)

However a true and philosophical sense may be given to this *mutual dependence* which we conceive between the soul and the body, which is that one of these substances depends upon the other ideally, insofar as the reason for what happens in one can be found in what is in the other. This had already happened in the case of God's decrees, from the moment when God organised in advance the harmony that there would be between them. In the same way, the aforementioned automaton, which would adopt the role of servant, would depend upon me ideally, by virtue of the knowledge of one who, foreseeing my future orders, would have made it capable of serving me at the appointed time for the whole of the following day. The knowledge of my future wishes would have actuated this great craftsman, who would have formed the automaton afterwards: my influence would be objective, and his would be physical. For insofar as the soul has perfection and distinct thoughts, God has accommodated the body to the soul, and has arranged in advance that the body is impelled to execute its orders; and insofar as the soul is imperfect and its perceptions are confused, God has accommodated the soul to the body, so that the soul is nonetheless inclined by the passions which arise from corporeal representations. This produces the same effect, and same appearance, as if the one depended upon the other immediately, and by means of a physical influence. And strictly speaking, it is through its confused thoughts that the soul represents the bodies which surround it. The same thing must be understood of everything we conceive of the actions of simple substances upon one another. The fact is that each one is supposed to act on the other in proportion to its perfection, although this happens only ideally, and in the reasons of things, in that from the outset God adjusted one substance to another according to the perfection or imperfection there is in each one. Although action and passion are always mutual in creatures, because a part of the reasons that serve to explain distinctly what happens, and that served to make it exist, is in one of these substances, and another part of these reasons is in the other, with perfections and imperfections always being mixed and shared. This is what makes us attribute *action* to one and *passion* to the other.

§74 (referenced in M54 and M87)

Thus it is that the punishments of the damned continue, even when they no longer serve to turn them away from evil, and that likewise the rewards

of the blessed continue, even when they no longer serve to strengthen their commitment to good. Yet it may be said that the damned forever bring new pains upon themselves through the commission of new sins, and that the blessed forever bring new joys upon themselves through new progress in goodness. Both occurrences are founded on *the principle of fittingness*, which ensures that things were organised so that the evil action should bring a punishment upon itself. For there are grounds to think, in accordance with the parallelism of the two kingdoms, that of final causes and that of efficient causes, that God has established in the universe a connection between punishment or reward and a bad or good action, such that the first is always attracted by the second, and virtue and vice get their reward and their punishment in consequence of the natural series of things, which contains yet another kind of pre-established harmony than the one apparent in the communication of soul and body. For ultimately, everything God does is harmonious to perfection, as I have already pointed out. So perhaps this fittingness would cease to apply to those who act without true freedom, exempt from absolute necessity, and in that case corrective justice alone would take place, and not vindictive justice. This is the opinion of the renowned Conring, in a dissertation he published on what is just.⁴⁰ And indeed, the arguments Pomponazzi already used in his book on fate, to prove the usefulness of punishments and rewards even if everything should come to pass in our actions by a fatal necessity, concern only amendment and not satisfaction, punishment not vengeance.⁴¹ Moreover, it is only for the spectacle that one destroys the animal accomplices of certain crimes, just as one razes the houses of rebels, that is, to inspire terror. Thus it is an act of corrective justice, in which vindictive justice has no part at all.

§78 (referenced in M55)

Some able and well-intentioned authors, wanting to show the force of the arguments of the two principal parties in order to inspire them to mutual toleration, think that the whole controversy boils down to this key point, namely: what was God's principal aim in making his decrees with regard to man? Did he make them solely to establish his glory, by manifesting his attributes and forming the great plan of creation and providence in order to achieve that? Or did he instead have regard for the voluntary motions of the intelligent substances he planned to create, by considering what they

⁴⁰ Hermann Conring, *Disputatio philosophica de iure* (Helmstadt, 1637).

⁴¹ Petrus Pomponazzi, *De naturalium effectuum admirandorum causis, seu de incantationibus Liber. Item de Fato: Libero arbitrio: Praedestinatione: Providentia Dei, Libri V* (Basel, 1567).

would will and do in the different circumstances and situations in which he might put them, in order to make a fitting resolution on the matter? It seems to me that the two answers to this great question, put forward as being mutually conflicting, are easy to reconcile, and that consequently the parties would be ultimately in agreement, without need for toleration, if everything were reduced to this point. In truth, in forming the plan to create the world, God intended solely to manifest and communicate his perfections in the way that was most efficacious, and most worthy of his greatness, his wisdom, and his goodness. But that very intention required him to consider all the actions of creatures still in the state of pure possibility, in order to form the most fitting plan. He is like a great architect who intends as his aim the satisfaction or the glory of having built a beautiful palace, and who considers everything that should enter into this construction – the form and the materials, the place, the location, the means, the workers, the expenditure – before he makes a final resolution. For when making his plans, a wise person cannot separate the end from the means: he does not adopt an end without knowing if there are means of achieving it.

§80 (referenced in M55)

Therefore there will be no controversy to stir up on that point (as I hope) with people who are even remotely reasonable. But there will always be much controversy even amongst those called Universalists and Particularists, with regard to what they teach of the grace and the will of God. Nevertheless I tend to believe that at least the heated dispute between them about God's will to save all men, and about what depends upon it (keeping separate the dispute about *auxiliaries*, or the assistance of grace), consists in expressions rather than in things. For it is sufficient to consider that God, and every other wise, beneficent mind, is inclined towards every good which is feasible and that this inclination is proportionate to the excellence of the good; and that comes about (considering the matter precisely and in itself) through an *antecedent will*, as it is called, though it does not always have its entire effect, because this wise mind must have many other inclinations besides. Thus it is the result of all the inclinations together that makes his will complete and decretory, as we have explained above. So it may very rightly be said, with the ancients, that God wills to save all men according to his antecedent will, and not according to his consequent will, which never fails to have its effect. And if those who deny this universal will do not want to permit the antecedent inclination to be called a will, they trouble themselves only about a question of name.

§84 (referenced in M55)

From that it is clear that, in part, the question between the Supralapsarians and the Infralapsarians, and then between these and the Evangelicals, comes back to rightly conceiving the order that exists in God's decrees. Perhaps one could bring about a sudden end to this dispute by saying that, considered aright, all the decrees of God with which we are concerned are simultaneous, not only with regard to time, about which everyone agrees, but also *in signo rationis*, or in the order of nature. And indeed, the Formula of Concord, following some passages in St Augustine, has included salvation and the means which lead to it in the same Decree of Election.⁴² To show this simultaneity of destinations or decrees with which we are concerned, we must come back to the stratagem I have used more than once, which states that God, before decreeing anything, considered among other possible series of things the one which he afterwards approved. In the idea of this possible series is represented how the first parents sin and corrupt their posterity, how Jesus Christ redeems the human race, how some who were aided by such and such graces attain final faith and salvation, and how others, with or without such or other graces, do not attain this, and continue in sin and are damned. God gives his approval to this series only after having entered into all its detail, and so he pronounces nothing final about those who will be saved or damned without having everything weighed up and even compared with other possible series. Thus what he pronounces concerns the whole sequence all at once: he just decrees its existence. In order to save other men, or in a different way, he would have to choose a completely different general series, since everything is connected in each series. And on this approach to things, which is the most worthy of the wisest being, all of whose actions are connected together to the greatest possible extent, there would be only a single total decree, which is the one to create such a world. And this total decree includes all the particular decrees as well, without there being any order between them, although in any case it may be said that each particular act of the antecedent will, which enters into the total result, has its value and order in proportion to the good to which this act inclines. But these acts of the antecedent will are not called decrees, since they are not yet inevitable, their success depending on the total result. And all the difficulties that can be raised against this approach to things amount to the ones that have already been considered and removed when the origin of evil was examined.

⁴² The Formula of Concord is the final part of the *Book of Concord*, the doctrinal statement of Lutheranism that appeared in 1580. Leibniz is referring to article XI, on Election.

§86 (referenced in M74)

The first difficulty with sin and its remedies is how the soul was able to be infected with original sin, which is the root of actual sins, without there being any injustice in God for exposing the soul to it. This difficulty has given rise to three opinions on the origin of the soul itself. The first is the *pre-existence of human souls* in another world or in another life, in which they had sinned and thereby had been condemned to this prison of the human body. This is the opinion of Platonists, which is attributed to Origen, and which is still found today among his followers. The English doctor, Henry More, maintained something of this doctrine in a book written specially on it.⁴³ Some of those who support this pre-existence have gone as far as metempsychosis. Mr van Helmont, the son, was of this opinion,⁴⁴ and the ingenious author of *Méditations sur la métaphysique*, published in 1678 under the name of Guillaume Wander, appears to have some fondness for it.⁴⁵ The second opinion is that of *traduction*, as if the soul of children were engendered (*per traducem*) from the soul or souls of those from whom the body is engendered. St Augustine was inclined to this view in order to better explain original sin.⁴⁶ This doctrine is also taught by the majority of theologians of the Augsburg Confession. Nevertheless it is not completely established among them, since the universities of Jena, Helmstadt, and others, have been against it for a long time. The third opinion, and the one most widely received today, is that of *creation*. It is taught in the majority of Christian schools, but it suffers from the greatest difficulty in relation to original sin.

§87 (referenced in M18 and M48)

This controversy among theologians about the origin of the human soul has run into the philosophical dispute about the *origin of forms*. Aristotle and the school after him have called ‘form’ that which is a principle of action, and is found in that which acts. This internal principle is either substantial, which is called ‘soul’ when it is in an organic body, or accidental, which is customarily called ‘quality’. The same philosopher gave to the soul the

⁴³ Leibniz is probably referring here to More’s *The Immortality of the Soul* (London, 1659), in which the pre-existence of the soul was defended.

⁴⁴ See Francis Mercury van Helmont, *Two Hundred Queries moderately propounded concerning the Doctrine of the Revolution of Humane Souls, and its Conformity to the Truths of Christianity* (London, 1684).

⁴⁵ Leibniz is thinking here of the book *Méditations sur la métaphysique* (Paris, 1678), which was credited to Abbé de Lanion, a pseudonym of Guillaume Wander. Leibniz made notes on this book early in his career. See A VI 4, pp. 1778–83: <http://www.leibniz-translations.com/lanion.htm>

⁴⁶ See Augustine, *De Genesi ad litteram libri duodecim*, X.18–19.

generic name of ‘entelechy’ or ‘actuality’. This word, ‘entelechy’, apparently comes from the Greek word which means ‘perfect’,⁴⁷ and for that reason the renowned Hermolaus Barbarus expressed it literally in Latin by *perfecti habia*, since actuality is a realisation of potency. And in order to learn just that he had no need to consult the Devil, as he is said to have done.⁴⁸ Now the Philosopher of Stagira conceives there being two kinds of actuality: permanent actuality and successive actuality. Permanent or enduring *actuality* is nothing other than the *form*, substantial or accidental: the substantial form (like the soul, for example) is completely permanent, at least in my view, and the accidental is only so for a time. But the entirely fleeting actuality, whose nature is transitory, consists in *action* itself. I have shown elsewhere that the notion of entelechy is not entirely to be scorned, and that as it is permanent it carries with it not only a simple active *faculty*, but also that which is called *force*, *effort*, *conatus*, from which action itself must follow if nothing prevents it.⁴⁹ The faculty is only an *attribute*, or rather sometimes a *mode*. But force, when it is not an ingredient of substance itself (that is, *force* which is not *primitive* but *derivative*), is a *quality*, which is distinct and separable from substance. I have also shown how it may be conceived that the soul is a primitive force which is modified and varied by derivative forces or qualities, and exercised in actions.

§89 (referenced in M74)

But traduction and eduction are equally inexplicable when it is a question of finding the origin of the soul. It is not the same with accidental forms, since they are only modifications of the substance, and their origin can be explained by eduction, that is, by variation of limitations, as can the origin of shapes. But it is something else entirely when it is a question of the origin of a substance, whose beginning and destruction are equally difficult to explain. Sennert and Sperling have not dared to admit the subsistence and the indestructibility of the souls of beasts or of other primitive forms, although they acknowledged them to be indivisible and immaterial.⁵⁰ But the fact is that they confused indestructibility with immortality, by which is meant in man’s case that not only the soul but also the personality

⁴⁷ In Greek, ‘perfection’ is ‘enteles’.

⁴⁸ Leibniz’s source for the story is Jean Bodin’s *Colloquium Heptaplomeres de Abditis rerum sublimium Arcanis*. Leibniz made notes on it in 1668 or 1669, when it was still an unpublished manuscript (it was finally published only in 1857), and jotted down details of the story about Barbarus and the devil. See A VI 2, p. 128.

⁴⁹ See PPL, pp. 432–52.

⁵⁰ Leibniz is referring to Daniel Sennert (1572–1637), a physician and chemist, and Johann Sperling (1603–58), a physician and academic. See Sennert’s *De chymicorum* (Wittenberg, 1619).

subsists; that is, in saying that man's soul is immortal one means that there subsists that which makes him the same person, which retains its moral qualities by conserving the *consciousness*, or the reflexive internal feeling of what it is; this makes it capable of punishment and reward. But this conservation of personality does not take place in the soul of beasts: this is why I prefer to say that they are imperishable than to call them immortal. Yet this misunderstanding appears to have been the cause of a great inconsistency in the doctrine of Thomists and other good philosophers, who have acknowledged the immateriality or indivisibility of all souls without wanting to admit their indestructibility, at the great expense of the immortality of the human soul. John Scottus, that is, the Scot (which formerly meant Hibernian or Erigene), a famous writer at the time of Louis the Debonaire and his sons, was in favour of the conservation of all souls:⁵¹ and I do not see why it should be less problematic to grant endurance to the atoms of Epicurus or Gassendi than to affirm the subsistence of all the truly simple and indivisible substances, which are the sole and true atoms of nature. And Pythagoras was right to say in general, in Ovid:

*Morte carent animae.*⁵²

§90 (referenced in M72, M74, and M76)

Now as I like maxims which are mutually reinforcing and in which there are the fewest possible exceptions, this is what seemed to me most reasonable, in every sense, on this important question: I hold that souls, and simple substances in general, cannot begin except by creation, or end except by annihilation. And as the formation of animate organic bodies seems explicable in the order of nature only when an already-organic *pre-formation* is supposed, I have inferred from it that what we call the generation of an animal is only a transformation and growth. Thus, since the same body was already organised, presumably it was already animate, and had the same soul, just as I conclude vice versa, from the conservation of the soul once it is created, that the animal is conserved too, and that apparent death is only an enfolding. Nor is there any probability that in the order of nature there be souls entirely separated from all body, or that what does not begin naturally can cease through the forces of nature.

⁵¹ John Scottus Eriugena was a ninth-century philosopher and theologian known as 'the Irishman' (as Leibniz intimates, the term 'Scot' used to mean 'Irish-born'). Louis the Debonaire lived 778–840.

⁵² 'souls are exempt from death' or 'souls are deathless'. A saying attributed to Pythagoras in Ovid's *Metamorphoses*, XV.158.

§91 (referenced in M82)

After having established an order so admirable and rules so general in regard to animals, it does not seem reasonable that man be wholly excluded therefrom, and that everything in relation to his soul happen in him by miracle. Therefore I have pointed out more than once that it is in accordance with God's wisdom that everything be harmonic in his works, and that nature be parallel to grace. Thus I believe that souls which one day shall be human souls, like those of other species, have existed in seeds, and in the ancestors all the way back to Adam, and have consequently existed since the beginning of things, always in a kind of organised body. In this matter it seems that Mr Swammerdam, Reverend Father Malebranche, Mr Bayle, Mr Pitcairne, Mr Hartsoeker, and many other very able persons are of my opinion. And this doctrine is confirmed well enough by the microscope observations of Mr Leeuwenhoek and other good observers. But it also seems fitting to me, for a number of reasons, that those souls existed then only as sentient or animal souls, endowed with perception and feeling, and devoid of reason, and that they remained in this state until the time of the generation of the man to whom they should belong, at which point they received reason. Either there is a natural means of elevating a sentient soul to the degree of rational soul (which I find difficult to conceive), or God gave reason to this soul through a particular operation, or (if you will) by a kind of transcreation. This is all the more easy to accept since revelation teaches a great deal about other immediate operations upon our souls by God. This explanation seems to remove the difficulties that arise here in philosophy or in theology, since the difficulty about the origin of forms disappears entirely, and since it is much more in keeping with divine justice to give to the soul, already corrupted physically or animally by the sin of Adam, a new perfection, which is reason, than to put a rational soul (through creation or otherwise) into a body in which it must be corrupted *morally*.

§110 (referenced in M88)

'II. He made up his mind freely about the production of creatures, and he chose among an infinity of possible beings those whom it pleased him to give existence, and composed the universe out of them, and left all the others in nothingness.'⁵³ As with the preceding proposition, this one is also very much in keeping with that part of philosophy called natural theology. We must dwell a little on something that is said here, namely that he chose

⁵³ This is a quotation from Pierre Bayle's *Réponse aux Questions d'un Provincial*, 3 vols (Rotterdam, 1706), III, p. 815.

the possible beings ‘whom it pleased him’ to give existence, for it should be noted that when I say ‘that pleases me’, it is as if I am saying ‘I find it good’. Thus it is the ideal goodness of the object which pleases, and which makes me⁵⁴ choose it among many others which are not pleasing, or less pleasing, that is, which contain less of that goodness which affects me. Now only genuine goods are capable of pleasing God, and consequently that which pleases God most, and which he chooses, is the best.

§112 (referenced in M87)

‘IV. They ate of the fruit nevertheless, and thenceforth they were condemned, they and all their posterity, to the miseries of this life, to temporal death and eternal damnation, and made subject to such a tendency to sin that they abandon themselves to it almost endlessly and constantly.’⁵⁵ There are grounds to think that the forbidden action by itself entailed these evil effects by virtue of a natural consequence, and that it was for that very reason, and not by a purely arbitrary decree, that God had forbidden it, rather as one forbids knives to children. The renowned Fludd, or *de Fluctibus*, an Englishman, once wrote a book *De Vita, Morte & Resurrectione*, under the name of R. Otreb, wherein he maintained that the fruit of the forbidden tree was a poison:⁵⁶ but we cannot go into this level of depth. It is enough that God forbade a harmful thing. It must not therefore be imagined that God here simply acted in the character of a legislator who lays down a purely positive law, or of a judge who imposes and inflicts a penalty by an order of his will, without there being any connection between the evil of sin and the evil of punishment. And it is not necessary to imagine that God, being justly annoyed, placed a corruption expressly into the soul and into the body of man, by an extraordinary action, in order to punish him, rather as the Athenians gave hemlock to their criminals. Mr Bayle takes the matter this way: he speaks as if the original corruption had been placed into the soul of the first man by God’s order and by God’s operation. This is what makes him object (*Réponse aux Questions d’un Provincial*, chap. 178, p. 1218, book III) ‘that reason would not approve of the monarch who, in order to punish a rebel, condemned him and his descendants to have a tendency towards rebelling’.⁵⁷ But this punishment happens naturally to the wicked, without any order given by

⁵⁴ Reading ‘me’ in place of ‘le’.

⁵⁵ Bayle, *Réponse aux Questions d’un Provincial*, III, p. 815.

⁵⁶ Rudolfo Otreb (pseudonym: Robert Fludd), *Tractatus Theologo-Philosophicus* (Oppenheim, 1617).

⁵⁷ Bayle, *Réponse aux Questions d’un Provincial*, III, p. 1218. Leibniz adjusts the quotation to make it look as though Bayle is making a straightforward assertion here, whereas in fact Bayle poses a rhetorical question: ‘Would reason approve of the monarchs who, in

a legislator, and they develop a taste for evil. If drunkards were to father children inclined to the same vice by a natural consequence of what takes place in bodies, it would be a punishment of their progeny but it would not be a penalty of law. There is something similar to this in the consequences of the first man's sin. For the contemplation of divine wisdom leads us to believe that the kingdom of nature serves that of grace, and that God as architect has done everything as befitted God considered as monarch. We do not know well enough the nature of the forbidden fruit, or that of the action, or its effects, to judge the details of this affair. Nevertheless we should do God this justice, to believe that it involved something other than what painters depict for us.

§118 (referenced in M87)

'III. As an infinite goodness guided the Creator in the production of the world, all the characteristics of knowledge, skill, power and greatness that shine forth in his work are intended for the happiness of intelligent creatures. He wished to display his perfections only so that creatures of this kind should find their felicity in the knowledge, in the admiration and in the love of the Supreme Being.'⁵⁸

This maxim does not seem sufficiently accurate to me: I grant that the happiness of intelligent creatures is the principal part of God's plans, for they are most like him, but nevertheless I do not see how one can prove that this is his sole aim. It is true that the kingdom of nature must serve the kingdom of grace, but as everything is connected in God's great design we must believe that the kingdom of grace is also in some way adapted to that of nature, so that the latter preserves the utmost order and beauty in order to render the combination of the two the most perfect possible. And there is no basis for thinking that God, in order to achieve some decrease in moral evil, would overturn the whole order of nature. Each perfection or imperfection in the creature has its value, but none has an infinite value. Thus the moral or physical good and evil of rational creatures does not infinitely exceed the good and evil which is just metaphysical, that is, which consists in the perfection of other creatures; yet we would have to say this if the present maxim were strictly true. When God explained to the Prophet Jonah the pardon he had granted to the inhabitants of Nineveh, he even touched upon the interest of beasts which would have been affected by the overthrowing of this

order to punish a rebel, condemned him and his descendants to have a tendency towards rebelling?'

⁵⁸ Bayle, *Réponse aux Questions d'un Provincial*, III, p. 817.

great city.⁵⁹ No substance is absolutely contemptible or absolutely precious in the eyes of God. And the abuse or exaggerated extension of the present maxim seems to be in part the source of the difficulties proposed by Mr Bayle. It is certain that God attaches greater importance to a man than a lion, yet I do not know if we can be certain that God prefers, in all respects, a single man to the entire species of lions. But even if that were so, it would not follow that the interest of a certain number of men would prevail over the consideration of a general disorder scattered throughout an infinite number of creatures. This opinion would be a remnant of the somewhat discredited ancient maxim that everything is made solely for man.

§119 (referenced in M55)

‘IV. The benefits he imparts to the creatures capable of felicity tend only to their happiness. He does not therefore permit these benefits to make them unhappy, and, if the wrong use that they make of them were capable of ruining them, he would give them sure means of always making a good use of them. For without that they would not be true benefits, and his goodness would be less extensive than the goodness we can conceive in another benefactor. (I mean, in a cause that includes with its gifts the sure skill to use them well.)’⁶⁰

Here already is the abuse or the negative effect of the preceding maxim. It is not strictly true (although it appears plausible) that the benefits God imparts to the creatures capable of felicity tend solely to their happiness. Everything is connected in nature. And if a skilled artisan, an engineer, an architect, or a wise politician often makes one and the same thing serve several ends, if he accomplishes several aims with a single effort, when it may be done conveniently, it may be said that God, whose wisdom and power are perfect, does so always. That is making economical use of the ground, the time, the place, and the material, which together constitute his expenditure, so to speak. Thus God has more than one intention in his projects. The felicity of all rational creatures is one of his aims, but it is not his whole aim, nor even his final aim. This is why the misery of some of these creatures may come about *by concomitance*, and as a result of other, greater goods; I have already explained this above, and Mr Bayle has in a way acknowledged it. Goods, insofar as they are goods, considered in themselves, are the object of God’s antecedent will. God will produce

⁵⁹ An allusion to Jonah 4.11: ‘And should I not have concern for the great city of Nineveh, in which there are more than a hundred and twenty thousand people who cannot tell their right hand from their left – and also many animals?’

⁶⁰ Bayle, *Réponse aux Questions d’un Provincial*, III, pp. 817–18.

as much reason and knowledge in the universe as his plan can admit. It is possible to conceive a middle way between an entirely unadulterated and primitive antecedent will, and a consequent and final will. The *primitive antecedent will* has as its object each good and each evil in itself, detached from all combination, and inclines towards advancing the good and preventing the evil. The *mediate will* concerns combinations, such as when a good is combined with an evil: and then there will be some inclination in the will towards this combination when the good exceeds the evil therein. But the *final will*, the decisive will, results from the consideration of all the goods and all the evils that enter into our deliberation; it results from a total combination. This shows that a mediate will, although it may in some way be taken for a consequent will in relation to an unadulterated and primitive antecedent will, must be considered as antecedent in relation to the final and decretory will. God gives reason to humankind; from that, misfortunes arise by concomitance. His unadulterated antecedent will is inclined towards giving reason, as a great good, and to prevent the evils in question. But when it is a question of the evils that accompany this gift of reason given to us by God, the compound, made up of the combination of reason and these evils, will be the object of a mediate will of God, which will incline towards producing or preventing this compound according as the good or the evil prevails therein. But even if it should be the case that reason would do more harm than good to men (which I do not grant, however), in which case God's mediate will would reject it along with its circumstances, it could nevertheless be the case that it was more in accordance with the perfection of the universe to give reason to men, notwithstanding all the evil consequences it could have for them. And consequently, God's final will, or decree, resulting from all the considerations he can have, would be to give them reason. And, far from being blameworthy for doing this, he would be blameworthy if he did not. Thus the evil, or the mixture of goods and evils in which the evil prevails, happens only by concomitance, because it is connected with greater goods that are outside this mixture. Therefore this mixture, or this compound, should not be considered as a grace, or as a gift God gives to us, but the good found mixed therein will nonetheless be good. Such is the gift of reason God gives to those who use it badly; reason is always a good in itself, but the combination of this good with the evils that proceed from its abuse is not a good with regard to those who become wretched as a result. Yet it becomes a good by concomitance, because it serves a greater good in relation to the universe. And it is doubtless this that led God to give reason to those who have made it an instrument of their misery. Or, to speak more precisely, it is in accordance with our system that God, having found among the possible beings some rational creatures who abuse their reason, gave existence to those who are included

in the best possible plan of the universe. Thus nothing prevents us from admitting that God bestows goods which turn into evil through the fault of men, which often happens to them as a just punishment for the abuse they have made of his graces. Aloysius Novarinus wrote a book *De occultis Dei beneficiis*;⁶¹ one could write one on *De occultis Dei poenis*.⁶² This saying of Claudian would hold good here for some people:

*Tolluntur in altum
Ut lapsu graviore ruant.*⁶³

But to say that God should not give a good which he knows will be abused by a bad will, when the general plan of things requires that he give it; or even to say that he should give sure means to prevent the abuse, contrary to this same general order: this is to want (as I have already indicated) God himself to become blameworthy in order to prevent man from being so. To object, as is done here, that God's goodness would be meaner than that of another benefactor, who would give a more useful gift, is to overlook the fact that the goodness of a benefactor is not measured by a single benefit. It could easily happen that a gift from a private individual is greater than one from a prince, but all the gifts of this private individual will be greatly inferior to all the gifts of the prince. Thus one can sufficiently appreciate the goods that God gives only when one considers their full extent, by relating them to the entire universe. Moreover, it may be said that the gifts given in the expectation that they will harm are the gifts of an enemy, 'The gifts of enemies are no gifts',⁶⁴

*Hostibus eveniant talia dona meis.*⁶⁵

But that is meant when there is malice or culpability in the one who gives the gifts, as there was in that Eutrapelus of whom Horace speaks, who did good to people in order to give them the means to ruin themselves.⁶⁶ His intention was evil, but God's cannot be better than it is: must he spoil his system, must there be less beauty, perfection and reason in the universe, because there are people who abuse reason? The common sayings hold

⁶¹ Aloysius Novarinus, *Deliciae divini amoris. Hoc est: de occultis Dei beneficiis, Dei amori excitando ac fouendo* (Lyon, 1641).

⁶² Leibniz is contrasting 'God's hidden benefits' (the title he gives to Novarinus' book) with 'God's hidden punishments'.

⁶³ 'They are raised on high, in order that they should be destroyed by a harder fall.' Claudian, *In Rufinum*, l.23.

⁶⁴ Sophocles, *Ajax*, 665.

⁶⁵ 'Such gifts should come to my enemies!'

⁶⁶ Horace, Epistle XVIII.31ff.

good here: *Abusus non tollit usum*,⁶⁷ there is *scandalum datum* & *scandalum acceptum*.⁶⁸

§120 (referenced in M58)

‘V. A maleficent being is very capable of showering magnificent gifts upon his enemies when he knows that they will use them in such a way that will destroy them. It therefore cannot befit the infinitely good being to give to creatures a free will when he knows for certain that they would use it in such a way that would render them wretched. Therefore if he gives them free will, he combines with it the art of always using it appositely, and does not permit them to neglect the practice of this art in any encounter, and if there were no certain way of instilling the good use of this free will, he would rather take this faculty from them than allow it to be the cause of their misery. That is all the more obvious since free will is a grace that he has given them of his own choice and without their asking for it. As such, he would be more responsible for the misery it would bring them than if he had granted it only because of the petitioning of their prayers.’⁶⁹

What was said at the end of the remark on the preceding maxim ought to be repeated here, and is sufficient to mollify the present maxim. Moreover, that false maxim, advanced as the third, is still being supposed, the one which holds that the happiness of rational creatures is God’s sole aim. If that were so, neither sin nor misery would occur, not even by concomitance. God would have chosen a series of possibles in which all these evils would be excluded. But God would have failed in what is due to the universe, that is, in what he owes to himself. If there were only minds, they would exist without the necessary connection, without the order of times and places. This order requires matter, motion, and its laws; by adjusting them to minds in the best possible way, one arrives at our world. When one looks at things only in a broad way, a thousand things are conceived as feasible that cannot actually take place. To want God not to give free will to rational creatures is to want these creatures not to exist, and to want God to prevent them from abusing it is to want there to exist only these creatures by themselves, along with whatever would be made just for them. If God had only these creatures in mind, he would doubtless prevent them from ruining themselves. It can nevertheless be said in a sense that God gave to these creatures the art of always making good use of their free will, for the natural light of reason is this art: one would only have to have the will to do good always, but the means of giving oneself the will that one ought to

⁶⁷ ‘Abuse does not take away use’.

⁶⁸ ‘Scandal given and scandal received’.

⁶⁹ Bayle, *Réponse aux Questions d’un Provincial*, III, pp. 818–19.

have is often lacking in creatures; and they often lack even the will to make use of the means that indirectly give a good will, about which I have already spoken more than once. This failing has to be acknowledged, and it should even be recognised that God could perhaps have exempted creatures from it, since nothing, it seems, prevents there from being some creatures whose nature is always to have a good will. But I respond that it is not necessary, and was not feasible, that all rational creatures had so great a perfection that would draw them so close to the divinity. Perhaps even that is possible only by a special divine grace, but in this case, would it be appropriate for God to grant it to all, that is, that he always act miraculously with regard to all rational creatures? Nothing would be less reasonable than these perpetual miracles. There are degrees in creatures, the general order requires it. And it seems very fitting to the order of the divine government that the great privilege of steadfastness in the good be given more readily to those who have had a good will when they were in a less perfect state, in the state of struggle and pilgrimage, in *Ecclesia militante, in statu viatorum*.⁷⁰ The good angels themselves were not created with impeccability. Nevertheless I would not dare to affirm that there are no creatures born blessed, or that are impeccable and holy by their nature. There are perhaps people who give this privilege to the holy Virgin, since the Roman church today also puts her above the angels. But it is enough for us that the universe is very large and very varied: to wish to limit it is to have little knowledge of it. But (Mr Bayle continues), God gave free will to creatures capable of sinning without their asking him for this grace. And the one who would give such a gift 'would be more responsible for the misfortune that it would bring to those who would make use of it than if he had granted it only because of the petitioning of their prayers'.⁷¹ But the petitioning of prayers does nothing to God: he knows better than us what we need, and he grants only what is fitting for the whole. It seems that Mr Bayle here makes free will consist in the power to sin, yet elsewhere he recognises that God and the saints are free without having this power. Be that as it may, I have already done enough to show that God, doing what the combination of his wisdom and his goodness command, is not responsible for the evil that he permits. Men themselves, when they do their duty, are not responsible for events, whether they foresee them or whether they don't.

§121 (referenced in M36)

'VI. It is as certain a way of taking a man's life to give him a silk cord with which it is known with certainty that he will freely use to throttle

⁷⁰ 'in the church militant, in the state of pilgrims'.

⁷¹ Bayle, *Réponse aux Questions d'un Provincial*, III, pp. 818–19.

himself, as for someone to stab him.⁷² One no less desires his death when one makes use of the first way than when one employs one of the others: it even seems as though one desires it with a more malicious intention, since one is inclined to leave to him all of the trouble and all of the guilt of his destruction.⁷³

Those who deal with duties (*De Officiis*) like Cicero, St Ambrose, Grotius, Opalenius, Sharrok, Rachelius, and Pufendorf, as well as the casuists, teach that there are cases where one is not obliged to return an entrusted item to its owner: for example, one will not return a dagger when one knows that the one who entrusted it desires to stab someone. Let us pretend that I have in my hands the fatal firebrand that Meleager's mother will use to kill him; the magical javelin that Cephalus will unwittingly use to kill his Procris; the horses of Theseus that will tear his son, Hippolytus, to pieces: I am asked to return them, and I am right to refuse the request, knowing the use that will be made of them. But what will happen if a competent judge orders me to restore them, when I cannot prove to him what I know of the bad consequences that this will have, Apollo having perhaps given me the gift of prophecy as he did to Cassandra, on the condition that I shall not be believed? I would then be obliged to make restitution, not being able to defend myself without perishing. Thus I cannot avoid contributing towards the evil. Another comparison: Jupiter makes a promise to Semele, the Sun to Phaeton, and Cupid to Psyche, to grant the favour that the other will ask of them. They swear by the Styx,

*Di cujus jurare timent & fallere Numen.*⁷⁴

One would be happy to stop, but too late, the request half heard,

*Voluit Deus ora loquentis
Opprimere, exierat jam vox properata
sub auras.*⁷⁵

One would be happy to draw back after the request was made, making vain remonstrations about it. But they press you, they say to you, 'Do you make oaths in order to break them?'⁷⁶ The law of the Styx is inviolable, one

⁷² Leibniz here omits, presumably by mistake, part of Bayle's passage. Instead of 'as for someone to stab him', Bayle writes: 'as to stab him oneself, or to make someone stab him'.

⁷³ Bayle, *Réponse aux Questions d'un Provincial*, III, p. 819.

⁷⁴ 'By whose divinity the gods dread to swear and violate their oath'. Virgil, *The Aeneid*, VI.324.

⁷⁵ 'The god wanted to stop her mouth as she spoke: but her voice had already rushed into the air.' Ovid, *Metamorphoses*, III, 295–6.

⁷⁶ This is a line from Molière's *Psyche*, act IV, scene III.

must submit to it; if one has erred in making the oath, one would err more in not keeping it; the promise must be kept, however dangerous it may be for him who demands it. It would be dangerous for you if you did not keep it. It seems that the moral of these fables implies that a supreme necessity may oblige one to condescend to evil. In truth, God knows no other judge who can force him to give what may turn to evil: he is not like Jupiter who fears the Styx. But his own wisdom is the greatest judge he can find, its judgements are beyond appeal, they are the decrees of destiny. The eternal truths, objects of his wisdom, are more inviolable than the Styx. These laws, this judge, do not constrain: they are stronger, for they persuade. Wisdom only reveals to God the best possible exercise of his goodness: after that, the evil that occurs is an essential consequence of the best. I will add something stronger: to permit the evil, as God permits it, is the greatest goodness.

*Si mala sustulerat, non erat ille bonus.*⁷⁷

After this, one would need to be wrongheaded to say that it is more malicious to leave to a person the full punishment and the full blame of his ruin. When God does leave that to someone, it belonged to him before his existence: it was then in the idea of him while still purely possible, before God's decree which made him exist: can it be left or given to another? I needn't say any more.

§122 (referenced in M36)

'VII. A true benefactor gives promptly, and does not wait to give while those he loves suffer long miseries from the privation of what he could impart to them very easily from the outset, and without causing any inconvenience to himself. If the limitation of his powers does not permit him to do good without inflicting pain or some other inconvenience, he takes that route (see *Dictionnaire historique et critique*, p. 2261 of the 2nd edition), but only regretfully, and he never employs this way of helping out when he can do it without introducing any kind of evil into his favours. If the profit that could be derived from the evils he would inflict could just as easily arise from an unadulterated good as from those evils, he would take the straight path of unadulterated good, and not the meandering path that would lead from evil to good. If he showers riches and honours, it is not so that those who have enjoyed them, when they come to lose them, should be afflicted all the more appreciably in proportion as they were accustomed to pleasure, and that they should thereby become more wretched than the persons who have always been deprived of these advantages. A malicious

⁷⁷ 'If he had removed the evils, he would not be good.'

being would shower goods with these costs upon the people for whom he had the greatest hatred. Consider this passage from Aristotle's *Rhetoric* book 2 chap. 23 p.m.446: "e.g. that a gift was given in order to cause pain by its withdrawal. This notion underlies the lines:

God gives to many great prosperity,
Not of good will towards them, but to make
The ruin of them more conspicuous."⁷⁸

That is: *Veluti si quis alicui aliquid det, ut (postea) hoc (ipsi) erepto (ipsum) afficiat dolore. Unde etiam illud est dictum:*

*Bona magna multis non amicus dat Deus,
Insigniore ut rursus his privet malo.*⁷⁹

All these objections hinge almost on the same sophism; they twist and turn the fact, they tell only half the story. God looks after men, he loves humankind, he wishes it well: nothing so true. Yet he lets men fall, he often lets them perish, he gives them goods that turn out to be their ruin, and when he makes someone happy, it is after many sufferings. Where is his affection, where is his goodness, or indeed where is his power? Pointless objections, which ignore the main point and overlook that it is God we are talking about. It seems as though it were about a mother, a tutor, or a guardian, whose almost sole concern is with the upbringing, preservation, and happiness of the person in question, and who neglect their duty. God looks after the universe, he neglects nothing, he chooses what is best absolutely. If after all that someone is wicked and unhappy, it is down to him that he is so. God (it is said) could give happiness to everyone, he could do so promptly and easily, and without inconveniencing himself in the process, for he can do anything. But should he do that? Since he does not do so, it is a sign that he had to do things quite differently. To infer from this either that it is only with regret and owing to lack of power that God fails to make men happy and fails to give the good from the outset and without admixture of evil, or else that he lacks the good will to give it without exception and without reservation: this is to compare

⁷⁸ Bayle, *Réponse aux Questions d'un Provincial*, III, pp. 819–20. The Aristotle passage is from the *Rhetoric*, 1399b21–24. I have used the English translation from *The Complete Works of Aristotle*, II, p. 2230.

⁷⁹ This is Leibniz's Latin translation of the passage from Aristotle's *Rhetoric* that he has just reproduced in the quoted passage from Bayle. Curiously, Bayle had given his own Latin translation of the Greek passage in the margin of *Réponse aux Questions d'un Provincial*, III, p. 820, but rather than quoting that, Leibniz chose to make his own, presumably for reasons of accuracy.

our true God with the god of Herodotus, who is full of envy,⁸⁰ or with the demon of the poet whose iambics are given by Aristotle and we have just translated into Latin, who gives goods in order to cause greater distress by taking them away. This is to make light of God through perpetual anthropomorphisms; it is to represent him as a man who obligates himself entirely to the business at hand, who must exercise the principal part of his goodness only upon objects which alone are known to us, and who lacks either ability or good will. God is not lacking in either: he could do the good we desire; he even wishes it, when considering it separately, but he must not do it in preference to other, greater goods which are opposed to it. Moreover, one has no grounds to complain that one usually attains salvation only through many sufferings, and by bearing the cross of Jesus Christ, since these evils serve to make the elect imitators of their master, and to increase their happiness.

§124 (referenced in M58 and M72)

‘IX. The greatest love this master can show for virtue is to make it the case, if he can, that it be always practised without any mixture of vice. If it is easy for him to procure this advantage for his subjects, and nevertheless he permits vice to raise its head, on condition that he finally punishes it after having tolerated it for a long time, his affection for virtue is not the greatest that can be conceived; it is therefore not infinite.’⁸¹

I am not even halfway through the nineteen maxims and already I am weary of always refuting and responding to the same thing. Mr Bayle multiplies without necessity his so-called maxims, set against our dogmas. When things that are connected together are separated, the parts from their whole – humankind from the universe, God’s attributes from each other, power from wisdom – it is permissible to say that God *can make it so* that virtue exists in the world without any mixture of vice, and even that he can do so *easily*. But since he has permitted vice, it must be that the order of the universe, found to be preferable to every other plan, required it. It must be concluded that it is not permissible to do otherwise, since it is not possible to do better. It is a hypothetical necessity, a moral necessity, which, far from being contrary to freedom, is the effect of its choice. *Quae rationi contraria sunt, ea nec fieri a Sapiente posse credendum est.*⁸² It is here objected that God’s affection for virtue is therefore not the greatest that can be conceived, that it is not infinite. The response has already been

⁸⁰ See for example Herodotus, *Histories*, I.32.

⁸¹ Bayle, *Réponse aux Questions d’un Provincial*, III, pp. 820–1.

⁸² ‘We should believe that those things which are contrary to reason cannot be done by a wise man.’

given, on the second maxim, by saying that God's affection for any created thing is proportionate to the value of the thing: virtue is the noblest quality of created things, but it is not the only good quality of creatures. There is an infinity of others which attract God's attention: from all these inclinations there results the most good possible, and it turns out that if there were only virtue, if there were only rational creatures, there would be less good. Midas found himself less rich when he had only gold. And besides, wisdom must vary. To multiply only the same thing, however noble it may be, would be superfluity, and poverty too: to have a thousand well-bound Virgils in one's library, to sing always the airs from the opera of Cadmus and Hermione, to break all the china in order only to have cups of gold, to have only diamond buttons, to eat nothing but partridges, to drink only Hungarian or Shiraz wine, would one call that reason? Nature had need of animals, plants, inanimate bodies: in these non-rational creatures there are wonders which serve for the exercise of reason. What would an intelligent creature do if there were no non-intelligent things? What would it think about if there were no motion, matter, or sense? If it had only distinct thoughts it would be a God, its wisdom would be without limits: this is one of the results of my meditations. As soon as there is a mixture of confused thoughts then we have sense, and we have matter. For these confused thoughts come from the relation of all things to each other, according to duration and extent. This is why in my philosophy there is no rational creature without some organic body, and no created mind entirely separate from matter. But these organic bodies do not differ in perfection any less than do the minds to which they belong. Therefore, since there had to be, according to God's wisdom, a world of bodies, a world of substances capable of perception and incapable of reason; since, in a word, he had to choose from all things that which together produced the best effect, and since vice gained entrance through this door, God would not have been perfectly good and perfectly wise if he had excluded it.

§130 (referenced in M54, M56, and M87)

'XV. The infinitely powerful being, creator of matter and minds, makes whatever he wills of this matter and these minds. There is no situation and shape that he cannot communicate to minds.⁸³ So if he permitted a physical evil, or a moral evil, it would not be because, without it, some other even greater physical or moral evil would be absolutely inevitable. None of the

⁸³ Leibniz here omits (presumably by mistake) part of the sentence written by Bayle, which reads in full: 'There is no motion, no situation and shape, that he cannot communicate to matter, and no thought that he cannot communicate to minds.'

reasons for mixing of good and evil which are based on the limitation of the powers of benefactors can apply to him.⁸⁴

It is true that God makes of matter and of minds whatever he wills, but he is like a good sculptor who wants to make from his block of marble only what he judges to be best, and who judges this well. God makes of matter the finest of all possible machines; he makes of minds the most excellent of all conceivable governments; and on top of all that, he establishes for their union the most perfect of all harmonies, in accordance with the system I have proposed. Now since physical evil and moral evil occur in this perfect work, it must be concluded from that (against the assurance given here by Mr Bayle) that *without that, an even greater evil would have been absolutely inevitable*. This great evil would be that God would have chosen badly if he had chosen otherwise than he did. It is true that God is infinitely powerful, but his power is indeterminate: goodness and wisdom combined determine it to produce the best. Elsewhere Mr Bayle makes an objection which is peculiar to him, which he derives from the views of modern Cartesians who say that God could give to souls the thoughts he wanted to give them, without making these thoughts depend upon any relation to bodies. In this way, souls would be spared a great number of evils which come only from the disorder of bodies. More will be said about this below. For now it is sufficient to note that God cannot establish a system which is poorly connected and full of dissonances. In part, the nature of souls is to represent bodies.

§134 (referenced in M64 and M90)

‘XIX. If out of many remedies capable of curing a patient there were several which doctors knew full well he would take with pleasure, and the doctors were to choose precisely the one which they knew he would refuse to take, their exhortations and pleadings to him not to refuse it would be in vain; we would nevertheless have just cause for thinking that they had no desire to cure him, for if they wished to do so they would choose for him one of those good medicines they knew he would be willing to swallow. But besides, if they knew that refusal of the remedy they offered him would worsen his sickness to the point of making it fatal, one could not prevent oneself from saying that, all their exhortations notwithstanding, they nonetheless wished for the patient’s death.’⁸⁵

God wants to save all men:⁸⁶ that means that he would save them if men did not themselves prevent it, and did not refuse to receive his grace.

⁸⁴ Bayle, *Réponse aux Questions d’un Provincial*, III, p. 823.

⁸⁵ Bayle, *Réponse aux Questions d’un Provincial*, III, p. 825.

⁸⁶ An allusion to 1 Timothy 2.3–4.

And he is not obliged or led by reason to always overcome their evil will. Yet sometimes he does so, when higher reasons allow it, and when his consequent and decretory will, which results from all his reasons, resolves him to the election of a certain number of men. He gives aids to everyone in order that they might be converted, and persevere, and these aids are sufficient in those who have good will, but they are not always sufficient to give good will. Men obtain this good will either through particular aids or through circumstances which cause the general aids to be successful. God cannot refrain from offering remedies even when he knows they will be rejected, which will make a person more guilty. But shall we wish that God be unjust in order that man may be less criminal? Besides, the acts of grace which do not help one may help another, and indeed they always contribute to the integrity of God's plan, which is the best it is possible to conceive. Shall God not give the rain because there are low-lying places which will be inconvenienced by it? Shall the sun not shine as much as it generally should because there are places which will be too dried up as a result? In a word, all the comparisons spoken of in these maxims that Mr Bayle has just given, of a doctor, a benefactor, a minister of state, and a prince, fall a long way short, because we know their duties, and what can and should be the object of their cares: they scarcely have more than the one concern, and they often fail in it through negligence or malice. God's object has something of infinity, his cares embrace the universe; we know almost nothing of that, yet we want to assess his wisdom and his goodness by what we know? What temerity, or rather, what absurdity! The objections presume what is false; it is ridiculous to pass a legal judgement when one does not know the facts. To say with St Paul, *O altitudo divitiarum et sapientiae*,⁸⁷ is not to renounce reason, it is rather to employ the reasons that we know, for they teach us the immensity of God, about which the Apostle speaks. But it is to admit our ignorance of the facts; moreover, it is to acknowledge, before we see it, that God makes everything the best possible, in accordance with the infinite wisdom which guides his actions. It is true that we already have before our eyes proofs and tests of this, when we see among God's works something in its entirety, some whole complete in itself, and isolated, so to speak. A plant, an animal, a man, is such a whole, formed as it were by God's hand. We cannot admire enough the beauty and the artifice of its structure. But when we see some broken bone, some piece of animal flesh, some sprig of a plant, there appears to be nothing but disorder, unless an excellent anatomist looks at it, and even he would not recognise anything in it if he had not seen beforehand similar pieces attached to their whole. It is the same with God's government: what we are

⁸⁷ 'Oh, the depth of riches and wisdom'. A slight misquoting of Romans 11.33.

able to see of it until now is not a piece large enough to discern the beauty and order of the whole. Thus the very nature of things implies that this order of the Divine City, which we do not yet see here on earth, should be an object of our faith, of our hope, of our confidence in God. If there are some who think otherwise, so much the worse for them: they are malcontents in the state of the greatest and the best of all monarchs, and they are wrong not to make the most of the examples of his wisdom and his infinite goodness that he has given them in order to reveal himself as being not only admirable, but also worthy of love beyond all things.

§146 (referenced in M64 and M85)

‘The heavens and all the rest of the universe’ (adds Mr Bayle) ‘preach the glory, the power, the unity of God.’⁸⁸ From that the conclusion should have been drawn that this is so (as I have already noted above), because we see in these objects something complete and apart, so to speak. Every time we see such a work of God we find it so perfect that we have to admire the artisanship and beauty of it; but when we do not see a work complete, when we view only scraps and fragments, it is no wonder if the good order is not apparent there. Our planetary system composes such an isolated work, and perfect too, when it is considered apart from all else; each plant, each animal, each man amounts to one such work, up to a certain point of perfection. The wonderful artisanship of the author is recognised therein. But the human race, insofar as it is known to us, is only a fragment, only a small portion of the City of God, or the Republic of Minds. Its extent is too great for us, and we know too little of it to be able to observe the wonderful order therein. ‘Man alone’ (says Mr Bayle), ‘that masterpiece of his creator among visible things; man alone, I say, gives us very great objections against the unity of God.’⁸⁹ Claudian made the same remark when unburdening his heart in these well-known verses:

*Saepe mihi dubiam traxit sententia mentem, &c.*⁹⁰

But the harmony that is found in everything else is a good sign that it would also be found in the government of men, and generally in that of minds, if the whole of it were known to us. One would have to judge the works of God as wisely as Socrates judged those of Heraclitus when he said: what I

⁸⁸ A quotation from Bayle’s *Dictionnaire historique et critique*, p. 2025 (article ‘Manicheans’, note D)/ *Historical and Critical Dictionary*, p. 146.

⁸⁹ Bayle, *Dictionnaire historique et critique*, II, p. 2025 (article ‘Manicheans’, note D)/ *Historical and Critical Dictionary*, p. 146.

⁹⁰ ‘This question has often seized my doubting mind.’ Claudian, *In Rufinum*, I.1. The rest of the passage goes: ‘whether those above care about earthly matters or whether there is no governor, and mortal affairs proceed from uncertain chance’.

have understood of them pleases me; I think that the rest would not please me any less if I understood it.⁹¹

§147 (referenced in M57 and M83)

Here is yet another particular reason for the apparent disorder in what concerns man, namely that God has bestowed upon him an image of the divinity by giving him intelligence. God lets man be, in some way, in his small department, *ut Spartam quam nactus est ornet*.⁹² He enters there only in a secret way, for he provides being, force, life, reason, without showing himself. It is there that *free will* plays its game. And God plays (so to speak) with these little Gods that he thought good to produce, just as we play with children who involve themselves with activities that we secretly encourage or obstruct as we please. Therein, man is therefore like a little God in his own world, or microcosm, which he governs in his own way; he sometimes performs wonders there, and his art often imitates nature.

When Jove looked down and saw the heavens figured in a sphere of glass
he laughed and said to the other gods:
'Has the power of mortal effort gone so far?
Is my handiwork now mimicked in a fragile globe?
An old man of Syracuse has imitated on earth the laws of the heavens,
the order of nature, and the ordinances of the gods.
Why should I take umbrage at harmless Salmoneus and his mock thunder?
Here the feeble hand of man has proved Nature's rival'.⁹³

But he also makes great mistakes, because he abandons himself to the passions, and because God abandons him to his senses. God also punishes him for that, sometimes like a father or tutor, training or chastising children, sometimes like a just judge, punishing those who withdraw from him: and evil comes about most often when these intelligences, or their small worlds, impact on each other. Man suffers for it in proportion to how wrong he is, but God, by a wonderful art, turns all the defects of these little worlds into the greatest ornament of his great world. It is like in those devices of perspective, where certain beautiful designs appear only as confusion until one brings them back to the right viewing angle or looks at them by means of a certain glass or mirror. It is by placing and using them properly that one makes them become a showpiece. Thus the apparent deformities of our

⁹¹ This story is recounted in Diogenes Laertius' *Lives of The Eminent Philosophers*, II.22.

⁹² 'so that each person adorn his own Sparta'. An allusion to Euripides' *Telephus* (fragment 73).

⁹³ This is part of Claudian's poem 'In sphaeram Archimedis'. The English translation is from *Claudian volume II*, trans. Maurice Platnauer (Cambridge MA: Harvard University Press, 1956), pp. 279–81.

little worlds join together to create beauties in the great world, and contain nothing opposed to the unity of an infinitely perfect universal principle: on the contrary, they increase our wonder at its wisdom, which makes evil serve the greater good.

§149 (referenced in M48)

Mr Bayle states: ‘that one finds everywhere both moral good and physical good, some examples of virtue, some examples of happiness, and that this is what makes the difficulty. For if there were only wicked and wretched people’ (he says) ‘there would be no need to have recourse to the hypothesis of two principles.’⁹⁴ I admire the fact that this excellent man could have revealed so much fondness for this opinion of two principles; and I am surprised that he did not consider that this story of human life, which constitutes the universal history of the human race, was found fully laid out in the divine understanding along with an infinity of others, and that God’s will decreed its existence alone because this sequence of events was best suited, along with the rest of things, to achieve the best outcome. And these apparent defects in the whole world, these spots on a sun, of which ours is only a ray, far from diminishing its beauty, increase it, and contribute to it by obtaining a greater good. There really are two principles, but they are both in God, namely his *understanding* and his *will*. The understanding furnishes the principle of evil, without being tarnished by it, without being evil; it represents natures as they are in the eternal truths; it contains within itself the reason why evil is permitted, even though the will is moved only towards the good. Let us add a third principle, which is power; it precedes even understanding and will, but it acts according as the former shows it to and as the latter requires it to.

§150 (referenced in M48)

Some (like Campanella) have called these three perfections of God the three *primordialities*.⁹⁵ Some have even believed that there was in that a secret connection to the Holy Trinity: that power relates to the Father, that is, to the source of Divinity; wisdom to the Eternal Word, which is called

⁹⁴ Bayle, *Dictionnaire historique et critique*, II, p. 2025 (article ‘Manicheans’, note D)/*Historical and Critical Dictionary*, p. 147.

⁹⁵ Tommaso Campanella, *Atheismus Triumphatus, seu Reductio ad religionem per scientiarum veritates* (Paris, 1636), p. 6. Campanella’s primordialities were power, wisdom, and love. Leibniz himself used the term, but in a different way; in a late text he explains that God’s greatness has three components, namely primordially, omnipotence, and omniscience. Of the first of these, Leibniz wrote ‘*Primordially* has two parts: God’s independence from other things, and the dependence of all things upon God.’ G III, p. 29.

logos by the most sublime of the Evangelists,⁹⁶ and will, or love, to the Holy Spirit. Nearly all the expressions or comparisons drawn from the nature of intelligent substance tend to this.

§153 (referenced in M42)

The explanation of the cause of evil by a particular principle, *per principium maleficum*,⁹⁷ is of the same nature. Evil does not require this kind of explanation any more than do cold and darkness: there is not a *primum frigidum*⁹⁸ or a principle of darkness. Evil itself comes only from privation; the positive enters into it only by concomitance, just as the active enters into cold by concomitance. We see that when the water contained within a gun barrel freezes, it is capable of breaking it;⁹⁹ and yet cold is a certain privation of force, it comes only from the diminution of a motion which separates the particles of fluids. When this separating motion weakens in water because of cold, the particles of compressed air concealed in the water collect together, and becoming larger, they become more capable of acting outwards through their energy. For the resistance that the surfaces of air particles encounter in the water, and which opposes the efforts of these particles to expand, is far less, and consequently the effect of the air is greater in large air bubbles than in small ones, even though these small bubbles combined would make as much mass as the large ones. This is because the resistances, that is, the surfaces, increase by the square of the diameter, and the efforts, that is, the contents, or the solidities of the spheres of compressed air, increase by the cube of the diameter.¹⁰⁰ Thus it is *by accident* that privation involves action and force. I have already shown above how privation is sufficient to cause error and malice, and how God is inclined to allow them even though there is no malignity in him. Evil comes from privation; the positive and action arise from it by accident, just as force arises from cold.

§167 (referenced in M42 and M54)

At that same time an ingenious satire was composed against the Gomarists, entitled *Fur praedestinatus, de gepredestineerde dief*,¹⁰¹ which tells of a thief

⁹⁶ An allusion to John 1.1: 'In the beginning was the Word.'

⁹⁷ 'by an evil principle'.

⁹⁸ 'first cold'.

⁹⁹ Leibniz is referring here to an experiment performed by Christiaan Huygens and communicated to the Académie des Sciences in 1667. See Christiaan Huygens, *Oeuvres complètes de Christiaan Huygens* (The Hague: Martinus Nijhoff, 1937), XIX, pp. 336–7.

¹⁰⁰ Leibniz is referring here to the square-cube law discovered by Galileo.

¹⁰¹ Henricus Slatius, *De gepredestineerde dief, ofte een't Samensprekinge, gehouden tusschen een Predicant der Calvinusgesinde, ende een Dief, die vermesen was om te sterben* ([no place], 1619).

condemned to be hanged, who attributes to God all the bad he has done, who believes himself predestined to salvation notwithstanding his wicked actions, who imagines that this belief is sufficient for him, and who attacks with *ad hominem* arguments a Counter-Remonstrant minister appointed to prepare him for death; but this thief is finally converted by a former pastor who had been deposed for Armenianism, whom the jailer, having pity for the criminal and for the weakness of the minister, had secretly brought to him. There were responses to this lampoon, but responses to satires are never as pleasing as the satires themselves. Mr Bayle (*Réponse aux Questions d'un Provincial*, chap. 154, p. 938, book III) says that this book was printed in England in the time of Cromwell, and he appears not to have been informed that this version was only a translation of the much older Flemish original.¹⁰² He adds that Dr George Kendall delivered a refutation of it at Oxford in 1657, under the title of *Fur pro Tribunali*, and that the dialogue was contained therein.¹⁰³ This dialogue presupposes, contrary to the truth, that the Counter-Remonstrants make God the cause of evil, and teach a kind of predestination in the Mahommedan manner, where God is indifferent to doing good or evil, and where it is sufficient to be predestined to imagine that one is. They take care not to go that far. Nevertheless it is true that there are among them some Supralapsarians, and others who find it difficult to explain themselves clearly about the justice of God and about the principles of piety and morals in man, because they imagine despotism in God, and demand that man be convinced, without reason, of the absolute certainty of his election, which is liable to have dangerous consequences. But all those who acknowledge that God produces the best plan, that he chose it from among all possible ideas of the universe, that in it he finds man led by the original imperfection of creatures to misuse his free will and to plunge himself into misery, that God prevents sin and misery as much as the perfection of the universe, which is an outpouring of his perfection, may permit it: those, I say, show more distinctly that God's intention is the most upright and holy in the world, that the creature alone is guilty, that its original limitation or imperfection is the source of its wickedness, that its evil will is the sole cause of its misery, that one cannot be destined for salvation without also being destined for the holiness of God's children, and that any hope one

¹⁰² Henricus Slatius, *Fur praedestinatus, sive, Dialogismus inter quendam ordinis praedicatorum Calvinistam & furem ad laqueum damnatum habitus in quo ad vivum representatur non tantum quomodo Calvinistarum dogmata ex seipsis ansam praebent scelera & impietates quasvis patrandi, sed insuper quomodo eadem maximè impediunt quò minùs peccator ad vitae emendationem & resipiscentiam reduci possit* (London, 1651).

¹⁰³ George Kendall, *Fur pro tribunali. Examen dialogismi cui inscribitur fur praedestinatus* (Oxford, 1657).

can have of election can only be founded upon the good will that one has by the grace of God.

§169 (referenced in M31)

The question of the possibility of things that do not happen has already been examined by the ancients. It appears that Epicurus, to preserve freedom and to avoid an absolute necessity, maintained, following Aristotle, that future contingents were not capable of determinate truth. For if it was true yesterday that I would write today, then it could not fail to happen: it was already necessary, and, for the same reason, it was necessary from all eternity. Thus everything that happens is necessary, and it is impossible for things to go otherwise. But since that is not the case, it would follow, according to him, that future contingents have no determinate truth. To support this opinion, Epicurus allowed himself to go so far as to deny the first and greatest principle of the truths of reason: he denied that every statement was either true or false. This is how he was pushed into doing so: ‘You deny that it was true yesterday that I would write today; it was therefore false.’ The good man, not being able to admit this conclusion, was obliged to say that it was neither true nor false. After that, he did not need to be refuted, and Chrysippus might have saved himself the trouble he took to confirm the great principle of contradictories, according to Cicero’s report in his book *De Fato*: ‘Chrysippus directs all his energies to prove that every proposition is either true or false. For just as Epicurus fears that if he concedes this, he may have to concede that all things happen by fate (since if one or other is true from all eternity, then it is also certain, and if certain it is also necessary; in this way he thinks that necessity and fate are confirmed), so Chrysippus fears that if he does not concede it, if he does not maintain that whatever is asserted is either true or false, then he does not maintain that everything happens by fate, and according to the eternal causes of all future events.’¹⁰⁴ Mr Bayle remarks about this (*Dictionnaire*, article ‘Epicurus’, note T, p. 1141) that ‘neither the one nor the other of these two great philosophers (Epicurus and Chrysippus) understood that the truth of this maxim, “every proposition is true or false”, is independent of what is called *fate*; therefore¹⁰⁵ it could not serve as proof of the existence of *fate*, as Chrysippus claimed, and as Epicurus feared. Chrysippus could not admit, without overreaching himself, that there are propositions that are neither true nor false, but he was no better off establishing the contrary, for whether there are free causes or not, it is equally true that

¹⁰⁴ Cicero, *De Fato*, X. Leibniz’s quotation contains a number of errors, so I have translated from Cicero’s text.

¹⁰⁵ Reading ‘donec’ in place of ‘dunt’.

this proposition, “The great Mogul will go hunting tomorrow” is true or false. It was right to consider this discourse of Tiresias as ridiculous: “Everything that I will say will happen, or not, for the great Apollo endows me with the faculty to prophesy.”¹⁰⁶ If, though it is impossible, there were no God, it would nevertheless be certain that everything predicted by the greatest madman in the world would happen or would not happen. Neither Chrysippus nor Epicurus took heed of this.¹⁰⁷ In book 1 of *De natura Deorum*, Cicero very rightly said of the evasions of the Epicureans (as Mr Bayle notes near the end of the same page) that it would be much less shameful to admit that one could not respond to one’s adversary than to resort to similar responses.¹⁰⁸ Nevertheless we shall see that Mr Bayle himself confused the certain with the necessary, when he claimed that the choice of the best made things necessary.

§170 (referenced in M33)

Let us come now to the possibility of things that do not take place, and let us use Mr Bayle’s own words, even if they are somewhat longwinded. This is how he speaks of the matter in his *Dictionnaire* (article ‘Chrysippus’, note S, p. 929): ‘The famous dispute about possible things and impossible things owed its origin to the doctrine of the Stoics concerning fate. At issue was knowing whether, among the things which never were and never will be, there are some that are possible, or whether everything that is not, everything that never was, and everything that never will be, is impossible. A famous dialectician of the Megaric Sect, called Diodorus, gave a negative answer to the first of these two questions, and an affirmative answer to the second; but Chrysippus strongly opposed him. Here are two passages of Cicero (epistle 4, book 9 of the *Epistulae ad Familiares*): “You should know that I hold the doctrine of Diodorus concerning contingencies. And therefore you should know that if you come here it is necessary that you come.”¹⁰⁹ Now see which of the two opinions gives you greater pleasure; this one, which was too much for our Diodorus” (a Stoic who had lodged with Cicero for a long time) “or that of Chrysippus?”¹¹⁰ This comes from a letter that Cicero wrote to Varron. He sets out more comprehensively the whole state of the question in the little book *De Fato*. I am going to quote

¹⁰⁶ From Horace, *Satires*, 2.5.

¹⁰⁷ Bayle, *Dictionnaire historique et critique*, II, p. 1142 (article ‘Epicurus’, note T).

¹⁰⁸ Cicero, *De natura Deorum* I.69. English translation: Cicero, *The Nature of the Gods*, trans. Horace C. P. McGregor (London: Penguin, 1972), p. 97.

¹⁰⁹ Leibniz here omits a key sentence: ‘But if you do not come, then it is impossible for you to come.’ Bayle, whom Leibniz is quoting, did not omit it; it is unclear whether Leibniz omitted it deliberately or by mistake.

¹¹⁰ Cicero, letter to Varron (May or June 46 CE).

some passages: "Take care, Chrysippus, that you do not abandon your cause, about which you will have a great contest with Diodorus, a powerful logician . . . Therefore everything which is said to be false with regard to the future, cannot happen. But this, Chrysippus, you will not allow, and your dispute with Diodorus is chiefly about that. For he says that that may happen only which either is true or will be true; and whatever will be, he says that it is necessary; and whatever will not be, he says it cannot happen. You also say that what is not going to happen, can happen, like this precious stone can be broken even if it never will be; you also say that it was not necessary that Cypselus should reign at Corinth, although it was foretold by Apollo's oracle a thousand years before . . . Diodorus believes that that alone can happen which is either true or is going to be true, a point which gives rise to this problem: that nothing happens except what is necessary; and whatever can happen either exists now or will do; and that future things can no more be changed from true to false than past things, although the immutability is apparent in past things but does not seem to be present in any future things because they are not visible; so with regard to one who contracts a fatal disease it may be true that he will die of this disease, and if the same were to be said about someone in whom the threat of the disease is not so apparent, it will happen just the same. The result is that even with regard to future things, there cannot be any change from true to false."¹¹¹ Cicero makes it clear enough that Chrysippus often found himself in difficulties in this dispute, and that there should be no surprise about this: for the course he had taken was not connected with his dogma of fate, and if he had known how or had dared to reason consistently, he would have willingly adopted Diodorus' whole hypothesis. We saw above that the freedom he gave to the soul, and his comparison of the cylinder, did not prevent all the acts of the human will from ultimately being inevitable consequences of fate, the result of which is that everything which does not happen is impossible, and that there is nothing possible except that which actually happens. Plutarch (*De Stoicorum Repugnantiis*, pp. 1053, 1054) lays waste to him on that point as well as on his dispute with Diodorus, and maintains that his opinion on possibility is completely at odds with the doctrine of fate. Note that the most renowned Stoics had written on this matter without following the same path. Arrian (*in Epicteti*, book 2, chap. 29, p. m. 166) named four of them, who are Chrysippus, Cleanthes, Archidemus and Antipater.¹¹² He shows great scorn for this dispute, and Mr Menage should not have cited him as a writer who had spoken highly of the work of Chrysippus concerning contingency ("Arrianum cites with

¹¹¹ Cicero, *De Fato*, VI, VII, and IX.

¹¹² Flavius Arriano, *Epicteti Stoici Philosophi Encheiridion* (1595), p. 196.

respect”, Menage, *In Diogenem Laertium*, I.7. p. 341),¹¹³ for assuredly these words, “Chrysippus has written wonderful things on this subject etc.”, are not in that particular place a eulogy. That is apparent by what precedes and follows. Dionysius of Halicarnassus (*De Collocatione Verborum*, chap. 17, p. m. 11) mentions two treatises by Chrysippus, wherein, under a title that promised different things, much of the ground of the logicians was covered. The work was entitled *De partium orationis collocatione*,¹¹⁴ and treated only propositions that were true and false, possible and impossible, contingent and ambiguous, etc., matter that our Scholastics have rehearsed and refined. Note that Chrysippus recognised that past things were necessarily true, which Cleanthes had not wanted to admit. Arrian (as above, p. m. 165): “Not everything in the past is true of necessity, as is thought by those who follow Cleanthes”. We saw above (p. 562, column 2) the claim that Abelard taught a doctrine which resembles that of Diodorus. I think that the Stoics undertook to give more extent to possible things than to future things, in order to mitigate the odious and dreadful consequences which were drawn from their dogma of fatality.¹¹⁵

It is quite apparent that Cicero, when writing to Varron the aforementioned words (book 9, epistle 4, *Epistulae ad Familiares*), did not fully understand the consequence of Diodorus’ opinion, since he found it preferable. In his book *De Fato* he presents authors’ opinions well enough, but it is a pity that he did not always add the arguments they employed. Both Plutarch, in his treatise on the contradictions of the Stoics, and Mr Bayle are surprised that Chrysippus was not of Diodorus’ opinion, since he favours fatality. But on that point, Chrysippus, and even his master Cleanthes, were more reasonable than is supposed. This will be seen below. It is a key question whether the past is more necessary than the future. Cleanthes was of this view: the objection is that it is necessary *ex hypothesi* that the future happens, just as it is necessary *ex hypothesi* that the past has happened. But there is this difference, that it is not possible to act on the past state, for that is a contradiction, but it is possible to have some effect on the future. Yet the hypothetical necessity of both is the same: the one cannot be changed, the other will not be; and with that laid down, it will not be possible for it to be changed either.

¹¹³ Gilles Menage, *In Diogenem Laertium Aegidii Menagii observationes & emendationes, hac editione plurimum auctae* (Amsterdam, 1692), p. 341.

¹¹⁴ The title given is incomplete; in full it is *De compositione, seu orationis partium apta inter se collocatione, ad Rufum*.

¹¹⁵ Bayle, *Dictionnaire historique et critique*, I, pp. 929–30 (article ‘Chrysippus’ note S).

§173 (referenced in M53)

Spinoza went further: he appears to have expressly taught a blind necessity, having denied understanding and will to the author of things, and imagining that good and perfection relate only to us, and not to him. It is true that Spinoza's view on this subject is somewhat obscure, for he grants thought to God after having stripped him of understanding, *Cogitationem non Intellectum concedit Deo*.¹¹⁶ There are even passages where he is less strict on the point of necessity. Nevertheless, as far as one can understand him, he does not recognise any goodness in God, strictly speaking, and he teaches that all things exist through the necessity of the divine nature, without God making any choice. We will not amuse ourselves here by refuting an opinion so bad and indeed so inexplicable. And our opinion is established on the nature of possibles, that is, of things that do not imply contradiction. I do not think that a Spinozist would say that all conceivable stories actually do exist now, or have existed, or will exist even in some part of the universe. Yet it cannot be denied that stories, like those by Mademoiselle de Scudéry, or like *Octavia*, are possible. Let us therefore set against him these words of Mr Bayle, which are somewhat to my liking, from p. 930.¹¹⁷ 'It is today', he says, 'a great embarrassment for the Spinozists to see that, according to their hypothesis, it was as impossible from all eternity that Spinoza, for instance, not die at The Hague, as it is impossible for two and two to make six. They know that it is a necessary consequence of their doctrine, and a consequence which is off-putting, which is alarming, and sickens minds through the absurdity it involves, diametrically opposed to common sense. They are not pleased for it to be known that they overturn a maxim as universal and as evident as this one: everything that implies contradiction is impossible, and everything that does not imply contradiction is possible.'¹¹⁸

§174 (referenced in M33)

It may be said of Mr Bayle, *ubi bene, nemo melius*,¹¹⁹ although it cannot be said of him what was said of Origen, *ubi male, nemo pejus*.¹²⁰ I will add only that what has just been identified as a maxim is also the definition of the *possible* and the *impossible*. Yet Mr Bayle adds here at the end a line which rather spoils what he has so reasonably said: 'Now what contradiction would there be in the idea that Spinoza had died in Leiden? Would nature

¹¹⁶ 'He grants God thought, not understanding.'

¹¹⁷ Leibniz here wrote 'p. 390' but this is a mistake.

¹¹⁸ Bayle, *Dictionnaire historique et critique*, I, p. 930 (article 'Chrysippus' note S).

¹¹⁹ 'where he has spoken well, no one has spoken better'.

¹²⁰ 'where badly, none worse'. This and the one before are quotations from Cassiodorus, *De Institutione Divinarum Litterarum*, I.i

have been less perfect, less wise, less powerful?’¹²¹ He confuses here what is impossible, because it implies contradiction, with what cannot happen because it is not fit to be chosen. It is true that there would have been no contradiction in the supposition that Spinoza died in Leiden and not at The Hague; there would not have been anything so possible, and therefore the matter was indifferent with regard to the power of God. But it should not be imagined that any event, however small, can be conceived as indifferent with regard to his wisdom and his goodness. Jesus Christ beautifully said that everything is numbered, right down to the hairs on our head.¹²² Thus God’s wisdom did not permit this event, of which Mr Bayle speaks, to happen otherwise than it did happen, not as if in itself it had been more worthy of being chosen, but because of its connection with this entire sequence of the universe which deserved to be given preference. To say that what has happened was of no concern to God’s wisdom, and to infer from that that it is therefore not necessary, is to make a false supposition and to incorrectly infer a true conclusion from it. It is to confuse what is necessary by a moral necessity, that is, necessary according to the principle of wisdom and goodness, with what is necessary by a metaphysical and brute necessity, which occurs when the contrary implies contradiction. Consequently Spinoza sought a metaphysical necessity in events; he did not believe that God was determined by his goodness and by his perfection (which this author treated as chimeras in relation to the universe), but by the necessity of his nature; just as the semicircle is bound to enclose only right angles, without having either the knowledge or the desire for this. For Euclid has shown that all angles enclosed between two straight lines drawn from the extremities of the diameter towards a point on the circle are necessarily right angles, and that the contrary implies contradiction.

§180 (referenced in M46)

I find also that Mr Bayle combats very well the opinion of those who claim that goodness and justice depend solely upon the arbitrary choice of God, and who imagine that if God had been determined to act by the goodness of things themselves, he would be an agent entirely necessitated in his actions, which cannot be compatible with freedom. This is to confuse metaphysical necessity with moral necessity. Here is what Mr Bayle objects to this error (*Réponse aux Questions d’un Provincial*, chap. 89, p. 203): ‘The consequence of this doctrine will be¹²³ that before God resolved to create the world he saw nothing better in virtue than in vice,

¹²¹ Bayle, *Dictionnaire historique et critique*, I, p. 930 (article ‘Chrysippus’, note S).

¹²² An allusion to Matthew 10.30 and Luke 12.7.

¹²³ Leibniz here adds a ‘ne’ (‘not’) which is not present in Bayle’s book.

and that his ideas did not show him that virtue was more worthy of his love than vice. That leaves no distinction between natural right and positive right; there will no longer be anything immutable or essential in morals; it will have been just as possible for God to command us to be vicious as to command us to be virtuous; and it will not be possible to be confident that the moral laws will not one day be repealed, as were the ceremonial laws of the Jews. This, in a word, leads us directly to believe that God was the free author not only of goodness and of virtue, but also of truth and of the essence of things. That is what a group of Cartesians claim, and I confess that their opinion (see the *Continuation des Pensées sur les Comètes*, p. 554) could be of some use in certain circumstances; but it is overcome by so many arguments, and subject to consequences so unfortunate (see chap. 152 of the same *Continuation*), that there are scarcely any extremes it would be better not to suffer than to be plunged into that one. It opens the door to the most exaggerated Pyrrhonism, because it gives grounds to claim that this proposition, “three & three make six”, is true only where and for however long it pleases God; that it is perhaps false in some parts of the universe, and that perhaps it will be so among men in the coming year. Everything that depends on the free will of God could have been limited to certain places and certain times, like the Jewish ceremonies. This consequence will be extended to all the laws of the Decalogue if the actions they command are by their nature just as lacking in all goodness as the actions they forbid.¹²⁴

§181 (referenced in M46)

And to say that, as God resolved to create man such as he is, he could not have not demanded of man piety, sobriety, justice, and chastity, because it is impossible that the disorders capable of disrupting or disturbing his work can please him, is to come back in effect to the common opinion. *Virtues* are virtues only because they contribute to the perfection, or prevent the imperfection, of those who are virtuous, or even of those who have dealings with them. And virtues have that effect by their nature, and by the nature of rational creatures before God decrees to create them. To come to a different judgement would be as if someone were to say that the rules of proportion and harmony are arbitrary with regard to musicians, because they hold good in music only when one has resolved to sing or play some instrument. But this is exactly what is termed essential to a good piece of music, for the rules are already related to it in the ideal state, even when no one is thinking of singing, since it is clear that they must necessarily be related to it as soon as someone sings. And likewise, virtues are related to

¹²⁴ Bayle, *Réponse aux Questions d'un Provincial*, II, pp. 203–4.

the ideal state of the rational creature before God decrees to create it, and for that very reason we maintain that virtues are good by their nature.

§182 (referenced in M46)

Mr Bayle has deliberately included a chapter in his *Continuation des Pensées diverses* (it is chap. 152) in which he shows ‘that the Christian Doctors teach that there are things which are just antecedently to God’s decrees’.¹²⁵ Some theologians of the Augsburg Confession condemned some of the Reformed who appeared to be of a different opinion; and this error was considered as if it were a consequence of the absolute decree, the doctrine of which seems to exempt the will of God from any kind of reason, *ubi stat pro ratione voluntas*.¹²⁶ But, as I have noted more than once above, Calvin himself recognised that the decrees of God are in conformity with justice and wisdom, although the reasons that might show this conformity in detail are unknown to us. Thus, in his view, the rules of goodness and justice are anterior to the decrees of God. Mr Bayle, in the same place, quotes a passage from the renowned Mr Turretin, who distinguishes natural divine laws and positive divine laws.¹²⁷ Moral laws are of the first kind, and ceremonial laws the second. Samuel Desmarests, the renowned theologian formerly at Groningen, and Mr Strimesius,¹²⁸ who is still a theologian at Frankfurt on the Oder, taught the same thing; and I think that it is the opinion most widely accepted even among the Reformed. Thomas Aquinas and all the Thomists were of the same opinion, along with the common run of Scholastics and theologians of the Roman Church. The casuists are also of that opinion: I count Grotius among the most eminent of them, and he was followed in this view by his commentators. Mr Pufendorf appeared to hold a different opinion, which he insisted on maintaining against the censures of some theologians; but he should not be taken into account, since he had not made sufficient headway in these sorts of matters. He protests loudly against the absolute decree in his *Fecialis divinus*,¹²⁹ and yet he approves what is worst in the opinions of

¹²⁵ Pierre Bayle, *Continuation des Pensées diverses, Ecrites à un Docteur de Sorbonne, à l’occasion de la Comete qui parut au mois de Decembre 1680* (Rotterdam, 1705), p. 767.

¹²⁶ ‘where the will stands in place of reason’. A modified version of the maxim found in Juvenal, *Satires*, VI.223.

¹²⁷ François Turretin, *Institutiones theologiae elencticae* (Geneva, 1688), p. 257. Bayle erroneously cites p. 246.

¹²⁸ Reading ‘Strimesius’ for ‘Strinesius’. Leibniz is referring to Samuel Strimesius, *Praxiologia apodictica, seu philosophia moralis demonstrativa* (Frankfurt on the Oder, 1677), p. 28.

¹²⁹ Samuel von Pufendorf, *Jus feciale divinum sive de consensu et dissensu protestantium exercitatio posthuma* (Lübeck, 1695), pp. 242–8.

those who defend this decree, and without which this decree (as others of the Reformed explain) becomes tolerable. Aristotle was very orthodox on this matter of justice, and the school followed him: it distinguishes, as do Cicero and the Jurisconsults, between perpetual right, which is binding on all and everywhere, and positive right, which is only for certain times and certain peoples. In the past I read with pleasure the *Euthyphro* of Plato, who makes Socrates uphold the truth about that, and Mr Bayle pointed out the same passage.¹³⁰

§183 (referenced in M46)

He himself upholds this truth very forcefully in a certain passage, and it will be good to copy out this passage in its entirety, long though it is (Book II of the *Continuation des Pensées diverses*, chap. 152, pp. 771ff): ‘According to the doctrine held by countless wise writers’, he says, ‘there is in nature and in the essence of certain things a moral good or evil that precedes the divine decree. They prove this doctrine principally through the dreadful consequences of the opposite dogma. For suppose it a fact that to do no wrong to anyone would be a good action, not in itself but by an arbitrary disposition of God’s will: from that it would follow that God could have given to man a law directly opposed in all of its points to the commandments of the Decalogue. That is horrifying. But here is a proof that is more direct and derived from metaphysics. It is a certain thing that the existence of God is not an effect of his will. He exists not because he wills his existence, but through the necessity of his infinite nature. His power and his knowledge exist through the same necessity. He is all-powerful, he knows all things, not because he wills it that way, but because these are attributes necessarily identified with him. The dominion of his will concerns only the exercise of his power, outside himself he brings to actuality only that which he wills, and he leaves all the rest in mere possibility. From that it follows that this dominion extends only over the existence of creatures; it does not extend over their essences as well. God was able to create matter, a man, a circle, or to leave them in nothingness, but he was not able to produce them without giving them their essential properties. He must necessarily make man a rational animal and necessarily give the round shape to a circle, since, according to his ideas, which are eternal and independent of the free decrees of his will, the essence of man consists in the attributes of animal and rational, and the essence of the circle consists in a circumference equally distant from the centre as to all its parts. This is what made Christian philosophers admit that the essences of things are eternal, and that there are propositions that are eternally true, and consequently that

¹³⁰ Bayle, *Continuation des Pensées diverses*, p. 770.

the essences of things and the truth of first principles are immutable. That should be understood not only of theoretical first principles, but also of practical first principles, and of all the propositions that contain the true definition of creatures. These essences, these truths, emanate from the same necessity of nature as God's knowledge. Therefore, as it is through the nature of things that God exists, that he is all-powerful, and that he knows everything perfectly, it is also through the nature of things that matter, the triangle, man, certain actions of man, etc., have such-and-such attributes essentially. God saw from all eternity and from all necessity the essential relations of numbers, and the identity of the subject and predicate of propositions that contain the essence of each thing. He also saw, in the same way, that the term 'just' is included in the following propositions: to esteem what is estimable, to have gratitude towards one's benefactor, to fulfil the conditions of a contract, and so on with various other propositions about morals. It is therefore right to say that the precepts of natural law presuppose the uprightness and justice of what is commanded, and that it would be man's duty to practise what they contain, even if God would have indulgently ordered nothing about it. Be mindful, I beg you, that in going back via our abstract thoughts to that ideal moment when God had not yet decreed anything, we find in the ideas of God the principles of morals under terms that imply an obligation. We conceive these maxims as certain, and derived from the eternal and immutable order: it is worthy of the rational creature to conform to reason; a rational creature which conforms to reason is worthy of praise, but it is worthy of blame when it does not so conform. You would not dare to say that these truths do not impose upon man a duty in relation to all acts conforming to right reason, such as these: one must esteem all that is estimable; render good for good;¹³¹ harm no one;¹³² honour one's father;¹³³ render to each his due,¹³⁴ etc. Now since the truths of morality impose certain duties upon man by the very nature of things, and prior to the divine laws, it is evident, as Thomas Aquinas and Grotius said, that if there were no God, we would nevertheless be obliged to conform to natural right. Others have said that even if all intelligences were to perish, true propositions would remain true. Cajetan maintained that if he were alone in the universe, all other things without any exception

¹³¹ Possibly an allusion to Aristotle's *Nicomachean Ethics*, 1133a.

¹³² A core principle of Roman law. Leibniz adopted it as the first degree of right ('strict right') in his ethics. See SLT, p. 150.

¹³³ This recalls the fourth of the Ten Commandments (which is a command to honour one's father and mother).

¹³⁴ A maxim with a rich history. See for example Plato, *Republic*, 333e; Justinian, *Institutes*, I.I. Leibniz identified it as the second degree of right ('equity') in his ethics. See SLT, p. 150.

having been annihilated, the knowledge he had of the nature of a rose would nonetheless subsist.¹³⁵

§184 (referenced in M44 and M46)

The late Jacob Thomasius, a renowned Professor at Leipzig, has observed not incorrectly in his elucidations of the philosophical rules of Daniel Stahl,¹³⁶ Professor at Jena, that it is not appropriate to go entirely beyond God, and that it should not be said, as some Scotists do, that the eternal truths would subsist even if there were no understanding, not even that of God. For it is, in my view, the divine understanding which constitutes the reality of eternal truths, although his will has no part in that. Every reality must be founded upon something existent. It is true that an atheist can be a geometer, but if there were no God, geometry's object would not exist. And without God, not only would there be nothing existent, but there would not even be anything possible. Yet that does not prevent those who do not see the connection of all things with each another and with God from being able to understand certain sciences, without knowing their first source, which is in God. Aristotle, although he scarcely knew it either, nevertheless said something very similar and very good when he acknowledged that the principles of individual sciences depend upon a superior knowledge which gives the reason for them; and this superior knowledge must have being, and consequently God, the source of being, for its object.¹³⁷ Mr Dreier of Königsberg has aptly noted that the true metaphysics which Aristotle sought, which he called *the sought after*, his *desideratum*, was theology.

§185 (referenced in M46)

Yet the same Mr Bayle, who said such fine things in order to show that the rules of goodness and justice, and the eternal truths in general, subsist by their nature, and not by an arbitrary choice of God, spoke about them very uncertainly in another passage (*Continuation des pensées diverses*, book 2, chap. 114, towards the end). After having related the opinion of Mr Descartes and a group of his followers, who maintain that God is the free cause of truths and essences, he adds (p. 554): 'I have done everything I could to understand this dogma aright and to find the solution of the difficulties that surround it. I freely confess to you that I still have not

¹³⁵ Bayle, *Continuation des Pensées diverses*, pp. 770–3.

¹³⁶ Jakob Thomasius, *Dilucidationes Stahlinae in partem priorem regularum philosophicarum Danielis Stahlī* (Leipzig, 1676). This was an elucidation of Daniel Stahl, *Regulae philosophicae* (Jena, 1657).

¹³⁷ Aristotle, *Metaphysics*, I.1–2.

fully achieved this. That does not discourage me; I imagine, as other philosophers in other cases have done, that time will unfold this fine paradox. I wish Father Malebranche had been able to consent to uphold it, but he took a different approach.¹³⁸ Is it possible that the pleasure of doubting can have such a hold over an able man as to make him wish and hope for the power to believe that two contradictories never exist together only because God forbade them to do so, and that he could have given them an order which would have made them always occur together? This is a fine paradox! Father Malebranche was very wise to take a different approach.

§187 (referenced in M74)

Mr Bayle, along with others, understands this to be a freedom of indifference, that God had had to establish (for example) the truths of numbers and to ordain that three times three make nine, whereas he could have ordered them to make ten, and he conceives in such a strange opinion, if there were a way to defend it, some kind of advantage against the Stratonists. Strato was one of the leaders of the School of Aristotle, and Theophrastus' successor; he maintained (according to Cicero) that this world had been formed such as it is by nature, or by a necessary cause devoid of knowledge.¹³⁹ I admit that that might have been the case if God had preformed matter so as to produce such an effect by the laws of motion alone. But without God there would not even have been any reason for existence, and even less for this or that existence of things: thus Strato's system is not to be feared.

§188 (referenced in M74)

Nevertheless Mr Bayle has problems with this: he will not admit plastic natures devoid of knowledge, which Mr Cudworth and others had introduced, for fear that the modern Stratonists, that is, the Spinozists, take advantage of it.¹⁴⁰ This is what has led him into disputes with Mr le Clerc. And preoccupied with this error, that a non-intelligent cause cannot produce anything in which artifice is apparent, he is far from granting me *preformation*, which produces naturally the organs of animals, and *the system of a harmony that God had pre-established* in bodies, to make them correspond through their own laws to the thoughts and the volitions of

¹³⁸ Bayle, *Continuation des Pensées diverses*, p. 554. Bayle is referring to Malebranche's statement 'I do not believe that God can make contradictories be true or false at the same time' made in the preface of his *De la Recherche de la vérité* (Paris, 1675).

¹³⁹ A reference to Cicero, *De natura deorum*, I.35.

¹⁴⁰ On the association of Stratonism and Spinozism, see Jonathan I. Israel, *Enlightenment Contested: Philosophy, Modernity, and the Emancipation of Man 1670–1752* (Oxford: Oxford University Press, 2006), pp. 444ff.

souls. But it ought to have been taken into consideration that this non-intelligent cause, which produces such beautiful things in the grains and seeds of plants and animals, and which produces the actions of bodies as the will ordains them, was formed by the hands of God, infinitely more skilful than a watchmaker, who nevertheless makes machines and automata capable of producing quite wonderful effects, as if they had intelligence.

§189 (referenced in M33 and M44)

Now to come to what worries Mr Bayle about the Stratonists in the event that we acknowledge truths independent of God's will: he seems to fear that they may take advantage against us of the perfect regularity of eternal truths. For as this regularity comes only from the nature and necessity of things, without being directed by any knowledge, Mr Bayle fears that one could infer from it, as Strato did, that the world could also have become regular through a blind necessity. But it is easy to respond to this. In the region of eternal truths are found all the possibles, and consequently both the regular and the irregular. There must be a reason for preferring order and regularity, and this reason can be found only in the understanding. Moreover, these very truths do not exist unless there is an understanding which is aware of them, for they would not subsist if there were not a divine understanding in which they are realised, so to speak. This is why Strato does not achieve his goal, which is to exclude knowledge from what enters into the origin of things.

§194 (referenced in M64)

Yet philosophers and theologians dare to dogmatically uphold a similar judgement, and time and again I am surprised that able and pious persons have been capable of imposing limits on God's goodness and perfection. For to claim that he knows what is best, that he can do it, and that he does not do it, is to admit that it is entirely up to his will to make the world better than it is; but we would call that lacking goodness. It is acting against this axiom already quoted above: *Minus bonum habet rationem mali*.¹⁴¹ If some people appeal to experience to prove that God could have done better than they set themselves up as ridiculous critics of his works. And the response to them will be the same as to all those who criticise God's conduct, and who would want to infer from this same supposition, that is, the alleged defects of the world, that there is an evil God, or at least a God neutral

¹⁴¹ 'A lesser good has the character of evil.' The maxim was popular among Scholastics. See for example Sebastiani Medicis, *Summae decretorum, haeresum, peccatorum, virtutum* (Venice, 1587), p. 33; Girolamo Onofri, *Aureae disputationes de anima* (Venice, 1619), p. 296.

between good and evil. And if we make the same judgement as King Alphonse,¹⁴² I say the response to us shall be this: You have known the world for only three days, you see hardly any further than your nose, and yet you find fault? Wait until you know more of it, and consider especially the parts which present a complete whole (as do organic bodies), and you will find there an artifice and a beauty beyond imagination. Let us draw conclusions from that about the wisdom and goodness of the author of things, even in things that we do not know. We find in the universe some things which are not pleasing to us, but let us be mindful that it is not made for us alone. It is nevertheless made for us if we are wise: it will be convenient for us if we conform to it; we shall be happy in it if we want to be.

§195 (referenced in M65)

Someone will say that it is impossible to produce the best, because there is no perfect creature, and because it is always possible to produce one which is more perfect. My response is that what can be said of a creature or of a particular substance, which can always be surpassed by another one, should not be applied to the universe, which is an infinity as it must extend through all future eternity. Moreover, there is an infinity of creatures in the smallest bit of matter, because of the actual division of the *continuum* to infinity. And strictly speaking, infinity, that is, the accumulation of an infinite number of substances, is not a whole any more than the infinite number itself, of which one cannot say whether it is odd or even. This very point serves to refute those who make a god of the world, or who conceive God as the soul of the world: the world or universe cannot be considered as an animal or as a substance.

§196 (referenced in M32 and M53)

It is therefore not a matter of a creature, but the universe, and the adversary will be obliged to maintain that one possible universe may be better than another to infinity; but he would be mistaken about this, and it is something he cannot prove. If this opinion were true, it would follow that God would not have produced any universe, since he is incapable of acting without reason, and that would even involve acting against reason. It is as if one were to imagine that God had decreed to make a material sphere, without any reason to make it this size or that. This decree would be

¹⁴² After receiving an account of the Ptolemaic world-system with all its epicycles, the thirteenth-century King Alphonse of Castille is said to have claimed that God ought to have consulted him before embarking on creation as he would have advised something simpler. The story may be apocryphal, though it is reported in Bayle's *Dictionnaire historique et critique*, I, p. 852 (article 'Castille (Alfonse X du nom roi de)', note H).

useless, it would carry with it the very thing that would prevent its effect. It would be different if God decreed to draw a straight line from a given point up to another given straight line, without there being any determination of the angle, either in the decree, or in its circumstances. For in this case the determination would come from the nature of the thing: the line would be perpendicular, and the angle would be a right angle, since only that is determined and distinguishable. The creation of the best of all possible universes should be conceived in this way, all the more since God not only decrees to create a universe, but decrees also to create the best of all. For he decrees nothing unwittingly, and he does not make separate decrees, which would be nothing but antecedent wills, which we have done enough to explain and distinguish from genuine decrees.

§197 (referenced in M53)

Mr Diroys, whom I knew in Rome, theologian to Cardinal d'Estrées, wrote a book entitled *Preuves et préjuges pour la Religion Chrestienne et Catholique*, published in Paris in 1683. Mr Bayle (*Réponse aux Questions d'un Provincial*, chap. 165, p. 1058, book III) relates the objection that he made: 'There is still a difficulty' (he says), 'which is no less important to resolve than the preceding ones, since it is more upsetting to those who judge goods and evils by considerations based on the purest and most lofty maxims. It is this: as God is the supreme wisdom and goodness, it seems to them that he should do all things as wise and virtuous persons would wish them to be done, in accordance with the rules of wisdom and goodness that God has impressed in them, and as they themselves would be obliged to do these things if it depended on them. Thus, seeing that the affairs of the world do not, in their view, go as well as they might go, and as they would go if they intervened, they conclude that God, who is infinitely better and wiser than they are, or rather is wisdom and goodness itself, does not intervene.'¹⁴³

§198 (referenced in M53)

Mr Diroys says some good things about this, which I will not repeat since we have sufficiently met the objection in more than one passage, and that has been the main aim of our entire discourse. But I cannot agree with one thing he puts forward: he claims that the objection proves too much. We must again give his own words, from p. 1059 of Mr Bayle: 'If it is not befitting to the supreme wisdom and goodness not to do what is best and most

¹⁴³ Bayle, *Réponse aux Questions d'un Provincial*, III, pp. 1058–9. The passage is quoted from François Diroys' *Preuves et préjuges pour la Religion Chrestienne et Catholique contre les fausses Religions et l'Athéisme* (Paris, 1683), p. 30. The book is credited to Mr F. Duroys.

perfect, it follows that all beings are eternally, immutably and essentially as perfect and as good as they can be, since nothing can change except by passing either from a less good state to a better one, or from a better one to one less good. Now that cannot happen if it does not befit God not to do what is best and most perfect when he can do it: therefore it will have to be the case that all beings are eternally and essentially filled with a knowledge and a virtue as perfect as God can give them. Now everything that is eternally and essentially as perfect as God can make it proceeds essentially from him; in a word, it is eternally and essentially good, as he is, and consequently it is God, as he is. See, then, where this maxim goes, that it is repugnant to supreme justice and goodness not to make things as good and as perfect as they can be. For it is essential to the essential wisdom and goodness to forsake anything that is absolutely repugnant to it. Since it is not repugnant to God that there be other beings besides him, that is, beings which can be not what they are, and do not do what they do, or do what they do not, it must therefore be established as a first truth concerning God's conduct in relation to creatures that there is nothing repugnant to this goodness and this wisdom in making things less perfect than they could be, or in permitting the goods that it has produced either to completely cease to be or to change and deteriorate.¹⁴⁴

§201 (referenced in M51 and M54)

It seems to Mr Bayle (p. 1063) that Mr Diroys has confused two different propositions. The first is that God must do all things as wise and virtuous persons would wish they be done, according to the rules of wisdom and goodness that God has imprinted in them, and as they themselves would be obliged to do them if those things depended upon them. The second proposition is that it does not befit the supreme wisdom and goodness not to do what is best and most perfect. Mr Diroys (in Mr Bayle's view) objects to the first proposition but responds to the second. But he is right to do that, it seems to me, since these two propositions are connected, with the second being a consequence of the first: to do less good than one could is to be lacking in wisdom or in goodness. To be the best, and to be desired by the most virtuous and most wise, is the same thing. And it may be said that, if we could understand the structure and the economy of the universe, we would find that it is made and governed as the wisest and most virtuous could wish it, God not being able to fail to do it thus. Yet this necessity is only moral necessity, and I admit that if God were necessitated by a metaphysical necessity to produce what he does, he would produce all the

¹⁴⁴ Bayle, *Réponse aux Questions d'un Provincial*, III, pp. 1059–61. The passage is quoted from Diroys, *Preuves et préjugés pour la Religion Chrestienne*, p. 31.

possibles, or nothing, and in this sense Mr Bayle's conclusion would be exactly right. But as all the possibles are not compatible together in one and the same series of universe, for that very reason all the possibles cannot be produced, and it must be said that God is not necessitated, metaphysically speaking, to the creation of this world. It may be said that as soon as God has decreed to create something, there is a struggle between all the possibles, all claiming existence, and that those which, when combined, produce most *reality*, most *perfection*, most *intelligibility*, win the day. It is true that this whole struggle can be only an ideal one, that is, it can be only a conflict of reasons in the most perfect understanding, which cannot fail to act in the most perfect way and, consequently, to choose the best. Yet God is obliged by a moral necessity to make things so that there cannot be anything better. Otherwise, not only would others have grounds to criticise what he makes, but, what is more, he himself would not be pleased with his work, he would blame himself for its imperfection, which runs counter to the supreme bliss of the divine nature. This perpetual feeling of his own fault or imperfection would be an inevitable source of grief to him, as Mr Bayle says on another occasion (p. 953).¹⁴⁵

§204 (referenced in M55)

The admirable author of *De la Recherche de la vérité*, having passed from philosophy to theology, finally published a very fine *Traité de la Nature & de la Grace*;¹⁴⁶ there he showed in his way (as Mr Bayle explained in his *Pensées diverses sur les Comètes*, chap. 234) that the events which arise from the execution of general laws are not the object of a particular will of God.¹⁴⁷ It is true that when one wills a thing, one wills also in some way everything that is necessarily bound up with it, and consequently God cannot will general laws without willing also in some way all the particular effects which must necessarily arise from them. But it is always true that these particular events are not willed for themselves, and that is what is meant by saying that they are not willed by a *particular* and direct *will*. There is no doubt that when God resolved to act outwardly, he chose a manner of action worthy of the supremely perfect being, that is, infinitely simple and uniform, and nevertheless of an infinite fruitfulness. It may

¹⁴⁵ 'What! Is the infinite being prone to wish for something that it does not achieve? Is that compatible with supreme bliss? And would this not be an inexhaustible source of grief and a perpetual feeling of its own imperfection?' Bayle, *Réponse aux Questions d'un Provincial*, III, pp. 952–3.

¹⁴⁶ Leibniz is referring here to Nicolas Malebranche, and his *De la Recherche de la vérité*, and *Traité de la Nature & de la Grace* (Amsterdam, 1680).

¹⁴⁷ Pierre Bayle, *Pensées diverses, écrites à un docteur de Sorbonne, A l'occasion de la Comète qui parut au mois de Décembre 1680* (Rotterdam, 1683), pp. 703–8.

even be imagined that this manner of action by *general wills* appeared to him preferable, even though there must result from it some superfluous events (and even bad ones, when taken separately – this is my addition), to another manner more composed and more regular, according to this Father. Nothing is more appropriate than this supposition (according to Mr Bayle when he wrote his *Pensées sur les Comètes*) for solving a thousand difficulties raised against divine providence: ‘To ask God’, he says, ‘why he has made things which serve to make men more wicked, would be to ask why God has executed his plan (which can only be infinitely beautiful) by the simplest and most uniform ways, and why, by a compounding of decrees that continually interfere with each other, he has not prevented the ill use of man’s free will.’¹⁴⁸ He adds ‘that as miracles are particular wills, they must have an end worthy of God’.¹⁴⁹

§206 (referenced in M55)

It is a great shame that Mr Bayle so soon departed from the path he had so promisingly begun, of reasoning on behalf of providence: for it would have been advantageous, and in saying fine things he would have said good things at the same time. I agree with Reverend Father Malebranche that God does things in the way most worthy of him. But I go a little further than he does with regard to *general and particular wills*. As God cannot do anything without reason, even when he acts miraculously, it follows that he does not have any will about individual events which is not a consequence of a general truth or a general will. Thus I would say that God never has *particular wills*, such as this Father understands them, that is to say, *particular primitive wills*.

§208 (referenced in M55)

Thus we must conclude that, among the general rules which are not absolutely necessary, God chooses those which are the most natural, which it is easiest to explain, and also which best serve to explain other things. That is doubtless the finest and most satisfying doctrine, and even if *the system of pre-established harmony* were not necessary otherwise, by banishing superfluous miracles, God would have chosen it because it is the most harmonic. The ways of God are the most simple and the most uniform: he chooses rules that least restrict one another. They are also the most *productive* in relation to *the simplicity of ways*. It is as if one said that a house was the best that could have been erected assuming the same expenditure. The two conditions of simplicity and productivity can even be reduced to

¹⁴⁸ Bayle, *Pensées diverses*, pp. 706–7.

¹⁴⁹ Bayle, *Pensées diverses*, p. 707.

a single advantage, which is to produce the most perfection possible; and in this way, Father Malebranche's system in this respect amounts to mine. For if we supposed the effect were greater but the ways less simple, I think it could be said that, all things considered, the effect itself would be less great, when considering not only the final effect but also the mediate effect. For the wisest being acts in such a way that, as far as it is possible, the *means* are also *ends* in some way, that is, desirable not only because of what they *do*, but also because of what they *are*. The more complex ways take up too much ground, too much space, too much place, too much time, which could have been better employed.

§214 (referenced in M58)

There is a kind of *geometry* which Mr Jung of Hamburg, one of worthiest men of his time, called *empiric*.¹⁵⁰ It makes use of demonstrative experiments and proves various of Euclid's propositions, but in particular those which concern the equality of two shapes, by cutting the one in pieces, and putting these pieces back together again to make the other. In this way, by cutting carefully into parts the squares of the two sides of the right-angled triangle, and carefully arranging these parts, one makes from them the square of the hypotenuse; this empirically demonstrates the 47th proposition of the first book of Euclid.¹⁵¹ Now supposing that some of these pieces taken from the two smaller squares become lost, something will be lacking in the large square that should be formed from them, and this defective combination, far from pleasing, will be objectionably ugly. And if the pieces which remained, and which compose the faulty combination, were then taken separately without any regard to the large square, to the formation of which they are supposed to contribute, one would arrange them together in a completely different way to make a passable combination. But as soon as the lost pieces are recovered and the gap in the faulty combination is filled, there will emerge as a result a fine and regular thing, which is the complete large square. And this complete combination will be much more beautiful than the passable combination which had been made only from the pieces that had not been lost. The complete combination corresponds to the universe as a whole, and the faulty combination, which is a part of the complete one, corresponds to some part of the universe, in which we find defects which the author of things has allowed because otherwise, if he had wished to refashion this faulty part and make

¹⁵⁰ Joachim Jungius, *Geometria Empirica* (Rostock and Hamburg, 1627).

¹⁵¹ Namely, 'In right-angled triangles the square on the side subtending the right angle is equal to the squares on the sides containing the right angle.' *Euclid's Elements*, trans. T. L. Heath (Ann Arbor: Green Lion Press, 2002), p. 35.

a passable combination which includes it, the whole would not have been so beautiful. For the parts of the faulty combination, arranged better to make a passable combination, could not have been used properly to form the whole and perfect combination. Thomas Aquinas caught a glimpse of these things when he said ‘ad prudentem gubernatorem pertinet, negligere aliquem defectum bonitatis in parte, ut faciat augmentum bonitatis in toto’ (Thomas, *Contra gentiles*, book 3, chap. 71).¹⁵² Thomas Gataker, in his notes on the book of Marcus Aurelius (book 5, chap. 8, according to Mr Bayle),¹⁵³ cites also passages from authors who say that the evil of the parts is often the good of the whole.

§225 (referenced in M53)

The infinity of possibles, however great it may be, is not greater than the infinity of the wisdom of God, who knows all possibles. It may even be said that if this wisdom does not go beyond the possibles extensively, since the objects of the understanding cannot go beyond the possible, which in a sense is alone intelligible, it goes beyond them intensively, because of the infinitely infinite combinations it makes out of them, and the equally innumerable reflections it makes on them. The wisdom of God, not content with embracing all the possibles, penetrates them, compares them, weighs them against each other, to assess the degrees of perfection or imperfection, the strong and the weak, the good and the evil. His wisdom even goes beyond finite combinations: it makes out of them an infinity of infinities, that is, an infinity of possible series of the universe, each of which contains an infinity of creatures. And in this way, divine wisdom distributes all the possibles it had already contemplated individually into as many universal systems which it again compares to each other. And the result of all these comparisons and reflections is the choice of the best from among all these possible systems, which wisdom makes in order to fully meet the demands of goodness; this is precisely the plan of the actual universe. And all these operations of the divine understanding, although they have an order and a priority of nature among themselves, always take place together, without there being any priority of time among them.

¹⁵² ‘It belongs to a prudent governor to neglect some absence of goodness in the part in order that he might bring about an increase of goodness in the whole.’ St Thomas Aquinas, *Summa Contra Gentiles*, 3.71.7.

¹⁵³ The citation is to be found in Bayle, *Réponse aux Questions d’un Provincial*, III, p. 985. Leibniz introduces errors when he copies the citation from Bayle, because Bayle refers to the notes on §58 of book 8 of Thomas Gataker, *Marci Antonini imperatoris, De rebus suis, sive de eis quae ad se pertinere censebat, libri 12* (London, 1697), pp. 319–20, whereas Leibniz has chapter 8 of book 5.

§241 (referenced in M58)

Behold, we have at last unravelled the moral cause of moral evil. Less troublesome for us will be *physical evil*, that is, pains, sufferings, and miseries, these being consequences of moral evil. 'Poena est malum passionis, quod infligitur ob malum actionis',¹⁵⁴ according to Grotius. One is acted upon because one has acted; evil is done to one because one does evil.

Nostrorum causa malorum
*Nos sumus.*¹⁵⁵

It is true that one often suffers on account of the bad actions of others; but when one has no part in the offence, one must hold it as certain that these sufferings prepare us for a greater happiness. The question of *physical evil*, that is, of the origin of sufferings, has difficulties in common with the question of the origin of *metaphysical evil*, examples of which are furnished by monstrosities and the other apparent irregularities of the universe. But we should conclude that even sufferings and monstrosities are in keeping with order. And it is good to consider not only that it was better to admit these defects and monstrosities than to violate general laws, as Reverend Father Malebranche sometimes argues, but also that these very monstrosities are in the rules, and in conformity with general wills, though we are not capable of teasing out this conformity. It is just as there are sometimes appearances of irregularity in mathematics, which ultimately end in a great order when one has finished getting to the bottom of them; this is why I have already pointed out above that on my principles all individual events, without exception, are consequences of general wills.

§242 (referenced in M58)

One should not be surprised that I endeavour to clarify these matters by comparisons drawn from pure mathematics, in which everything goes in order, and in which there is a way of teasing out this order by a focused meditation which makes us enjoy, so to speak, the view of God's ideas. One may propose a seemingly completely irregular sequence or *series* of numbers, in which the numbers increase and diminish variably without any order being apparent, and yet he who knows the key to the cipher, and who understands the origin and construction of this sequence of numbers, will be able to offer a rule which, once understood aright, will show that

¹⁵⁴ 'Punishment is an evil of suffering, which is imposed because of the evil of the action.' A slight misquoting of Hugo Grotius' *De iure belli ac pacis libri tres* (Frankfurt, 1626), p. 359.

¹⁵⁵ 'We are the cause of our evils.' Eusebius, *De Evangelica praeparatione, libri XIII* (Cologne, 1539), 37C.

the *series* is entirely regular, and that it even has fine properties. This is even more perceptible in lines: a line may have twists and turns, ups and downs, points of tucking and points of inflexion, interruptions and other variations, so that neither rhyme nor reason is evident there, especially when considering only a part of the line. Nevertheless it is possible to give its equation and construction, in which a geometer would find the reason for and the fittingness of all these so-called irregularities. That is how we should also judge the irregularities of monstrosities and other so-called defects in the universe.

§243 (referenced in M58)

It is in this sense that one may employ this fine saying of St Bernard (Letter 276, to Eugene, III): *Ordinatissimum est, minus interdum ordinate fieri aliquuid*.¹⁵⁶ It is in accordance with the great order that there be some small disorder; and it may even be said that this small disorder is apparent only in the whole, and it is not even apparent with regard to the felicity of those who align themselves to the way of order.

§244 (referenced in M88)

When speaking of monstrosities I also mean many other apparent defects. We know hardly anything except the surface of our globe, and we hardly penetrate into its interior beyond several hundred fathoms. That which we find in this crust of the globe appears to be the effect of some great upheavals. It seems that this globe was once on fire, and that the rocks which constitute the base of this crust of the Earth are scorias remaining from a great melting. In their entrails are found metal and mineral products, which very much resemble those which come from our furnaces: and the entire sea may be a kind of *oleum per deliquium*,¹⁵⁷ just as tartaric oil forms in a damp place. For when the surface of the Earth was cooled after the great fire, the moisture that the fire had driven into the air fell back on the Earth, washed its surface, and dissolved and moistened the fixed salt remaining in the cinders, and finally filled this great cavity in the surface of our globe to make the ocean filled with salt water.

§245 (referenced in M88)

But it should be concluded that, after the fire, the earth and the water have no less brought about destruction. Perhaps the crust formed by the

¹⁵⁶ Saint Bernard, *Opera Genuina* (Paris, 1833), I, p. 232. Leibniz gives a translation in his next sentence: 'It is in accordance with the great order that there be some small disorder.'

¹⁵⁷ 'oil produced by deliquescence'.

cooling, which had great cavities below it, fell in, so that we live only on ruins, as has been astutely suggested by, among others, Mr Thomas Burnet, Chaplain to the late King of Great Britain.¹⁵⁸ And a number of deluges and inundations have left sediments, of which traces and remains are found which show that the sea was in places which are today very far away from it. But these upheavals finally ceased, and the globe took on the form we see. Moses hints at these great changes in some passages: the separation of light from darkness indicates the melting caused by the fire, and the separation of the moist from the dry marks the effects of inundations.¹⁵⁹ But who does not see that these disorders have served to lead things to the point they are at now, that we owe to them our riches and our commodities, and that it is because of them that this globe became suitable for cultivation by our efforts? These disorders turned into order. The disorders, real or apparent, that we see from afar are sunspots and comets, but we do not know the uses they have, nor the regularity within them. There was a time when the planets were taken for wandering stars; now their motion is found to be regular. Perhaps it is the same with comets; posterity will know.

§247 (referenced in M87)

It seems Mr Bayle does not approve of any comparison of the disorders which can exist in inanimate things with those which disturb the peace and felicity of rational creatures; nor does he approve of the permission of vice being partly grounded on the concern to avoid disrupting the laws of motion. According to him it may be concluded (posthumous Reply to Mr Jaquelot, p. 183), ‘that God created the world only to display his infinite knowledge of architecture and mechanics, without his attribute of goodness, and love of virtue, having had any part in the construction of this great work. This God would pride himself only on knowledge, he would prefer to let the whole human race perish rather than endure some atoms going faster or more slowly than the general laws require.’¹⁶⁰ Mr Bayle would not have made this objection if he had been informed of the system of general harmony which I conceived, and which holds that the kingdom of efficient causes and that of final causes are parallel to each other; that God no less has the quality of the best monarch than that of the greatest architect; that matter is so disposed that the laws of motion serve the best government of minds; and that consequently it will be found that he has

¹⁵⁸ Leibniz is thinking here of Burnet’s *Telluris Theoria Sacra*.

¹⁵⁹ An allusion to Genesis 1.4 and 1.9.

¹⁶⁰ Pierre Bayle, *Entretiens de Maxime et de Thémisté, ou Réponse à l’Examen de la Théologie de Mr Bayle par Mr Jaquelot* (Rotterdam, 1707), pp. 182–3.

obtained the most good possible, provided one reckon the metaphysical, physical, and moral goods together.

§248 (referenced in M87)

But (Mr Bayle will say), as God is able to avert an infinity of evils by one small miracle, why did he not perform it? He gives so much extraordinary assistance to fallen men, but just a little assistance of this nature given to Eve would have prevented her fall and rendered the serpent's temptation ineffective. We have adequately countered objections of this sort by means of this general response: that God ought not to choose another universe since he has chosen the best of them, and has only performed the miracles which were necessary in it. The response to him was that miracles change the natural order of the universe: he replies that this is an illusion, and that the miracle of the wedding at Cana (for example) did not involve any change in the air of the room except that instead of receiving into its pores some corpuscles of water, it received corpuscles of wine. But it must be remembered that, once the best plan of things has been chosen, nothing can be changed in it.

§275 (referenced in M58)¹⁶¹

It is said in scripture that God hardened (Exodus 4.21 and 7.3; Isaiah 63.17); that God sends a lying spirit (1 Kings 22.23), and a strong delusion to believe a lie (2 Thessalonians 2.11); that he deceived the prophet (Ezekiel 14.9); that he commanded Shimei to curse (2 Samuel 16.10); that the children of Eli listened not to the voice of their father, because God willed to put them to death (1 Samuel 2.25); that God took away Job's possessions, although that was done through the malice of brigands (Job 1.21); that he raised up Pharaoh, in order to show his power in him (Exodus 9.16; Romans 9.17); that he is like a potter who makes a vessel for dishonour (Romans 9.21); that he hides the truth from the wise and the understanding (Matthew 11.25); that he speaks in parables so that, with regard to those who are outside, when seeing they do not perceive, and when hearing they do not understand, lest they be converted, and their sins be forgiven them (Mark 4.12; Luke 8.10); that Jesus was delivered by the definite plan and providence of God (Acts 2.23); that Pontius Pilate and Herod with the Gentiles and the people of Israel have done what the hand and the plan of God had determined beforehand (Acts 4.27, 28); that it came from the Eternal that the enemies hardened their heart in order to

¹⁶¹ Note that the contents of §275 in the 1714 edition of the *Theodicy*, which I have used, are included in §276 in some later printings, such as in Gerhardt's edition: G VI, p. 281. In the 1714 edition, there is no §276.

come out in battle against Israel, so that he might destroy them without granting them any favour (Joshua 11.20); that the Eternal poured a confused spirit in the midst of Egypt, and caused it to stagger in all its works, like a drunken man (Isaiah 19.14); that Rehoboam listened not to the word of the people, since this was conducted by the Eternal (1 Kings 12.15); that he turned the hearts of the Egyptians so that they held his people in hatred (Psalm 105.25). But all these expressions, and other ones like them, imply only that the things God has done serve as occasion for ignorance, error, malice, and bad actions, and contribute to that; God foresees this, and intends to use it for his ends, since superior reasons of perfect wisdom have determined him to permit these evils, and even to concur with them. ‘Sed non sineret bonus fieri male; nisi Omnipotens etiam de malo posset facere bene’,¹⁶² to speak with St Augustine. But we have explained this more fully in the *Second Part*.

§278 (referenced in M90)

Let no one say, I am tempted by God, but each person is tempted when he is lured and enticed by his own desire (James 1.13–14). And Satan contributes to that; he blinds the understandings of unbelievers (2 Corinthians 4.4). But man is delivered to the Devil by his covetousness: the pleasure he finds in evil is the bait that lures him in. Plato already said as much, and Cicero repeats it: ‘Plato voluptatem dicebat escam malorum’.¹⁶³ Grace opposes it with a greater pleasure, as St Augustine observed. Every *pleasure* is a feeling of some perfection; one *loves* an object in proportion as one feels its perfections; nothing surpasses the divine perfections. From which it follows that charity and the love of God give the greatest pleasure that can be conceived, in proportion as one is penetrated by these feelings, which are not common to men because they are busy, and focused on objects concerned with their passions.

§280 (referenced in M33)

The system of those who call themselves disciples of St Augustine is not far removed from this, provided that one discard certain odious things, whether in the expressions or in the dogmas themselves. *In the expressions*, I find that it is principally the use of terms like ‘necessary’ or ‘contingent’, ‘possible’ or ‘impossible’, which is sometimes unhelpful and which causes much commotion. That is why, as Mr Löscher the younger aptly observed

¹⁶² ‘But a good being would not permit evil to be done, unless in its omnipotence it can make a good from the evil.’ This is a slight misquoting of St Augustine’s *Enchiridion ad Laurentium liber unus*, I.100.

¹⁶³ ‘Plato calls pleasure the bait of vice.’ A slight misquoting of Cicero’s *De senectute*, XIII.

in a learned dissertation on the Paroxysms of the Absolute Decree, Luther wanted, in his book *On the Bondage of the Will*, to find a word more appropriate for what he wished to express than that of *necessity*.¹⁶⁴ Generally speaking, it appears more reasonable and more fitting to say that obedience to God's precepts is always *possible*, even for the unregenerate, that grace is always *resistible*, even in the most holy, and that *freedom* is exemption not only from *constraint* but also from *necessity*, although it is never without infallible *certainty* or without inclining *determination*.

§281 (referenced in M33)

Yet on the other hand there is a sense in which it would be permitted to say, in certain situations, that the *power* to do good is often lacking, even in the just; that sins are often *necessary*, even in the regenerate; that it is sometimes *impossible* for one not to sin; that grace is *irresistible*; that freedom is not exemption from *necessity*. But these expressions are less precise and less appropriate in the circumstances we find ourselves in today, and absolutely speaking they are more prone to misuse, and besides they retain something of the masses, with whom terms are employed with a great deal of latitude. Nevertheless there are circumstances which make them appropriate and even useful, and it happens that holy and orthodox authors, and even the Holy Scriptures, have made use of expressions from both sides without there being a true opposition, any more than there is between St James and St Paul, and without there being an error on either side because of the ambiguity of terms. And these different ways of speaking are so customary that often it is difficult to say precisely which sense is the most ordinary and the most natural, and even the most in use (*quis sensus magis naturalis, obvius, intentus*),¹⁶⁵ as the same author has different views in different passages, and the same ways of speaking are more or less accepted or acceptable before or after the decision of some great man or of some authority that one respects and follows. This means that one may well authorise or ban certain expressions as the occasion requires, and at certain times, but that makes no difference to the sense or to faith unless sufficient explanations of the terms are provided.

§282 (referenced in M33)

Therefore one need only understand some distinctions, like the one we have very often urged between the necessary and the certain, and between metaphysical necessity and moral necessity. And it is the same with

¹⁶⁴ Valentin Ernst Löscher, 'De paroxismis absoluti decreti', in *Initia academica* (Wittenberg, 1707).

¹⁶⁵ 'which sense is the most natural, accessible, intended'.

possibility and impossibility, since the event whose opposite is possible is contingent, just as the one whose opposite is impossible is necessary. A distinction is rightly drawn also between a proximate power and a remote power; and in accordance with these different senses, at one time we say that a thing is possible and at another that it is not. It may be said in a certain sense that it is necessary that the blessed sin not, that the devils and the damned sin, that God himself choose the best, that man follow the course of action which after all most impresses itself on him. But this necessity is not opposed to contingency; it is not the necessity called logical, geometrical, or metaphysical, whose opposite implies contradiction. Mr Nicole has made use somewhere of a comparison which is not improper. It is considered impossible that a wise and serious magistrate, who has not taken leave of his senses, should perform in public an outrageous action, as would be, for example, running around the streets completely naked for a joke.¹⁶⁶ In some way it is the same with the blessed: even less are they capable of sinning, and the necessity that shields them from it is of the same kind. Ultimately I also think that 'will' is a term as equivocal as 'power' and 'necessity'. For I have already observed that those who employ the axiom that one does not fail to do what one wills when one is able to do it, and who infer from it that God does not therefore will the salvation of all, mean a *decretory will*; and it is only in this sense that one can uphold the proposition that the wise man never wills what he knows to be among those things which will not happen. Instead it may be said, when taking 'will' in a more general sense and more in keeping with normal use, that the will of the wise man is *inclined* antecedently to all good, although ultimately it *decrees* to do only what is most fitting.¹⁶⁷ Thus it would be very wrong to deny to God the serious and strong inclination to save all men, which Holy Scripture attributes to him, and even to attribute to him a primitive aversion which from the outset deters him from the salvation of some, *odium antecedaneum*.¹⁶⁸ One should rather maintain that the wise person tends towards every good insofar as it is good, in proportion to his knowledge and his power, but that he produces only the best that is feasible. Those who admit that, and nonetheless deny God the antecedent will to save all men, fall short only through their misuse of the term, provided that they acknowledge, moreover, that God gives to all sufficient assistance so that they can be saved, if they have the will to avail themselves of it.

¹⁶⁶ See Pierre Nicole, *Continuation des essais de morale. Tome troisième de la première partie* (The Hague, 1700), p. 100.

¹⁶⁷ Reading 'ne . . . que' in place of 'ne . . . pas'. Some editions of the text omit these words altogether; see for example G VI, p. 285.

¹⁶⁸ An antecedent hatred.

§335 (referenced in M44 and M46)

But let us return to the cylinder of Chrysippus. He is right to say that vice comes from the original constitution of some minds. It was objected to him that God formed them, and he could reply only by noting the imperfection of *matter*, which did not permit God to do better. This reply is worthless, for matter in itself is indifferent to all forms, and God made it. Evil comes rather from the forms themselves, but in the abstract, that is, from the ideas that God has not produced by an act of his will, any more than he produced numbers and figures and (in a word) all possible essences which should be taken as eternal and necessary; for they are found in the ideal region of possibles, that is, in the divine understanding. God is therefore not the author of essences insofar as they are only possibilities; but there is nothing actual to which he has not decreed and given existence, and he has permitted evil because it is included in the best plan which is found in the region of possibles, which supreme wisdom could not fail to choose. This notion simultaneously satisfies God's wisdom, power, and goodness, and nonetheless results in the entrance of evil. God gives perfection to creatures insofar as the universe can receive it. The cylinder is pushed, but any unevenness in its shape serves to limit the swiftness of its motion. This comparison of Chrysippus' is not very different from ours, which was taken from a laden boat that the river current carries along, but more slowly when the load is greater. These comparisons tend towards the same end, and that shows that if we were sufficiently informed of ancient philosophers' opinions, we would find more reason in them than is thought.

§337 (referenced in M36)

The advantage of freedom, which exists in the creature, doubtless exists eminently in God, but that should be understood insofar as it really is an advantage and insofar as it does not presuppose an imperfection. For to be able to make a mistake and to go astray is a disadvantage, and to have a mastery over the passions is, to tell the truth, an advantage, but one which presupposes an imperfection, namely passion itself, of which God is incapable. Scotus was right to say that if God were not free and exempt from necessity, no creature would be so. But God is incapable of being indeterminate in anything at all: he cannot be ignorant, he cannot doubt, he cannot suspend his judgement; his will is always decided, and it can only be so by the best. God can never have a primitive particular will, that is, independent of laws or general wills: it would be unreasonable. He cannot decide upon Adam, Peter, Judas, or any individual, without there being a reason for this determination, and this reason leads necessarily to some general enunciation. The wise always act *by principles*, always *by rules*, and never through *exceptions*, except when the rules compete with each other through contrary

tendencies, where the strongest wins out; otherwise, either they will stop each another, or some third course will result from them. And in all of these cases one rule serves as an exception to another, without there ever being *original exceptions* with respect to the one who always acts regularly.

§340 (referenced in M36, M78, and M88)

This failing has greatly damaged Mr Bayle's arguments, and has taken away his means of escape from many difficulties. That is again apparent in relation to the laws of the kingdom of nature: he believes them to be arbitrary and indifferent, and he objects that God would have been better able to attain his end in the kingdom of grace if he had not stuck to these laws, if he had avoided following them more often, or even if he had established other ones. He believed this especially with regard to the law of the union of soul and body. For he is convinced, along with the modern Cartesians, that the ideas of sensible qualities that (according to them) God gives to the soul on the occasion of movements of the body, have nothing which represents these movements or which resembles them; as such, it was purely arbitrary whether God gave us the ideas of heat, cold, light, and other qualities we experience, or that he give us completely different ones on the same occasion. Very often have I been surprised that such able people have been capable of taking a liking to opinions so philosophically lacking and so contrary to the fundamental maxims of reason. For nothing better reveals the imperfection of a philosophy than when the philosopher finds it necessary to admit that something happens in accordance with his system for which there is no reason, and that applies to the swerving of Epicurus' atoms.¹⁶⁹ Whether God or nature is operating, the operation will always have its reasons. In the operations of nature, these reasons will depend either upon necessary truths or upon the laws that God has found the most reasonable; and in the operations of God, they will depend upon the choice of the supreme reason, which makes him act.

§344 (referenced in M36)

But Mr Bayle also opposes this through another principle, which is one I have already mentioned. It seems he thinks that the ideas which the soul conceives in relation to the feelings of the body are arbitrary. Thus God might have made it so that incisions in the body gave us pleasure. He even claims that the laws of motion are entirely arbitrary. 'I would like to know', he says (chap. 166, book III, p. 1080), 'whether God established the general laws of the communication of motions, and the particular laws

¹⁶⁹ See *Letters and Sayings of Epicurus*, trans. Odysseus Makridis (New York: Barnes & Noble Books, 2005), p. 6.

of the union of the human soul with an organised body, by an act of his freedom of indifference. In which case he could have established entirely different laws, and adopted a system whose effects did not include either moral evil or physical evil. But if it is said that God was necessitated by supreme wisdom to establish the laws that he has established, then we have the fate of the Stoics plain and simple. Wisdom will have shown God a way, and it will have been as impossible for him to depart from it as to destroy himself.¹⁷⁰ This objection has been undermined enough: it is only a moral necessity, and it is always a happy necessity to be obliged to act in accordance with the rules of perfect wisdom.

§345 (referenced in M54 and M80)

Moreover, it seems to me that the reason which makes many people believe that the laws of motion are arbitrary comes from the fact that few people have examined them properly. It is now known that Mr Descartes was quite wrong in his formulation of them. I have shown demonstratively that conservation of the same quantity of motion cannot happen, but I find that the same quantity of force is conserved, as much absolute as directive and respective, total and partial. My principles, which carry this matter as far as it can go, have not yet been published in their entirety, but I have shared them with friends very capable of judging them, and they have developed a strong liking for them, and have converted some other persons of acknowledged understanding and merit. I discovered at the same time that the laws of motion which are actually found in nature, and are confirmed by experiments, are not in truth absolutely demonstrable, as a geometrical proposition would be, but also that they should not be so. They do not arise entirely from the principle of necessity, but instead they arise from the principle of perfection and order; they are an effect of God's choice and wisdom. I can demonstrate these laws in various ways, but must always suppose something which is not of an absolutely geometrical necessity. So these fine laws are a wonderful proof of an intelligent and free being, in opposition to Strato or Spinoza's system of absolute and brute necessity.

§346 (referenced in M54 and M80)

I have found that these laws can be explained by supposing that the effect is always equal in force to its cause, or, which is the same thing, that the same force is always conserved, though this axiom of higher philosophy cannot be demonstrated geometrically. Other principles of a similar nature can also be employed, for example the principle that action is always equal to reaction, which supposes in things a resistance to external change, and

¹⁷⁰ Bayle, *Réponse aux Questions d'un Provincial*, III, p. 1080.

cannot be derived either from extension or impenetrability. Likewise that other principle, that a simple motion has the same properties as a compound movement could have, and which would produce the same phenomena of transfer. These suppositions are very plausible, and fortunately they succeed in explaining the laws of motion because there is nothing so fitting, all the more since they are encountered together. But one does not find in them any absolute necessity which forces us to accept them, in the way one is forced to admit the rules of logic, arithmetic, and geometry.

§347 (referenced in M80)

When considering the indifference of matter to motion and rest, it seems that the largest body at rest could be carried along without any resistance by the smallest body, which would be in motion, in which case there would be action without reaction and an effect greater than its cause. Also, with regard to the motion of a ball which rolls freely on an even, horizontal plane, with a certain degree of speed, called A, there is no necessity to say that this motion must have the properties of the motion it would have if it were moving less slowly in a boat that itself moved in the same direction with the remainder of the speed, to bring it about that the ball, seen from the shore, advances with the same degree A. For although the same appearance of speed and of direction comes about by virtue of the boat, it is not the same thing at all. Nevertheless it is found that the effects of the balls' colliding in the boat, of which the motion in each one separately, combined with that of the boat, gives the appearance of what happens outside the boat, also give the appearance of the effects that these same balls would give when colliding outside the boat. This is beautiful, but it is not clear that it is absolutely necessary. A motion on the two sides of the right-angled triangle composes a motion on the hypotenuse, but it does not follow that a ball moved on the hypotenuse must produce the effect of two balls of its own size moved on the two sides, yet that is found to be true. There is nothing so fitting as this outcome, and God has chosen laws which produce it, but one sees no geometrical necessity in them. Yet it is this very lack of necessity which enhances the beauty of the laws God has chosen, in which many fine axioms are brought together, without it being possible for one to say which is the most primitive one.

§350 (referenced in M54)

This also fully resolves the difficulty raised by Mr Bayle, who fears that if God is always determined, nature could do without him, and bring about that same effect, which we attribute to him, through the necessity of the order of things. That would be true if for example the laws of motion, and all the rest, had their source in a geometrical necessity of efficient causes,

but it is found that in the final analysis one is obliged to have recourse to something which depends upon final causes, or upon fittingness. This also undermines the most specious basis of naturalists. Dr Johann Joachim Becher, a German physician, known for his books on chemistry, wrote a prayer which got him into trouble. It began: *O sancta mater natura, aeternae rerum ordo*.¹⁷¹ And it concluded by saying that this nature ought to forgive him his failings since she herself was the cause of them. But the nature of things, taken without intelligence and without choice, has nothing sufficiently determinant in it. Mr Becher did not give sufficient consideration to the fact that the author of things (*natura naturans*) must be good and wise, and that we can be evil without his being complicit in our evil deeds. When a wicked man exists, God must have found in the region of possibles the idea of such a man forming part of the sequence of things whose choice was demanded by the greatest perfection of the universe, and in which errors and sins are not only punished but also put right with advantage, and contribute to the greatest good.

§351 (referenced in M46)

Mr Bayle, however, has extended the free choice of God a little too far. And when speaking of the Peripatetic Strato (*Réponse aux Questions d'un Provincial*, chap. 180, p. 1239, book III), who maintained that everything had been produced by the necessity of a nature devoid of intelligence, he claims that this philosopher, when asked 'why a tree does not have the power to form bones and veins, would have been able to ask in turn, why does matter have exactly three dimensions, why would two not have been sufficient for it, why does it not have four? If the answer was that there cannot be either more or less than three dimensions, he would have demanded the cause of this impossibility.'¹⁷² These words lead us to believe that Mr Bayle suspected that the number of dimensions of matter depended upon God's choice, just as it depended upon him to make or not to make trees that produce animals. Indeed, how do we know whether there are not planetary globes or earths situated in some more remote place in the universe where the fable of Scotland's Barnacle-geese (birds said to be born of trees) is true, and whether there are not even countries where one could say:

. . . *populos umbrosa creavit*
*Fraxinus, et foeta viridis puer excidit alno!*¹⁷³

¹⁷¹ 'Oh holy mother nature, eternal order of things'.

¹⁷² Bayle, *Réponse aux Questions d'un Provincial*, III, p. 1239.

¹⁷³ 'the shady ash created people, and from the fertile alder a young boy was plucked?' A slight misquoting of Publius Papinius Statius, *Thebaid*, IV.280–1 (which refers to a mountain ash rather than an alder).

But it is not like this with the dimensions of matter: the ternary number is determined for it not by the reason of the best, but by a geometrical necessity. This is because geometers have been able to demonstrate that there are only three straight lines perpendicular to each other which can intersect at the same point. Nothing more appropriate could have been chosen to show the difference between moral necessity, which constitutes the choice of the wise, and the brute necessity of Strato and the Spinozists, who deny God understanding and will, than to consider the difference between the reason for the laws of motion and the reason for the ternary number of dimensions: the first consists in the choice of the best, and the second in a geometrical and blind necessity.

§352 (referenced in M54 and M78)

After having spoken of the laws of bodies, that is, of the rules of motion, let us come to the laws of the union of soul and body, where Mr Bayle again thinks he finds some vague indifference, something absolutely arbitrary. This is how he speaks about it in his *Réponse aux Questions d'un Provincial* (chap. 84, p. 163, book 2): 'It is a perplexing question whether bodies have some natural power to do harm or good to man's soul. If one answers in the affirmative, one enters a fiendish labyrinth, for since man's soul is an immaterial substance, one will have to say that the local motion of certain bodies is an efficient cause of a mind's thoughts, which is contrary to the most evident notions philosophy gives to us. If one answers in the negative, one will be compelled to admit that the influence of our organs upon our thoughts depends neither upon the internal qualities of matter, nor upon the laws of motion, but upon an *arbitrary institution* of the creator. One will therefore have to admit that it depended absolutely upon God's freedom to link such-and-such thoughts of our soul to such-and-such modifications of our body, even after having established all the laws of the action of bodies upon each other. The result of which is that there is in the universe no portion of matter which can harm us by its proximity, except insofar as God wills it, and consequently, that the Earth is as capable as some other place of being the abode of the happy man . . . Ultimately, it is evident that in order to prevent the bad choices of freedom there is no need to transport man outside the Earth. With regard to all the acts of the will, God could do on the Earth what he does regarding the good works of the predestined when he settles their fate either by efficacious or by sufficient graces, which, without in any way compromising freedom, are always followed by the consent of the soul. It would be as easy for him to produce on the Earth as in heaven the determination of our souls to a good choice.'¹⁷⁴

¹⁷⁴ Bayle, *Réponse aux Questions d'un Provincial*, II, pp. 163–4. The passage concerns the

§353 (referenced in M78)

I agree with Mr Bayle that God could have put the bodies and souls on this globe of earth into such an order, whether by natural ways or by extraordinary graces, that it would have been a perpetual paradise, and a foretaste of the celestial state of the blessed. And nothing prevents there from being worlds happier than ours, but God had good reasons for willing that ours be such as it is. Yet in order to prove that a better state had been possible here, Mr Bayle had no need to have recourse to the system of occasional causes, which is full of miracles and suppositions for which their authors themselves admit that there is no basis; these are the two defects of a system which do most to distance it from the spirit of true philosophy. There are grounds to wonder at why, from the outset, Mr Bayle did not remember the *system of pre-established harmony* which he had examined before, and which appeared at just the right moment here. But because in this system everything is connected and harmonic, everything proceeds by means of reasons and nothing is left empty or to the rash discretion of pure and complete indifference, it seems that it did not appeal to Mr Bayle, a little predisposed here to these indifferences against which he had fought so well on other occasions. For he readily passed from one extreme to the other, not with a bad intention or against his own conscience, but because he had not yet made up his mind on the question at hand. He made do with whatever suited him for thwarting the opponent he had in mind, his aim being only to frustrate philosophers, and show the weakness of our reason; and I think that neither Arcesilaus nor Carneades ever maintained both sides of an argument with more eloquence and more wit.¹⁷⁵ But ultimately one should not doubt for the sake of doubting: doubts should serve us as a gangway to get to the truth. That is what I often said to the late Abbé Foucher; some specimens of his work show that his intention had been to do for Academicians what Lipsius and Scioppius had done for the Stoics, and Mr Gassendi for Epicurus, and what Mr Dacier has begun to do so well for Plato.¹⁷⁶ It should not be possible to reproach true philosophers in the way that the celebrated Casaubon responded to those who, when

work of William King, but in his quotation of the passage Leibniz removes the references to King.

¹⁷⁵ There is a story related in Lactantius' *Divinae Institutiones*, 5.15, that Carneades argued in favour of justice one day, and then against justice the day after. Both Carneades and Arcesilaus were Academic sceptics.

¹⁷⁶ Simon Foucher (1644–96), with whom Leibniz corresponded for many years, published a number of works in favour of the Academicians, such as *Dissertations sur la recherche de la vérité, Contenant l'histoire et les principes de la philosophie des Académiciens. Avec plusieurs réflexions sur les sentimens de M. Descartes* (Paris, 1693). The other authors Leibniz cites had likewise written works in favour of certain ancient thinkers; for example Justin

showing him the hall of the Sorbonne, told him that disputations had occurred there for some centuries: 'what were their conclusions?' he said to them.¹⁷⁷

§354 (referenced in M54 and M80)

Mr Bayle continues (p166): 'It is true that since the laws of motion such as we see in the world were established, it must be an utter necessity that a hammer which strikes a nut breaks it, and that a stone which falls on a man's foot causes some bruise there, or some disorder of its parts. But this is everything that can follow from the action of this stone on the human body. If, aside from that, you want it to excite a feeling of pain, one must suppose the institution of a code different from the one which regulates the action and reaction of bodies on each other; one must, I say, have recourse to the particular system of the laws of the union of the soul with certain bodies. Now as this system is not necessarily connected with the other, the indifference of God does not cease in relation to the one at the time he chooses the other. He therefore combined these two systems with a complete freedom, like two things which did not follow naturally from each other. It is therefore by an arbitrary institution that he has ordained that injuries to the body excite pain in the soul united to this body. Therefore it was up to him to choose another system of union of soul and body: he was therefore able to choose one in accordance with which injuries excite only the idea of the remedy and a keen but agreeable desire to apply it. He was able to establish that all bodies on the verge of breaking a man's head or piercing his heart excite a lively idea of peril, and that this idea would cause the body to promptly move itself out of the reach of the blow. All that would have happened without miracles, since there would have been general laws on this subject. The system we know about through experience teaches us that the determination of the motion of certain bodies changes in accordance with our desires. It was therefore possible that a combination be made between our desires and the movement of certain bodies, whereby the nutritive juices were altered in such a way that the good disposition of our organs was never changed.'¹⁷⁸

§355 (referenced in M54 and M80)

It is clear that Mr Bayle thinks that everything that comes about through general laws happens without miracles. But I have shown sufficiently that

Lipsius, *Physiologiae Stoicorum libri tres* (Antwerp, 1604); Pierre Gassendi, *De vita et moribus Epicuri libri octo* (Lyon, 1647).

¹⁷⁷ Leibniz was fond of this anecdote and used it elsewhere, for example G III, p. 192.

¹⁷⁸ Bayle, *Réponse aux Questions d'un Provincial*, II, pp. 166–7.

if the law is not founded on reasons and does not serve to explain the event through the nature of things, it can only be executed by a miracle. Just as, for example, if God had ordained that bodies should move in a circular line: to execute this order he would have needed perpetual miracles, or the ministry of angels, for it is contrary to the nature of motion, in which the body naturally forsakes the circular line in order to continue in the tangent straight line if nothing holds it back. Therefore it is not sufficient that God simply ordain that an injury should excite an agreeable feeling: natural means must be found for that. The true means whereby God makes the soul have sensations of what happens in the body come from the nature of the soul, which is representative of bodies, and made beforehand so that the representations which arise in it, one from another, by a natural sequence of thoughts, correspond to the change of bodies.

§358 (referenced in M78)

Let us include here the remark from the *Journal des sçavans* of 16th March 1705, which Mr Bayle has inserted into chapter 162 of his *Réponse aux Questions d'un Provincial* (book III, p. 1030). It concerns the extract from a very ingenious modern book on the Origin of Evil, about which we have spoken above.¹⁷⁹ The remark says ‘that the general solution with regard to physical evil given in this book is that the universe must be regarded as a work composed of various pieces which make up a whole; that, according to the laws established in nature, some parts cannot be better unless others become worse, and that the result of that would be a system that is less perfect as a whole. This principle’, it is said, ‘is good; but if nothing is added to it, it does not seem sufficient. Philosophers who are a little difficult to please will say: Why has God established laws from which arise so many misfortunes? Was he not able to establish others which are not subject to any defects? And not to mince words, how come he has prescribed laws? How come he does not act without general laws, in accordance with all his power and all his goodness? The author has not pushed the problem that far. It is not that by disentangling his ideas one does not find anything to resolve it, but that there is nothing developed to that end here.’¹⁸⁰

¹⁷⁹ The book in question is William King’s *De origine mali* (London, 1702). Leibniz included an essay on King’s book, ‘Observations on the book concerning “The origin of evil” published recently in London’ as an appendix to the *Theodicy*.

¹⁸⁰ Bayle, *Réponse aux Questions d'un Provincial*, III, p. 1030. Bayle is quoting a review (which he himself may have written) of William King’s book from the *Journal des sçavans* (1705), p. 168.

§360 (referenced in M22 and M56)

Now that we have satisfactorily shown that everything happens according to determinate reasons, there cannot be any more difficulty about this foundation of God's foreknowledge, for although these determinations do not necessitate, they are nonetheless certain, and enable him to foresee what will happen. It is true that God sees at once the whole sequence of this universe when he chooses it, and that thus he has no need of the connection of effects with causes in order to foresee these effects. But as his wisdom makes him choose a series which is perfectly connected, he cannot fail to see one part of the series in another. It is one of the rules of my system of general harmony *that the present is big with the future*, and that he who sees everything sees what shall be in what exists. What is more, I established in a demonstrative manner that, on account of the perfect connection of things, God sees the whole universe in each part of the universe. He is infinitely more discerning than Pythagoras, who judged the height of Hercules by the size of his footprint.¹⁸¹ Therefore there must be no doubt that effects follow from their causes in a determinate manner, notwithstanding contingency and even freedom, which nevertheless co-exist with certainty or determination.

§367 (referenced in M33)

Indeed, confusion most often comes from the ambiguity of terms, and from a lack of care to ensure one's notions are distinct. That gives rise to these endless, and usually misunderstood, disputations on necessity and contingency, and on the possible and the impossible. But provided that it is understood that necessity and possibility, taken metaphysically and in the strict sense, depend solely on the question of whether the object in itself, or what is opposed to it, implies contradiction or not; and provided that one bear in mind that contingency accords very well with the inclinations or reasons which contribute towards making the will determined; provided also that one knows how to distinguish between necessity and determination or certainty, between metaphysical necessity, which does not leave room for any choice, presenting only a single object as possible, and moral necessity, which obliges the wisest to choose the best; finally, provided that one gets rid of the fantasy of complete indifference, which can only be found in the books of philosophers, and on paper (for they cannot even conceive the notion of it in their heads, or show its reality by any real-world example), one will easily escape from a labyrinth whose unhappy Daedalus

¹⁸¹ The story is related in Aulus Gellius' *Attic Nights* I.1.

was the human mind,¹⁸² and which has caused an infinity of confusions, as much with the ancients as with the moderns, even to the point of leading men into the ridiculous error of the lazy sophism, which hardly differs from the Turkish idea of destiny. I would not be surprised if ultimately the Thomists and the Jesuits, and even the Molinists and the Jansenists, agree with each other on this matter more than is thought. A Thomist and even a wise Jansenist will content himself with certain determination, without going on to necessity; and if someone does go that far, the error will perhaps lie only in the word. A wise Molinist will content himself with an indifference opposed to necessity, but one which will not exclude prevailing inclinations.

§377 (referenced in M42)

We have made it sufficiently clear, it seems, that neither the foreknowledge nor the providence of God could be detrimental either to his justice and his goodness or to our freedom. There remains only the difficulty that arises from God's concurrence with the actions of the creature: this seems to concern more closely both his goodness, in relation to our evil actions, and our freedom, in relation to good actions as well as to others. Mr Bayle has looked into this also, with his usual genius. We shall try to clear up the difficulties he puts forward, and after that we shall be in a position to conclude this work. I have already established that God's concurrence consists in continually giving us whatever is real in us and in our actions, insofar as it involves perfection, but that whatever is limited and imperfect therein is a consequence of preceding limitations which are originally in the creature. And as every action of the creature is a change of its modifications, it is evident that the action comes from the creature with regard to the limitations or negations which it contains, and which are found to vary by this change.

§378 (referenced in M42)

I have already noted more than once in this work that evil is a consequence of privation, and I think that I have explained that intelligibly enough. St Augustine has already pointed out this idea, and St Basil said something similar in his *Hexaemeron*, Homily 2, 'that vice is not a living and animate substance, but an affection of the soul contrary to virtue, which emerges from one's falling away from the good, so there is no need to look for

¹⁸² In Greek mythology, Daedalus was held to be the creator of the labyrinth on Crete. It was constructed so elaborately that Daedalus found his way out of it only with great difficulty.

an original evil'.¹⁸³ Mr Bayle, relating this passage in his *Dictionnaire* (article 'Paulicians', note E,¹⁸⁴ p. 2325), commends the remark made by Mr Pfanner (whom he calls a German theologian, but he is a Jurisconsult by profession, Counsellor to the Dukes of Saxony), who criticises St Basil for not being willing to admit that God is the author of physical evil.¹⁸⁵ God is doubtless the author of physical evil, when moral evil is supposed already existent; but absolutely speaking, one might maintain that God permitted physical evil as a consequence, by permitting moral evil, which is the source of it. It appears that the Stoics also knew how slight is the entity of evil. These words of Epictetus show this: 'Sicut aberrandi causa meta non ponitur, sic nec natura mali in mundo existit'.¹⁸⁶

§380 (referenced in M42 and M46)

Aristotle was right to reject chaos, but it is not always easy to get to the bottom of Plato's view, and even less that of some ancient authors whose works are lost. Kepler, one of the most excellent modern mathematicians, recognised a kind of imperfection in matter, even when there is no disorderly motion: this is what he calls its *natural inertia*, which gives it a resistance to motion,¹⁸⁷ whereby a greater mass receives less speed from one and the same force. There is something sound in this claim, and I have used it profitably above, in order to have a comparison which shows how the original imperfection of creatures imposes limits on the action of the creator, which tends to the good. But as matter is itself an effect of God, it serves only as a comparison and an example, and cannot be the actual source of evil and imperfection. We have already shown that this source is found in the forms or ideas of possibles, for it must be eternal, and matter is not so. Now as God has made all positive reality which is not eternal, he

¹⁸³ Leibniz is here quoting Bayle, *Dictionnaire historique et critique*, p. 2325 (article 'Paulicians', note E), who is in turn quoting section 5 of homily 2 of Basil's *Hexameron*.

¹⁸⁴ Leibniz here wrote 'D', but this is a mistake as the material in question is in note E.

¹⁸⁵ Bayle cites Tobias Pfanner, *Systema theologiae gentilis purioris, qua quam prope ad veram Religionem Gentiles accesserint, per cuncta fere ejus Capita, ex ipsis praecipue illorum scriptis ostenditur* (Basil, 1679), p. 253.

¹⁸⁶ 'Just as a goal is not set up in order to be missed, so neither does the nature of evil occur in the world.' Epictetus, *Enchiridion* XXVII.

¹⁸⁷ 'Every celestial sphere . . . by reason of its own matter, has a natural inability to move from place to place, a natural inertia, or rest, whereby it remains in every place where it is set on its own.' Johann Kepler, *Epitomes astronomiae Copernicanae, usitata forma quaestionum & Responsionum conscriptae, Liber quartus, Doctrina theoriae primus: quo Physica Coelestis, hoc est, omnium in coelo magnitudinum, motuum, proportionumq, causa vel Naturales vel Archetypicae explicantur, et sic Principia doctrinae theoriae demonstrantur: qui quod vice supplementi librorum Aristotelis de Coelo esset, certo consilio seorsim est editus* (Frankfurt, 1635), p. 510.

would have made the source of evil if it did not consist in the possibility of things or forms, the one thing that God has not made, since he is not the author of his own understanding.

§382 (referenced in M47)

He [Bayle] places great significance especially on that doctrine, received in the schools, that conservation is a continued creation. As a consequence of this doctrine it seems that the creature never exists, and that it is forever nascent and forever dying, like time, motion, and other successive beings. Plato believed this of material and sensible things, saying that they are in a perpetual flux, *semper fluunt, nunquam sunt*.¹⁸⁸ But he judged quite differently of immaterial substances, which he considered as the only true substances, and he was not entirely wrong in that. But continued creation applies to all creatures without distinction. A number of good philosophers have been against this dogma, and Mr Bayle relates that David de Rodon, a philosopher renowned among the French and exiled to Geneva, expressly refuted it.¹⁸⁹ The Armenians do not approve of it either: they are not much in favour of these metaphysical subtleties. I will say nothing of the Socinians, who relish them even less.

§383 (referenced in M47)

For a thorough examination as to whether conservation is a continued creation, one would have to consider the reasons on which this dogma is based. To prove it, the Cartesians, just like their master, use a principle which is not sufficiently conclusive. They say that ‘as the moments of time have no necessary connection with one another, it does not follow that because I exist at this moment I shall subsist at the moment which will follow, if the same cause which gives me being for this moment does not also give it to me for the following instant’.¹⁹⁰ The author of the *Avis sur le Tableau du Socinianisme* has used this argument, and Mr Bayle (perhaps author of this same *Avis*) quotes it (*Réponse aux Questions d’un Provincial*, chap. 141, p. 771, book III).¹⁹¹ It may be answered that, in truth, it does not follow *necessarily* from the fact that I exist that I will exist, but it nevertheless follows

¹⁸⁸ ‘They are always flowing, and never are.’ Leibniz may well be thinking of Plato’s description in the *Timaeus* of ‘that which becomes, but never is’, which he later applies to the sensible and material. See *Timaeus* 27d–28e, in *Plato: Complete Works*, p. 1234.

¹⁸⁹ Bayle, *Dictionnaire historique et critique*, III, pp. 2587–8 (article ‘Rodon’).

¹⁹⁰ Bayle, *Réponse aux Questions d’un Provincial*, III, p. 771. Bayle in turn was quoting Isaac Jaquelot, *Avis sur la Tableau du Socinianisme* ([no place], 1690), pp. 36–7.

¹⁹¹ The author of *Avis sur la Tableau du Socinianisme* was not Bayle, but Isaac Jaquelot, though the book did not carry his name. Leibniz corresponded with Jaquelot between 1702 and 1706.

naturally, that is, of itself, *per se*, if nothing prevents it. It is the distinction that can be drawn between the essential and the natural; it is just as, naturally, the same motion endures unless some new cause prevents it or changes it, because the reason which makes it cease at this instant, if it is not new, would have already made it cease earlier.

§384 (referenced in M47)

The late Mr Erhard Weigel, a renowned mathematician and philosopher at Jena, was known for his *Analysis Euclidea*, his mathematical philosophy, some well-fashioned mechanical inventions, and finally for the trouble he took to bring around the Protestant princes of the Empire to the last reform of the Almanac, the success of which he did not get to see, however. Mr Weigel, I say, communicated to his friends a certain demonstration of the existence of God, which in effect boiled down to this continued creation. And as he was accustomed to draw parallels between counting and reasoning – consider his Arithmetical Ethics (*rechenschaftliche Sittenlehre*)¹⁹² – he said that the foundation of his demonstration was this beginning of the Pythagorean Table, *once one is one*. These repeated unities were the moments of the existence of things, each of which depends on God, who resuscitates, so to speak, all things outside himself at each moment. And as they fall away at each moment there must always be someone who resuscitates them, which can only be God. But a more exact proof is needed to call that a demonstration. One would have to prove that the creature always emerges from nothingness and immediately falls back into it; and it must be shown in particular that the privilege of enduring more than a moment by its nature belongs to the necessary being alone. The difficulties concerning the composition of the *continuum* also enter into this matter. For this dogma appears to resolve time into moments, whereas others regard moments and points as mere modalities of the continuum, that is, as extremities of the parts that can be assigned to it, and not as constituent parts. Here is not the place to enter into this labyrinth.

§385 (referenced in M47)

What can be said for certain on the present subject is that the creature depends continually on the divine operation, and that it depends on that no less after its beginning than in the beginning. This dependence implies that it would not continue to exist if God did not continue to act; in a word, that this action of God is free. For if it were a necessary emanation, as is that of the properties of the circle, which flow from its essence, it would have to be said that God, from the outset, produced the creature necessarily, or else it

¹⁹² Erhard Weigel, *Arithmetische Beschreibung der Moral-Weisheit* (Jena, 1674).

would have to be shown how, in creating it once, he imposed on himself the necessity of conserving it. Now there is nothing to prevent this conserving action from being called production, and even creation, if one wants, for as the dependence is as great afterwards as in the beginning, the extrinsic denomination of being new or not does not change the nature of that action.

§386 (referenced in M47 and M49)

Therefore let us grant that, in such a sense, conservation is a continued creation, and let us see what Mr Bayle seems to infer from it (p. 771), following the author of the *Avis sur la Tableau du Socinianisme*, against Mr Jurieu: “It seems to me” (says this author) “that it must be concluded that God does everything, and that in all created beings there are no primary or secondary or even occasional causes, as it is easy to prove. For at this moment of my speaking, I am such as I am, with all my circumstances, with such-and-such thought, such-and-such action, sitting or standing; but if God creates me in this moment such as I am, as one must necessarily explain it in this system, he creates me with such-and-such thought, such-and-such action, such-and-such motion and such-and-such determination. It cannot be said that God first creates me, and that once I am created he produces with me my motions and my determinations. That is untenable for two reasons. The first is that, when God creates me, or conserves me at this instant, he does not conserve me as a being without form, like a kind, or another of the universals of logic. I am an individual; he creates me and conserves me as such, being all that I am in this instant, along with all the things that depend upon me. The second reason is that with God creating me in this instant, if it is said that afterwards he produces my actions along with me, then another instant for action will necessarily have to be conceived.¹⁹³ Now this would be two instants, whereas we are assuming only one. It is therefore certain, on this hypothesis,¹⁹⁴ that creatures have neither more connection nor more relation with their actions than they had with their production at the first moment of their first creation.”¹⁹⁵ The author of this *Avis* draws out very harsh consequences from this, which one can imagine, and says at the end that a debt of gratitude would be owed to anyone who could teach supporters of this system how to extract themselves from these frightful absurdities.

¹⁹³ Leibniz here omitted a sentence that is present in Jurieu and Bayle: ‘For before acting, one must exist.’

¹⁹⁴ Leibniz here omitted part of the clause that is present in Jurieu and Bayle: ‘in this hypothesis, that God does everything’.

¹⁹⁵ Bayle, *Réponse aux Questions d’un Provincial*, III, pp. 771–2. This entire passage is in fact Bayle’s quotation of Jaquelot, *Avis sur la Tableau du Socinianisme*, pp. 36–7.

§387 (referenced in M47)

Mr Bayle pushes this even further. ‘You know’, he says (p. 775), ‘that it is demonstrated in Scholastic works’ (he cites Arriaga, Disputation 9, Physics, section 6 and especially sub-section 3) ‘that the creature can be neither the total cause nor the partial cause of its conservation, for if it were, it would exist before existing, which is contradictory. You know that the reasoning goes like this: that which conserves itself, acts; now that which acts, exists, and nothing can act before having its complete existence; therefore, if a creature conserved itself, it would act before existing. This argument is not based upon probabilities, but upon the first principles of metaphysics: *non entis nulla sunt accidentia*,¹⁹⁶ and *operari sequitur esse*,¹⁹⁷ which are as clear as daylight. Let us go further. If creatures concurred with God (by which is meant an active concurrence and not a concurrence by a passive instrument) to conserve themselves, they would act before being: that has been demonstrated. Now if they concurred with God for the production of some other thing, they would also act before being; it is therefore as impossible that they concur with God for the production of some other thing (such as local movement, an affirmation, a volition, entities really distinct from their substance, it is claimed) as for their own conservation. And since their conservation is a continued creation, and since all men in the world must admit that they cannot concur with God in the first moment of their existence,¹⁹⁸ either to produce themselves or to give themselves any modality, since that would be to act before being (note that Thomas Aquinas and many other Scholastics teach that if the angels had sinned at the first moment of their creation then God would be the author of the sin; see the Feuillant Pierre de St Joseph, p. 318, et seqq., of the *Suavis Concordia Humanae Libertatis*:¹⁹⁹ it is a sign that they acknowledge that at the first instant the creature cannot act in any way whatsoever), it obviously follows that they cannot concur with God in any of the following moments, either to produce themselves or to produce some other thing. If they could so concur at the second moment of their life, nothing would prevent them from being able to concur at the first moment.’²⁰⁰

¹⁹⁶ ‘non-being has no accidents’ or ‘a non-entity has no accidents’.

¹⁹⁷ ‘action follows being’.

¹⁹⁸ Leibniz’s quotation of this clause is not accurate; Bayle actually wrote: ‘and since Mr Jaquelot and all the men in the world who accept the creation must admit that they cannot concur with God in the first moment of their existence’.

¹⁹⁹ Pierre de St Joseph, *Suavis concordia humanae libertatis cum immobili certitudine praedestinationis et efficacia auxiliorum gratiae* (La Coruña, 1639).

²⁰⁰ Bayle, *Réponse aux Questions d’un Provincial*, III, pp. 775–6.

§388 (referenced in M47)

This is what the response should be to these arguments: let us suppose that the creature is produced anew at each instant; let us grant also that the instant excludes all priority of time, being indivisible. But let us note that it does not exclude priority of nature, or what is called precedence *in Signo rationis*,²⁰¹ and that this is sufficient. The production, or action, whereby God produces, is anterior by nature to the existence of the creature that is produced; the creature taken in itself, together with its nature and its necessary properties, is anterior to its accidental affections and its actions, and yet all these things are found in the same moment. God produces the creature in accordance with the demand of the preceding instants, following the laws of his wisdom; and the creature operates in accordance with that nature which he gives it by always creating it. The limitations and imperfections arise in it through the nature of the subject, which limits God's production: this is the consequence of the original imperfection of creatures. But vice and crime arise in it through the free internal operation of the creature, insofar as it can happen in the instant, and they become discernible through repetition.

§389 (referenced in M47)

This precedence of nature is common in philosophy; it is thus that one says God's decrees have an order among themselves. And when one attributes to God (as is reasonable to do) the understanding of the arguments and conclusions of creatures, such that all their demonstrations and all their syllogisms are known to him, and are found eminently within him, it is evident that there is an order of nature in the propositions or truths he knows, without any order or interval of time, which would make him advance in knowledge, and pass from premises to the conclusion.

§390 (referenced in M47)

In the arguments we have just related I find nothing which cannot be satisfied by the following consideration: when God produces the thing he produces it as an individual, and not as a universal of logic (I admit); but he produces its essence before its accidents, its nature before its operations, following the priority of their nature, and *in signo anteriore rationis*.²⁰² From that it is evident how the creature can be the true cause of sin, without being prevented by God's conservation, which operates on the preceding state of the same creature, in order to follow

²⁰¹ 'in the order of nature'.

²⁰² 'in the priority of nature'.

the laws of his wisdom, notwithstanding the sin, which from the outset will be produced by the creature. But it is true that God would not have created the soul in the beginning in a state in which it would have sinned at the first moment, as the Scholastics have quite rightly observed, for there is nothing in the laws of his wisdom that could have led him to do that.

§391 (referenced in M47)

This law of wisdom means also that God reproduces the same substance, the same soul. And this is the response that could have been given by the Abbé whom Mr Bayle introduces in his *Dictionnaire* article on Pyrrho, note B (p. 2432). This wisdom produces the connection of things. I therefore grant that the creature does not concur with God in order to conserve itself (in the manner in which conservation has just been explained), but I do not see anything to prevent it from concurring with God for the production of something else, and particularly for the production of its internal operation, as would be thought or a volition, things really distinct from the substance.

§395 (referenced in M47)

As for the so-called creation of accidents, who does not see that no creative power is needed in order to change place or shape, to form a square or an oblong, or some other shape assumed by a battalion by the movement of the soldiers who are taking part in a drill; any more than to form a statue by removing some pieces from a block of marble, or to make some figure in relief, by changing, decreasing, or increasing a piece of wax? The production of modifications has never been called *creation*, and to say that it is it is to misuse terms to scare the world. God produces substances from nothing, and substances produce accidents by the changes of their limits.

§396 (referenced in M11)

As for souls or substantial forms, Mr Bayle is right to add ‘that there is nothing more inconvenient for those who accept substantial forms than the objection that they could not be produced except by a genuine creation, and that the Scholastics are pitiable when they try to respond to this’.²⁰³ But there is nothing more convenient for me and for my system than this very objection, since I maintain that all souls, entelechies or primitive forces, substantial forms, simple substances, or monads, no matter what name they may be called, cannot naturally arise or perish. And I conceive

²⁰³ Bayle, *Réponse aux Questions d’un Provincial*, III, p. 779.

the qualities or derivative forces, or what are called accidental forms, as modifications of the primitive entelechy, in the same way that shapes are modifications of matter. This is why these modifications are perpetually changing, while the simple substance remains.

§397 (referenced in M74 and M82)

I have shown above (part I, §86 and onwards) that souls cannot arise naturally, or be derived from one another, and that our soul must either be created or pre-existent. I have even shown a certain middle way between a creation and an outright pre-existence by finding it appropriate to say that the soul that pre-existed in the seeds from the beginning of things was only sentient, but that it was elevated to the superior level, which is that of reason, when the man, to whom this soul should belong, was conceived, and when the organised body, always accompanying this soul from the beginning, although undergoing many changes, was determined to form the human body. I have also concluded that this elevation of the sentient soul (which makes it reach what is essentially a more sublime level, namely reason) can be attributed to the extraordinary operation of God. Nevertheless it will be good to add that I would prefer to do without a miracle in the generation of man, just as I would in the generation of other animals. And it will be possible to explain the generation of man by keeping in mind that in this great number of souls and animals, or at least of living organic bodies which exist in seeds, only those souls destined to one day attain human nature contain the reason that will one day be apparent in them, and that only the organic bodies of these souls are preformed and predisposed to one day take on human form; the other small animals or seminal living beings, in which nothing of this sort is pre-established, are essentially different from them, and have an inferior constitution. This production is a kind of *traduction*, but more tractable than the one commonly taught; it does not draw one soul from another soul, but only the animate from the animate, and it avoids the frequent miracles of a new creation, which would make a new and pure soul enter into a body which must corrupt it.

§398 (referenced in M47)

I am, however, of Reverend Father Malebranche's view that, in general, creation, properly understood, is not as difficult to admit as might be thought, and that it is included in some way in the notion of the dependence of creatures. 'How stupid and ridiculous are Philosophers!' (he exclaims in *Méditations Chrétiennes et Métaphysiques*, IX.III), 'they imagine that creation is impossible, because they do not understand that God's power is great enough to make something from nothing. But do they understand

any better how God's power is capable of moving a straw?'²⁰⁴ He adds, again very well (IX.V): 'If matter were uncreated, God could not move it or form anything out of it. For God cannot move matter, or arrange it wisely, unless he knows it. Now God cannot know it if he does not give it being, since he can derive his knowledge only from himself. Nothing can act on him, or enlighten him.'²⁰⁵

§400 (referenced in M11 and M62)

It must be the case that the force of these proofs, which Bayle praises, is not what he thinks, since they would prove too much: they would make God the author of sin. I admit that the soul cannot move the organs by a physical influence, for I believe that the body must have been formed in advance in such a way that it does in time and place that which corresponds to the volitions of the soul, although it is nevertheless true that the soul is the principle of the operation. But to say that the soul does not produce its thoughts, its sensations, its feelings of pain and pleasure, this is something for which I see no reason. In my view, every simple substance (that is, every true substance) must be the true immediate cause of all its internal actions and passions; and, speaking in metaphysical rigour, it does not have any others besides the ones it produces. Those who are of a different view, and who make God the only agent, needlessly burden themselves with expressions from which they will find it very difficult to distance themselves without offending religion, leaving aside the fact that they absolutely offend reason.

§401 (referenced in M23)

Yet here is the basis of Mr Bayle's argument: he says that we do not do that which we know not how it is done. But it is a principle which I do not grant him. Let us listen to his words (p. 767 and onwards). 'It is a surprising thing that nearly all philosophers (one must except the interpreters of Aristotle, who have admitted a universal intellect, distinct from our soul and the cause of our intellectual thoughts. See in the *Dictionnaire historique et critique*, note E of the article 'Averroes') have thought, as common folk do, that we actively form our ideas. Yet where is the man who does not know on the one hand that he is absolutely ignorant of how ideas are made, and on the other hand, that he could not sew two stitches if he were ignorant of how one should sew? Is it that sewing two stitches is in itself a task more difficult than painting a rose in one's mind from the first moment it

²⁰⁴ Nicolas Malebranche, *Méditations Chrétiennes et Métaphysiques* (Lyon, 1707, new ed.), pp. 182–3.

²⁰⁵ Malebranche, *Méditations Chrétiennes et Métaphysiques*, p. 184.

came into view and without ever having learned this kind of painting? On the contrary, does it not seem that this mental imagery is in itself a work more difficult than drawing the shape of a flower on canvas, which we cannot do without having learned how to do it? We are all convinced that a key would be of no use to us for opening a chest if we were ignorant of how the key should be used, and yet we imagine that our soul is the efficient cause of the movement of our arms, even though it does not know either the whereabouts of the nerves which must be used for this movement, or where should go the animal spirits which have to flow into these nerves. Every day we have the experience that the ideas we wish to recall do not come, and that they present themselves when we are no longer thinking about it. If that does not stop us thinking that we are the efficient cause, how will we rely on the proof of feeling, which seems so demonstrative to Mr Jaquelot? Is not the authority over our ideas more often much weaker than the authority over our volitions? If we were to count properly, we would find in the course of our life more velleities than volitions, that is, more evidence of the servitude of our will than of its rule. How many times does one and the same man not experience that he cannot carry out a certain act of will (for example, an act of love for a man who had just offended him; an act of scorn for a fine sonnet he had composed; an act of hatred for a mistress; an act of approval for a ridiculous epigram. Note that I am speaking only of internal acts, expressed by an “I will”, like “I will scorn”, “I will approve”, etc.) even if there were a hundred pistoles to be gained immediately, and he ardently wished to gain these hundred pistoles, and he were inspired by the ambition to convince himself by a proof drawn from experience that he is the master in his own house?²⁰⁶

§403 (cited in M63 and M74)

Here is a strange way of reasoning! What necessity is there that one always know how what one does is done? Do salts, metals, plants, animals, and a thousand other animate or inanimate bodies, know how what they do is done, and do they need to know it? Must a drop of oil or fat understand geometry in order to become round on the surface of water? Sewing stitches is something different: as one acts for an end, one must know the means to it. But we do not form our ideas because we will to do so: they are formed in us, they are formed by us, not as a consequence of our will, but in accordance with our nature and the nature of things. The foetus forms itself into the animal, and a thousand other wonders of nature are produced by a certain *instinct* that God has placed there, that is, in accordance with *divine preformation*, which has made these admirable automata, appropriate

²⁰⁶ Bayle, *Réponse aux Questions d'un Provincial*, III, pp. 767–8.

for mechanically producing such beautiful effects; because of this, it is easy to conclude in the same way that the soul is a spiritual automaton, even more admirable, and that it is through divine preformation that it produces these beautiful ideas, in which our will has no part and to which our art cannot attain. The operation of spiritual automata, that is, of souls, is not mechanical, but it contains eminently whatever beauty there is in mechanism. The motions developed inside bodies are concentrated in the soul by representation, just as in an ideal world, which expresses the laws of the actual world and their consequences, with this difference from the perfect ideal world which is in God: that the majority of perceptions in the others are only confused. For it should be known that every simple substance embraces the universe through its confused perceptions or feelings, and that the succession of these perceptions is regulated by the particular nature of this substance, but in a way which always expresses the whole of universal nature; and every present perception tends to a new perception, just as every motion that it represents tends to another motion. But it is impossible that the soul can know distinctly its whole nature, and apperceive how this innumerable number of little perceptions, piled or rather concentrated together, is formed from it; for that, it would have to know perfectly the whole universe which is embraced in it, that is, it would have to be a God.

§414 (referenced in M53)

Theodorus made a journey to Athens: he was ordered to spend the night in the temple of the Goddess. While dreaming, he found himself transported to an unknown land. There was there a palace of incredible magnificence and immense size. The Goddess *Pallas* appeared at the gate, surrounded by rays of dazzling majesty.

*Qualisque videri
Coelicolis et quanta solet.*²⁰⁷

She touched Theodorus' face with an olive branch that she held in her hand. And thereupon he became able to withstand the divine radiance of the daughter of Jupiter, and of all that she had to show him. Jupiter, who loves you (*she said to him*), has commended you to me to be instructed. You see here *the Palace of Fates*, over which I have guardianship. There are here representations not only of what does happen, but also of everything that is possible. And Jupiter, having surveyed them before the beginning

²⁰⁷ 'As lovely and as tall as she appears whenever she is seen by heaven's beings'. A quotation from Virgil's *The Aeneid* II.590–1. The English translation is from *The Aeneid of Virgil*, trans. Allen Mandelbaum (New York: Bantam Books, 1981), p. 48.

of the existing world, sorted the possibilities into worlds, and chose the best of all. He sometimes comes to visit these places in order to give himself the pleasure of replaying things and of renewing his own choice, in which he cannot fail to take pleasure. I have only to say the word and we shall see a whole world that my father could have produced, in which will be represented everything that can be asked about it; and in this way it is possible to know even what would happen if such or such a possibility should exist. And whenever the conditions are not sufficiently determinate, there will be as many such worlds differing from each another as one would wish, which will answer the same question differently, in as many ways as possible. You learned geometry when you were still young, like all well brought up Greeks. Therefore you know that when the conditions of a required point do not sufficiently determine it, and there is an infinity of them, they all fall into what the geometers call a locus, and this locus at least (which is often a line) will be determinate. Thus you can imagine an ordered series of worlds, which will contain each and every one the matter in question, and will be varied in its circumstances and consequences. But if you posit a state of affairs that differs from the actual world only in one single definite thing, and in the consequences of it, a certain determinate world will answer you. These worlds are all here, that is, in ideas. I will show you some, in which will be found not absolutely the same Sextus you have seen (that is not possible, since he carries with him always that which he will be) but similar Sextuses, who possess everything you already know of the true Sextus, but not everything that is already in him without one noticing it, nor consequently everything that will yet happen to him. You will find in one world a very happy and exalted Sextus, in another a Sextus content with a mediocre status, Sextuses of every kind and in an infinity of ways.

§415 (referenced in M53)

At that point *the Goddess* led Theodorus into one of the rooms: when he was there, it was no longer a room, it was a world,

*Solemque suum, sua sidera norat.*²⁰⁸

At *Pallas'* order, Dodona was seen to appear along with the Temple of Jupiter and *Sextus*, who came out of it: he was heard to say that he would obey the god. And then he goes to a city lying between two seas, similar to Corinth. There he buys a small garden; while cultivating it he finds a treasure, and becomes a rich man; loved and respected, he dies at a great age, beloved of the whole city. *Theodorus* saw the whole of *Sextus'* life

²⁰⁸ 'And he knew his own sun and stars'. A slight misquoting of Virgil's *Aeneid* VI.641.

as in a single glance, and as in a theatre performance. There was a great volume of writings in this room: Theodorus could not prevent himself from asking what that meant. It is the history of this world which we are now visiting, *the Goddess said to him*: it is the book of its fates. You have seen a number on the forehead of Sextus: look in this book for the passage it indicates. *Theodorus* looked for it, and found there the history of Sextus given more amply than the abbreviated version he had seen. Put your finger on whichever line you please, *Pallas said to him*, and you will see actually represented, in all its detail, that which the line roughly indicates. He obeyed, and he saw appear all the particularities of a part of this Sextus' life. They passed into another room, and there was another world, another book, another Sextus, who, coming out of the temple, and resolved to obey Jupiter, goes to Thrace. There he marries the daughter of the king, who had no other children, and succeeds him. He is adored by his subjects. They went into other chambers, and always saw new scenes.

§416 (referenced in M53)

The rooms were arranged as a pyramid: they became ever more beautiful the further up one went towards the summit, and they represented more beautiful worlds. Finally they came to the uppermost one, which was at the top of the pyramid, and which was the most beautiful of all: for the pyramid had a beginning, but the end could not be seen. It had an apex, but no base, which kept on increasing to infinity. That is (as *the Goddess* explained) because among an infinity of possible worlds there is the best of all, otherwise God would not have been determined to create any of them; but there is not a single one of them which does not have even less perfect worlds below it: this is why the pyramid descends to infinity. *Theodorus*, entering this uppermost room, found himself in raptures, and he needed the Goddess to come to his aid, a drop of a divine liquid placed on his tongue restored him. He was beside himself with joy. We are in the true actual world (*said the Goddess*), and you are at the source of happiness. Here is what Jupiter has in store for you, if you continue to serve him faithfully. Here is Sextus, such as he is and actually will be. He comes out of the temple full of anger, he scorns the counsel of the gods. You see him going to Rome, putting everything into confusion, violating the wife of his friend. There he is chased out with his father, beaten, wretched.²⁰⁹ If Jupiter had placed here a Sextus happy in Corinth or King in Thrace, it would be no longer this world. And yet he could not have failed to choose this world, which surpasses all the others in perfection, which forms the apex of the pyramid; otherwise Jupiter would have renounced his wisdom,

²⁰⁹ These are events related in Livy's *Ab urbe condita*, I.53, I.58.

he would have banished me, me his daughter. You see that my father has not made Sextus wicked: he was so from all eternity, he was so always freely. My father has only granted Sextus the existence which his wisdom could not refuse to the world in which Sextus is included; he made Sextus pass from the region of possibles to that of actual beings. Sextus' crime serves for great things: it makes Rome free, there will arise from it a great empire, which will set great examples. But that is nothing in relation to the whole of this world, whose beauty you will admire when, after a happy passage from this mortal state to another, better one, the Gods will have made you capable of knowing it.

Abridgement, objection 1 (referenced in M55)

First objection

Whoever does not take the best course is lacking in power, or knowledge, or goodness.

God has not taken the best course in creating this world.

Therefore God was lacking in power, or knowledge, or goodness.

Response

The minor is here denied, that is, the second premise of this syllogism, and the opponent proves it by this

Prosyllogism

Whoever makes things in which there is evil, which could be made without any evil, or whose production could be omitted, does not take the best course.

God has made a world in which there is evil; a world, I say, which could be made without any evil, or whose production could be omitted absolutely.

Therefore God has not taken the best course.

Response

The minor of this prosyllogism is granted, for it must be admitted that there is evil in the world God has made, and that it was possible to make a world without evil, or even not to create a world, since its creation depended on the free will of God. But the major is denied, that is, the first of the prosyllogism's two premises. One could be content with asking for its proof. But in order to bring more clarification to the matter, this denial is justified by pointing out that the best course is not always the one which tends to avoid evil, since it may be the case that the evil is accompanied by a greater good. For example, an army general will prefer a great victory with

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a minor injury to an outcome without injury and without victory. That has been shown in greater detail in this work by making it clear, through instances taken from mathematics and elsewhere, that an imperfection in the part may be required for a greater perfection in the whole. This follows the opinion of St Augustine, who said a hundred times that God has permitted evil in order to derive a good from it, that is, a greater good, and the opinion of Thomas Aquinas (*In quattuor libros sententiarum*, book 2, distinction 32, q1a1) that the permission of evil tends towards the good of the universe. It has been shown that among the ancients Adam's Fall was called *felix culpa*, a happy sin, because it had been atoned for with enormous benefit by the incarnation of the Son of God, who gave to the universe something more noble than anything there would have been among created beings if the Fall had not occurred. And to make this better understood, it was added, following a number of fine authors, that it was in accordance with order and the general good that God gave certain creatures the opportunity to exercise their freedom, even when he foresaw that they would turn to evil, which he could put right very easily; because it was not fitting to prevent sin, God always acts in an extraordinary way. Therefore, to destroy the objection it is sufficient to show that a world with evil could be better than a world without evil. But in the work this has been pushed even further, and it has even been shown that this universe must actually be better than every other possible universe.

Abridgement, objection 2 (referenced in M85)

Second objection

If there is more evil than good in intelligent creatures, there is more evil than good in the whole of God's work.

Now there is more evil than good in intelligent creatures.

Therefore there is more evil than good in the whole of God's work.

Response

The major and the minor of this conditional syllogism are denied. As for the major, it is not granted, because this supposed inference from part to whole, from intelligent creatures to all creatures, supposes tacitly and without proof that creatures devoid of reason cannot be compared with those that have it, or be taken into account. But why may it not be the case that the surplus of good in the non-intelligent creatures, which fill the world, balance out and even incomparably surpass the surplus of evil in rational creatures? It is true that the value of the latter is greater, but on the other hand the others exist in incomparably greater numbers, and it may be that the proportion of number and quantity surpasses that of value and quality.

As for the minor, this should not be granted either, that is, it should not be granted that there is more evil than good in intelligent creatures. There is no need even to admit that there is more evil than good in humankind, because it may be the case, and it is even very reasonable, that the glory and the perfection of the blessed be incomparably greater than the misery and imperfection of the damned, and that here the excellence of the total good in the smaller number exceeds the total evil in the greater number. Insofar as it is proper to these creatures, the blessed draw near to divinity by means of a Divine Mediator, and make progress in good that is impossible for the damned to make in evil, even if they should come as near as is possible to the nature of demons. God is infinite, and the demon is limited; good can go and does go to infinity, whereas evil has its limits. Therefore, it may be – and this is credible – that in the comparison between the blessed and the damned, the opposite happens of what we said could happen in the comparison between intelligent and non-intelligent creatures, that is, it may be that in the comparison between the happy and the wretched, the proportion of degrees surpasses that of numbers, and in the comparison between intelligent and non-intelligent creatures the proportion of numbers is greater than that of values. One is entitled to suppose that a thing is possible as long as it is not proved to be impossible, and indeed what is put forward here surpasses supposition.

But in the second place, even if it were granted that there is more evil than good in humankind, there is still every reason not to grant that there is more evil than good in all intelligent creatures. For there is an inconceivable number of genies, and perhaps also of other rational creatures, and an opponent cannot prove that in the whole City of God, composed both of genies and rational animals without number and of an infinity of kinds, the evil exceeds the good. And although, in order to respond to an objection, one does not need to prove that a thing exists when its possibility alone is sufficient, in this present work it is nevertheless shown that it is a consequence of the supreme perfection of the sovereign of the universe that the kingdom of God be the most perfect of all possible states or governments, and that consequently the little evil that there is must be required for the full complement of the immense good found there.

Abridgement, objection 3 (referenced in M33 and M51)

Third objection

If it is always impossible not to sin, it is always unjust to punish.
Now it is always impossible not to sin, or, all sin is necessary.
Therefore it is always unjust to punish.

The minor of this is proved thus:

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First prosyllogism

Everything predetermined is necessary.

Every event is predetermined.

Therefore every event (and consequently every sin too) is necessary.

This second minor is also proved like this:

Second prosyllogism

That which is future, which is foreseen, which is involved in causes, is predetermined.

Every event is such.

Therefore every event is predetermined.

Response

The conclusion of the second prosyllogism, which is the minor of the first, is granted in a certain sense; but the major of the first prosyllogism will be denied, that is, that everything predetermined is necessary; understanding by *the necessity* to sin, for example, or by the impossibility of not sinning, or of not doing some action, the necessity with which we are concerned, that is, the necessity which is essential and absolute, and which destroys the morality of action and the justice of punishments. For if someone meant a different necessity or impossibility, that is, a necessity which is only moral or only hypothetical (which will be explained shortly) it is evident that one would deny him the major of the objection itself. One might content oneself with this response, and demand the proof of the proposition denied, but in this work there has been an attempt to explain the procedure adopted in order to better clarify the issue and to throw more light on this whole matter, by explaining the necessity that must be rejected and the determination that must take place. The fact is that *the necessity* contrary to morality, which must be avoided, and which would make punishment unjust, is an insuperable necessity, which would render all opposition useless, even if one wished with all one's heart to avoid the necessary action, and made all possible efforts to achieve that. Now it is evident that this is not applicable to voluntary actions, since one would not do them if one did not want to do so. Thus their prevision and predetermination is not absolute, but it presupposes the will: if it is certain that one will do them, it is no less certain that one will wish to do them. These voluntary actions and their outcomes will not happen no matter what one does, or whether one wills them or not, but because one will do, and because one will want to do, that which leads to them. And that is contained in prevision and predetermination, and even forms the reason for them. The necessity of such events is called conditional or

hypothetical, or even necessity of consequence, because it presupposes the will and the other *requisites*. Whereas the necessity which destroys morality, and which makes punishment unjust and reward useless, is in things which will be so no matter what one does and wills to do; and in a word, it is in what is essential, and this is what is called an absolute necessity. Therefore with regard to what is absolutely necessary, it is useless to pass injunctions or make commandments, to propose penalties or prizes, or to blame or to praise, since it will be the case either way. Whereas in voluntary actions, and in what depends on them, precepts backed with the power to punish and reward are very often effective, and are included in the order of causes which bring the action into existence. And it is for this reason that not only pains and effort but also prayers are useful, as God even had these prayers in mind before he organised things, having had the proper regard for them. This is why the precept that says *ora & labora* (pray and work) persists intact.²¹⁰ And not only those who claim, under the vain pretext of the necessity of events, that one can neglect the cares that affairs demand, but also those who argue against prayers, fall into what the ancients already referred to as the *lazy sophism*. Thus the pre-determination of events by their causes is precisely that which contributes to morality rather than destroying it, and causes incline the will without necessitating it. This is why *the determination* under consideration here is not a necessitation: it is certain (to the one who knows everything) that the effect will follow this inclination, but this effect does not follow it by a necessary consequence, that is, one whose contrary implies contradiction; and it is also by means of such an internal inclination that the will is determined, without there being any necessity. Suppose that one had the greatest passion in the world (for example, a raging thirst): you will grant me that the soul can find some reason for resisting it, even if it were only that of showing its power. Thus, even though one is never in a perfect indifference of equilibrium, and there is always a prevalence of inclination for the course one takes, this prevalence nonetheless never makes the resolution taken absolutely necessary.

Abridgement, objection 5 (referenced in M42)

Objection V

Whoever produces everything that is real in a thing, is its cause.
God produces everything that is real in sin.
Therefore God is the cause of sin.

²¹⁰ The expression 'ora et labora' is attributed to St Benedict, and is still the slogan of the Benedictine order.

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Response

One might be content to deny the major or the minor, because the term *real* allows for interpretations that can make these propositions false. But in order to better explain, a distinction will be made. *Real* means either that which is only positive, or else it also includes privative beings; in the first case, the major is denied, and the minor is granted; in the second case, then the opposite. It would be possible to limit oneself to that, but it is good to go further in order to explain this distinction. It has therefore been a pleasure to point out that every purely positive, or absolute, reality is a perfection, and that imperfection comes from limitation, that is, from the privative: for to limit is to block progress, or the further continuation. Now God is the cause of all perfections, and consequently of all realities, when they are considered as purely positive. But limitations or privations result from the original imperfection of creatures which limits their receptivity. It is as with a laden boat, which the river moves along more slowly or less slowly in relation to the weight it carries: thus its speed comes from the river, but the arrestment which limits this speed comes from the load. It has also been shown in the present work how the creature, in causing sin, is a deficient cause; how errors and evil inclinations arise from privation; and how privation is efficacious by accident. And I have justified the opinion of St Augustine (book 1, *Ad. Simplicianum*, q. 2) who explains (for example) how God hardens the soul, not by giving it something evil, but because the effect of his good impression is limited by the resistance of the soul, and by the circumstances which contribute to this resistance, so that he does not give it all the good that would overcome its evil.²¹¹ ‘Nec’ (he says) ‘ab illo erogatur aliquid quo homo fit deterior, sed tantum quo fit melior non erogatur’.²¹² But if God had willed to do more here, either he would have had to produce other natures of creatures or he would have had to perform other miracles to change their natures, which the best plan could not admit. It is as though the current of the river would have to be more rapid than its slope permits, or the boats less laden, if the boats should be made to go faster. And the original limitation or imperfection of creatures means that even the best plan of the universe cannot²¹³ be exempt from certain evils, albeit ones which must be turned to a greater good there. There are some disorders in the parts which wonderfully accentuate the beauty of

²¹¹ Augustine, *De diversis quaestionibus ad Simplicianum libri duo*, I.2.14.

²¹² Leibniz’s quotation is inexact; the line should be ‘ut non ab illo irrogetur aliquid quo sit homo deterior, sed tantum quo sit melior non erogetur’ (‘not that anything is imposed by him whereby a man is made worse, but only that he provides nothing whereby he becomes better’). Augustine, *De diversis quaestionibus ad Simplicianum libri duo*, I.2.15.

²¹³ In some later editions of the *Theodicy*, the sentence has some extra words here: ‘admit more goods, and cannot’. See G VI, p. 384.

the whole, just as certain dissonances, when appropriately used, render harmony more beautiful. But that depends on what has already been said in reply to the first objection.

Abridgement, objection 8 (referenced in M55)

Objection VIII

Whoever cannot fail to choose the best is not free.

God cannot fail to choose the best.

Therefore God is not free.

Response

The major of this argument is denied. It is rather true freedom, and the most perfect, to be able to make the best use of one's free choice, and to exercise this power always, without being diverted away from it either by external force or by internal passions, of which the former constitutes the slavery of bodies and the latter the slavery of souls. There is nothing less servile than to be always led to the good, and always by one's own inclination, without any constraint and without any displeasure. And it is nothing but a sophism to object that God therefore had need of external things. He creates them freely, but after he had proposed an end, which is to exercise his goodness, his wisdom determined him to choose the most appropriate means for obtaining this end. To call that a *need* is to take the term in an unusual sense, which purges it of all imperfection, somewhat as one does when one speaks of God's anger.

Seneca says somewhere that God commanded only once, but that he obeys always, because he obeys the laws that he willed to prescribe: *semel jussit, semper paret*.²¹⁴ But it would have been better if he had said that God always commands, and that he is always obeyed, for in willing he always follows the tendency of his own nature, and all other things always follow his will. And as this will is always the same, it cannot be said that he obeys only the will he had in the past. Nevertheless, although his will is always inexorable and is always directed at the best, the evil or the lesser good that he rejects is nonetheless possible in itself. Otherwise, the necessity of good would be geometrical (so to speak) or metaphysical, and entirely absolute, the contingency of things would be destroyed, and there would be no choice. But this kind of necessity, which does not destroy the possibility of the contrary, has this name only by analogy: it becomes real not through the essence of things alone, but through that which is outside

²¹⁴ 'He has commanded only once, but always obeys.' A misquoting of Seneca's *De Providentia* 5.8.

them and above them, namely through the will of God. This necessity is called moral necessity, because for the wise, what is necessary and what is due are equivalent things. And when this necessity always has its effect, as it truly has in the perfectly wise, that is, in God, it can be said that it is a happy necessity. The more that creatures approach this, the nearer they come to perfect bliss. Therefore this kind of necessity is not the kind one tries to avoid, and which destroys morality, rewards, and praises, because what it brings forth does not happen no matter what one does and wills, but because one wills it. And a will for which it is natural to choose well, most deserves to be praised; also, it brings its own reward with it, which is supreme happiness. And as this constitution of the divine nature gives a complete satisfaction to whomever possesses it, it is also the best and the most desirable for creatures which depend totally upon God. If God's will did not have as its rule the principle of the best, it would tend towards evil, which would be the worst, or else it would be in some way indifferent to good and evil, and guided by chance. But a will that would always let itself be guided by chance would hardly be better for the government of the universe than the fortuitous concourse of corpuscles, without there being any divinity. And even if God were to abandon himself to chance only in some cases, and in a certain way (as he would if he did not always tend entirely towards the best, and if he were capable of preferring a lesser good to a greater good, that is, an evil to a good, since that which prevents a greater good is an evil), he would be imperfect, as would be the object of his choice; he would not deserve our complete confidence; he would act without reason in such a case, and the government of the universe would be like certain games that make equal use of reason and chance. And all that shows that this objection made against the choice of the best perverts the notions of free and necessary, and represents the best itself to us as evil, which is malicious or ridiculous.

2. *THE PRINCIPLES OF NATURE AND GRACE, FOUNDED ON REASON* (1714)²¹⁵

(1) *Substance* is a being capable of action. It is simple or compound. *Simple substance* is that which has no parts. *Compound substance* is the combination of simple substances or *monads*. *Monas* is a Greek word which means unity, or that which is one.

Compounds or bodies are pluralities, and simple substances – lives, souls, minds – are unities. And there must be simple substances every-

²¹⁵ Source: Leibniz, *Principes de la Nature*, pp. 26–65.

where, because without simples there would be no compounds. And consequently, the whole of nature is full of life.

(2) As monads have no parts, they cannot be put together or come apart. They can neither begin nor end naturally, and consequently they last as long as the universe, which will change but will not be destroyed. They cannot have shapes, otherwise they would have parts, and as a result one monad, in itself and at a single moment, can be distinguished from another only by internal qualities and actions, which can be nothing other than its *perceptions* (that is, [a multitude of modifications in the unity produced by external things] the representations of the compound, or of that which is outside, in the simple), and its *appetitions* (that is, its tendencies to pass from one perception to another), which are the principles of change. For the simplicity of substance does not preclude a multiplicity of modifications, which must be found together in this same simple substance; and these modifications must consist in the variety of its relations to external things. Similarly, in a *centre* or point, although completely simple, there is an infinity of angles formed by the lines which meet in it.

(3) The whole of nature is a plenum. There are simple substances everywhere, effectively separated from each another *by their own actions which continually change their relations*. And each simple substance, or superior monad, which forms the centre of a compound substance (for example, an animal) and the principle of its *unity*, is surrounded by a *mass* composed of an infinity of other monads which constitute the *body* belonging to this central monad, corresponding to the states of the body by which it represents the things which are outside of it, in the manner of a centre. And this body is organic, when it forms a kind of automaton or natural machine, which is a machine not only as a whole, but also in its smallest observable parts. And as everything is connected because of the plenitude of the world, and as each body acts on every other body, more or less according to distance, and is affected by it through reaction, it follows that each monad is a living mirror, or a mirror that is endowed with internal action, representing the universe from its own point of view, and is as well-ordered as the universe itself. And the perceptions in the monad arise from one another by means of the laws of appetites, or *final causes of good and evil*, which consist in the observable perceptions, ordered or disordered; in the same way, the changes of bodies and of external phenomena arise from one another by means of the laws of *efficient causes*, that is, the laws of motion. Thus there is a perfect *harmony* between the perceptions of the monad and the motions of bodies, pre-established at the outset between the system of efficient causes and the system of final causes. And in this consists the agreement and the physical union of the soul and the body, with one being unable to change the laws of the other.

(4) Each monad, together with a particular body, makes a living substance. Thus not only is there life everywhere, joined to limbs or organs, but there are also infinite degrees of it in monads, some dominating more or less over others. But when the monad has organs adjusted in such a way that, through them, there is some contrast and distinction in the impressions they receive, and consequently in the perceptions which represent them (as, for example, when rays of light are concentrated and act with greater force because of the shape of the humours of the eye), this may amount to *sensation*, that is, to a perception accompanied by memory – in other words, a perception of which there remains for a long time a certain echo which makes itself heard on occasion. Such a living thing is called an *animal*, as its monad is called a *soul* [which is, so to speak, a dominant monad]. And when this soul is raised to the level of *reason*, it is something more sublime, and is counted as a mind, as will soon be explained.

It is true that animals are sometimes in the condition of simple living things and their souls in the condition of simple monads, namely when their perceptions are not distinguished enough to be remembered, as happens in a deep, dreamless sleep, or in a fainting spell [and may happen in the state called death]. But in animals, perceptions which have become entirely confused must be recovered, for reasons I shall soon give [otherwise they would not be in keeping with order, and consequently they would not represent the universe, or all proceed with all possible order] (§12). Thus it is good to draw a distinction between *perception*, which is the internal state of the monad representing external things, and *apperception*, which is the *consciousness* or the reflective knowledge of this internal state, which is not given to all souls, nor at all times to the same soul. And it is for want of this distinction that the Cartesians have fallen short, by giving no thought to perceptions which are not apperceived, just as common folk give no thought to insensible bodies. This is also what has made these same Cartesians believe that minds alone are monads and that there are no souls in beasts, let alone other *principles of life*. And while they have strayed too far from the common opinion of men by denying sensation to animals, they have, on the other hand, too much indulged the prejudices of the vulgar, by confusing a long *stupor*, which arises from a great confusion of perceptions, with a *death*, in the rigorous sense of the term, in which all perception would cease. This has confirmed the ill-founded belief in the destruction of some souls, and the pernicious view of some so-called free-thinkers, who have disputed the immortality of ours.

(5) In the perceptions of animals there is a connection which has some resemblance to reason, but it is based only in the memory of facts or *effects*, and not at all in the knowledge of *causes*. It is for this reason that a dog runs away from the stick with which he has been beaten, because memory

represents to him the pain that the stick has caused him. And men, insofar as they are empiricists, that is, in three-quarters of their actions, act only as beasts do. For example, we expect day to dawn tomorrow because we have always experienced it to be this way: it is only an astronomer who anticipates it through reason, and even this prediction will ultimately fail, when the cause of daylight, which is by no means eternal, ceases.

But *true reasoning* depends on necessary or eternal truths, as are the truths of logic, [metaphysics,] numbers, and geometry, which make the connection of ideas indubitable and the inferences infallible. Animals in which these inferences are not observed are called *beasts*; but those which know these necessary truths are properly called *rational animals*, and their souls are called *minds*. These souls are capable of performing acts of reflection, and of thinking about what is called *I*, substance, soul, mind: in short, things and truths which are immaterial. And it is this which makes us capable of the sciences, or of demonstrative knowledge.

(6) The researches of the moderns have taught us – and reason confirms this – that the living things whose organs are known to us, that is, plants and animals, do not come from a putrefaction or chaos, as the ancients believed, but from *pre-formed* seeds, and consequently from the transformation of pre-existing living things.

There are little animals in the seeds of large ones, and by means of conception they take on a new integument, which they appropriate, and which gives them the means to nourish themselves and to grow, in order to move on to a larger stage, and bring about the propagation of the large animal. It is true that the souls of human spermatic animals are not rational and become so only when conception determines that these animals are to have human nature. And as animals generally are not born entirely in conception, or *generation*, neither do they perish entirely in what we call *death*. For it is reasonable that, in the order of nature, what does not begin naturally does not end naturally either. Thus, casting off their mask or their rags, they merely return to a smaller stage, on which, however, they can be as sensible and as well-ordered as on the greater one. And what has just been said about large animals also holds good in the generation and death of spermatic animals themselves; that is, they are the enlargements of other, smaller spermatic animals, in relation to which they may be considered large; for in nature, everything proceeds to infinity.

Thus not only souls but animals too are ingenerable and imperishable: they are only developed, enveloped, reclothed, unclothed, transformed. Souls never leave their body entirely, and do not pass from one body into another body which is entirely new to them. There is no *metempsychosis*, but there is *metamorphosis*. Animals change, acquiring and losing only parts. In nutrition this happens gradually, and by small insensible

particles, though continually, while in conception and in death, which make animals acquire or lose a great deal all at once, it happens suddenly, noticeably, though rarely.

(7)²¹⁶ Until now we have spoken only as *physicists*; now we must rise to *metaphysics*, by making use of the *great principle*, not commonly used, which holds *that nothing takes place without sufficient reason*, that is, that nothing happens without it being possible for one who has enough knowledge of things to give a reason which is sufficient to determine why it is thus and not otherwise. With this principle in place, the first question we are entitled to ask will be: *why is there something rather than nothing?* For nothing is simpler and easier than something. Moreover, supposing that things must exist, it must be possible to give a reason *why they must exist in this way* and not otherwise.

(8) Now this sufficient reason for the existence of the universe cannot be found in the series of contingent things, that is, of bodies, and of their representations in souls. For since matter is in itself indifferent to motion and to rest, and to one motion rather than another, there cannot be found in it the reason for motion, let alone the reason for a particular motion. And although the present motion in matter arises from the preceding one, and that one from a preceding one also, we are no further forward no matter how far back we go, for the same question always remains. Thus it must be the case that the sufficient reason, which has no need for any other reason, lies outside this series of contingent things, and is found in a substance which is the cause of this series, and which is a necessary being, bearing the reason for its existence within itself. Otherwise we would not yet have a sufficient reason, whereby we could stop. And this final reason of things is called *God*.

(9) [This supreme substance must be simple] [This simple, primitive substance must be wise] This simple original substance must include eminently the perfections contained in the derivative substances which are effects of it. Thus it will have perfect power, knowledge, and will; that is, it will have omnipotence, omniscience, and a supreme goodness. And as *justice*, taken very generally, is nothing other than goodness in conformity with wisdom, it must clearly be the case that there is also a supreme justice in God. The reason which has made things exist through him also makes them depend on him for their existence and operation; and they are continually receiving from him that which endows them with some perfection, though whatever imperfection remains in them comes from the essential and original limitation of the created thing.

²¹⁶ In the original drafts, the entire text was divided into just two chapters rather than separate numbered sections, with the second chapter starting here.

(10) It follows from the supreme perfection of God that he has chosen the best possible plan in producing the universe, in which there is the greatest variety together with the greatest order; the best arranged situation, place, and time; the greatest effect produced by the simplest ways; the most power, the most knowledge, the most happiness and goodness in creatures which the universe could allow. For as all possible things claim existence in God's understanding in proportion to their perfections, the result of all these claims must be the most perfect actual world which is possible. If this were not so, it would not be possible to explain why things have turned out this way rather than otherwise.

(11) The supreme wisdom of God has made him choose above all the *laws of motion* that are best adjusted and most fitted to abstract or metaphysical reasons. There is conserved the same quantity of total and absolute force, or action, the same quantity of relative force, or reaction, and finally, the same quantity of directive force.²¹⁷ Moreover, action is always equal to reaction, and the whole effect is always equivalent to its full cause. And it is surprising that these laws of motion discovered in our day, some of which I have discovered, cannot be explained by the consideration of *efficient causes* or of matter alone. For I have found that we must have recourse to *final causes*, and that these laws do not depend upon the *principle of necessity*, as do logical, arithmetical, and geometrical truths, but upon the *principle of fittingness*, that is, on the choice of wisdom. And this is one of the most effective and evident proofs of the existence of God, for those who are able to go further into these matters.

(12) From the perfection of the supreme author it also follows that not only is the order of the whole universe the most perfect possible, but also that each living mirror which represents the universe according to its own point of view, that is, each *monad*, each substantial centre, must have its perceptions and its appetites regulated in the best way which is compatible with all the rest. From which it also follows that *souls*, that is, the most dominant monads, or rather animals themselves, cannot fail to wake up from the state of stupor in which death or some other accident may put them.

(13) For everything is regulated in things once and for all with as much order and agreement as is possible, since supreme wisdom and goodness can act only with a perfect harmony. The present is big with the future; the future can be read in the past; the distant is expressed in the nearby. One could learn the beauty of the universe from each soul, if one could unravel all its folds which develop perceptibly only with time. But as each distinct perception of the soul includes an infinity of confused perceptions which embrace the whole universe, the soul itself knows the things it perceives

²¹⁷ For details, see PPL, pp. 432–52.

only inasmuch as it has distinct and heightened perceptions of them, and it has perfection to the extent that it has distinct perceptions. Each soul knows the infinite, knows everything, but confusedly. It is just like when, wandering along the shore of the sea and hearing the great noise it makes, I hear the separate sounds of each wave (which together make up the whole sound) but without distinguishing them.

But confused perceptions are the result of the impressions which the whole universe makes on us. It is the same with each monad. God alone has a distinct knowledge of everything, for he is its source. It has been very well said that he is like a centre which is everywhere, but that his circumference is nowhere, since everything is immediately present to him, without any distance from this centre.

(14) As for the rational soul or *mind*, there is something more in it than in monads, or even in simple souls. It is not only a mirror of the universe of created things, but also an image of the divinity. The mind not only has a perception of God's works, but is even capable of producing something which resembles them, although on a smaller scale. For, to say nothing about the wonders of dreams, in which we effortlessly (but also involuntarily) invent things which could be discovered only after much thinking when awake, our soul is architectonic even in its voluntary actions: and so, discovering the sciences in accordance with which God had ordered things (by weight, measure, number, etc.),²¹⁸ it imitates in its own sphere, and in its little world in which it is allowed to act, that which God does in the great world.

(15) This is why all minds, whether of men or genies, enter into a kind of society with God by virtue of reason and eternal truths, and are thus members of the City of God, that is, the most perfect state, formed and governed by the greatest and best of monarchs, in which there is no crime without punishment, no good actions without proportionate reward, and finally as much virtue and happiness as is possible. And this comes to pass not by any disruption of nature, as if what God has in store for souls might disturb the laws of bodies, but by the very order of natural things, in virtue of the harmony pre-established from all time between the kingdoms of nature and grace, between God as architect and God as monarch, in such a way that nature itself leads to grace, and grace perfects nature by making use of it.

(16) Thus although reason cannot teach us the detail of the great future, which is reserved for revelation, this same reason assures us that things are accomplished in a manner which exceeds our desires. Also, as God is the most perfect and the most happy and consequently the most lovable

²¹⁸ An allusion to Wisdom 11.21.

of substances, and as *genuinely pure love* consists in the state which causes pleasure to be taken in the perfections and felicity of the beloved, this love must give us the greatest pleasure of which we are capable, when God is the object of it.

(17) And if we know him in the way I have just described, it is easy to love him as we ought to. For although God is not detectable by our external senses, he is nonetheless very lovable, and gives a very great pleasure. We see the extent to which honours give pleasure to men, even though they do not consist in the qualities of the external senses.

Martyrs and fanatics (although the affection of the latter is ill-regulated) show what the pleasure of the mind can do. And what is more, the very pleasures of the senses boil down to intellectual pleasures which are confusedly known.

Music charms us, although its beauty consists only in the agreement of numbers and in the counting (which we are not aware of but which the soul nonetheless carries out) of the beats or vibrations of sounding bodies which are encountered at certain intervals. The pleasures which the eye finds in proportions are of the same nature, and those caused by the other senses amount to something similar, although we may not be able to explain them so distinctly.

(18) It may even be said that love of God gives us, here and now, a fore-taste of future felicity. And although it is disinterested love, it constitutes by itself our greatest good and interest, even though we do not seek them in it, and we consider only the pleasure it gives, without regard to the utility it produces. For it gives us a perfect confidence in the goodness of our author and master, which produces a true tranquillity of mind, not as in the Stoics, who resolved themselves to patience by force, but by a present contentment, which itself assures us of a future happiness. And aside from the present pleasure, nothing could be more useful for the future, for the love of God also fulfils our hopes, and leads us down the path of supreme happiness, because in virtue of the perfect order established in the universe, everything is done in the best possible way, as much for the general good as also for the greatest particular good of those who are convinced of this, and who are content with the divine government, which cannot fail to be the case with those who know how to love the source of all good. It is true that supreme felicity (with whatever *beatific vision*, or knowledge of God, it may be accompanied) can never be complete, because God, being infinite, cannot be entirely known.

Thus our happiness will never consist, and ought not to consist, in a complete joy, in which there would no longer be anything to desire, and which would dull our mind, but in a perpetual progress to new pleasures and new perfections.

3. LEIBNIZ TO NICOLE REMOND: APPENDIX ON MONADS
(JULY 1714)²¹⁹

I have learned from Mr Hugony that you are having some difficulty with my unities, or monads. I would like to know what this involves. I will try nevertheless to explain myself. I believe that the whole universe of creatures consists only in simple substances or monads, and in their combinations. These simple substances are what are called ‘mind’ in us and in genies, and ‘soul’ in animals. They all have *perception* (which is nothing other than the representation of multitude in unity), and *appetite* (which is nothing other than the tendency of one perception to another), which is called *passion* in animals and *will* where the perception is an intellectual judgement. One cannot even conceive of there being anything other than that in simple substances, and consequently in all nature. The combinations are what we call bodies. In this mass, one calls ‘matter’ or rather ‘passive force’ or ‘primitive resistance’ what in bodies is considered as passive and as uniform throughout; however, the primitive active force is what one may call ‘entelechy’, and in that the mass is varied. Yet all these bodies, and all that is ascribed to them, are not substances, but only well-founded phenomena, or the foundation of appearances, which are different in different observers, but which are related and come from the same foundation, just like different views of the same city seen from various places. Far from being a substance, space is not even an existent. It is an order, like time, an order of co-existents, as time is an order between existents which are not contemporaneous. Continuity is not an ideal thing, but that which is real is found in this order of continuity. In the ideal or continuum, the whole is antecedent to the parts, just as arithmetical unity is antecedent to the fractions which divide it, and which can be attributed arbitrarily to it, the parts existing only potentially; but in the real, the simple is antecedent to the combinations, and the parts are actual, existing prior to the whole. These reflections raise problems concerning the [notion of the] continuum, which supposes that the continuum is something real, has parts prior to any division, and that matter is a substance. Thus there is no need to conceive extension as a real, continuous space, strewn with points. These fictions are suitable for pleasing the imagination, but reason finds no value in them. Nor is there any need to conceive monads as points in a real space, moving, pushing or touching each another. It is sufficient that the phenomena make it appear such, and this appearance is veridical insofar as these phenomena are founded, that is, are in agreement. Motions and interactions are only appearance, but well-founded appearance which

²¹⁹ Source: G III, pp. 622–4.

is never refuted, and like regular and long-lasting dreams. Motion is the phenomenon of change according to place and time; body is the phenomenon which changes. The laws of motion, being founded in the perceptions of simple substances, originate from final causes (or fittingness) which are immaterial and in each monad. But if matter were substance, they would originate from brute causes or from a geometrical necessity, and would be very different. Perceptions and appetites are the only actions of substances; all other actions are phenomena, as are all other acting things. Plato would appear to have understood something of this, as he considered material things as scarcely real, and the Academics have questioned whether material things exist outside of us, which may be given a reasonable explanation by saying that they are nothing but perceptions, and that they obtain their reality from the congruence of perceptions of apperceiving substances. This congruence originates from the pre-established harmony of these substances, since each simple substance is a mirror of the same universe, as enduring and as all-encompassing as it is, although only a small number of these perceptions of creatures can be distinct at once. The perceptions are differentiated by the relations or, so to speak, by the perspectives of the mirrors, which brings it about that one and the same universe is multiplied in an infinity of ways by just as many living mirrors, each representing it²²⁰ in its own way. It may thus be said that each simple substance is an image of the universe, but that each mind is, on top of that, an image of God, having knowledge not only of facts and of the empirical connections between them, as do non-rational souls, which are only empiricists, but also possessing knowledge of the necessity of eternal truths, understanding the reasons of facts and imitating the architecture of God, and thereby also being capable of entering into fellowship with Him and of becoming a member of the city of God, the best governed state that is possible, just as the world is likewise the most perfect of all structures, and the best-framed physically, and the best-framed morally.

But I fear that this letter, full of thoughts so abstract and far removed from received opinions, will put you off. I would not even like you to think too much at once about the above; it's better to return to it. Nevertheless I wanted to show you how much I value and respect you, by writing to you what I could not easily write to others. Thus this letter should be only for your eyes. Many others would find it either absurd or unintelligible.

²²⁰ Reading 'le' in place of 'se'.

Glossary of Terms

Accident A quality of a substance which is not part of its essence (M7).

Animal A corporeal substance, endowed with sense organs that give it distinct perceptions (M25). Animals are also endowed with memory (M26) and imagination (M27). Non-rational animals are referred to as beasts; rational animals are human beings.

Annihilation A supernatural process whereby substances are eliminated from existence (M6). The opposite of creation.

A posteriori Proof or knowledge involving reasoning from effect to cause (M45).

Apperception The consciousness of a perception (M14).

Appetite The action of the internal principle of change within each monad, which drives it from one set of perceptions to another (M15).

A priori Proof or knowledge involving reasoning from cause to effect (M50).

Beast A non-rational animal, endowed with memory and sensation (M14).

City of God The moral community of all minds, including those of humans and genii, under the rule of God (M85).

Compound An aggregate of monads (M2).

Corporeal substance Organic body consisting of an aggregate of monads unified by a dominant entelechy or soul (PNG1).

Creation A supernatural process whereby substances are brought into existence (M6). The opposite of annihilation.

Death In animals, the process of the enfolding and diminishment of the body (M73), resulting in a state in which the soul has only little perceptions (M21).

Distinct perception A perception whose parts can be distinguished from each other (M19).

Entelechy A bearer of perfection (M18). A bare monad (M19).

Generation The development and growth of an animal's body from a preformed state (M73).

Genie A super-human mind such as an angel (M72).

Ideal Existing in idea (M50).

Identical proposition A tautology (M35).

Intrinsic denomination A quality intrinsic to a substance (M9).

Kingdom of grace The moral world or City of God, that is, the community of all minds (M87).

Kingdom of nature The physical world of objects operating in accordance with the laws of nature, such as the laws of motion (M87).

Little perception A perception that cannot be distinguished, whether due to its faintness, or because it occurs together with others that are very similar (M21).

Metempsychosis The transfer of a soul from one body to another (M72).

Mind A soul which possesses reason and a moral identity (M29).

Monad Literally: that which is one; a simple substance (M1). Monads are either primitive or derivative (that is, created). The primitive monad is God. There are various grades of derivative monads: bare monads, or entelechies; animal souls; minds.

Organic Possessing infinitely structured organs (M63).

Perception The representation of a plurality in a unity, or monad (M14). A representation involves an isomorphic relationship between the representing thing and the represented thing. Perception is the basic state of a monad.

Perfection Magnitude of positive reality (M41).

Plenum Space which is entirely full of matter (M8).

Pre-established harmony The perfect correspondence between the states of the body and the states of the soul, brought about by body and soul following their own laws (M78).

Principle of contradiction A hybrid of two principles: (1) that that which contains a contradiction is false, and (2) that the true is that which is not false (M31).

Principle of sufficient reason The principle that for every fact (or truth) there is a sufficient (complete) reason why it is thus rather than otherwise (M32).

Rational soul See *Mind* (M29).

Reality The state of possessing qualities; the more qualities, or the greater the degree of their expression, the greater the degree of reality (M40).

Simple idea A primary concept not susceptible to further analysis (M35).

Simple substance A substance without parts (M1).

Soul A simple substance which enjoys distinct perceptions, and possesses memory (M19). Those souls also endowed with reason are minds.

Glossary of Terms

Transmigration of souls See *Metempsychosis*.

Truth of fact (or contingent truth) A truth whose opposite is possible (M33).

Truth of reasoning (or necessary truth) A truth whose opposite is impossible (M33).

Unity See *Monad*.

Universal harmony The mutual accommodation of all substances (M59).

Questions for Further Study

1. How do Leibniz's 'true atoms of nature' differ from (a) the atoms of Democritus, and (b) the atoms of modern science?
2. Identify Leibniz's reason(s) for thinking that substances do not causally interact. How strong are they?
3. Is appetite the same thing as will?
4. How does Leibniz's notion of 'little perceptions' compare with the modern understanding of the unconscious?
5. What does Leibniz mean when he calls human souls 'incorporeal automata' (M18)? Would it leave any room for free will?
6. How might a critic respond to Leibniz's argument for unconscious perceptions in M22–3?
7. What faculties or abilities does a human mind have that an animal soul does not?
8. How reasonable is it to suppose that there is a sufficient reason for every single thing, event, or fact?
9. Does Leibniz do enough to show that, if God exists, then there is only a single God?
10. How does Leibniz characterise the process of divine creation in the *Monadology*? Identify a rival account: how do the two compare?
11. Why should it be that optimism, that is, the claim that ours is the best possible world, can only be established *a priori*?
12. Does Leibniz's optimism allow for meliorism? (Meliorism is the belief that the world gets better over time.)
13. How does Leibniz explain action at the level of monads?
14. What does it mean to say that a monad is a living mirror of the universe?
15. What is the significance of the plenum (see M61) for the pre-established harmony?
16. How fair is it to describe Leibniz's philosophy as animistic?

Questions for Further Study

17. How important to the argument of the *Monadology* is the (now-discredited) theory of preformation?
18. How does Leibniz's notion of 'organic' compare with our own?
19. In what way is the kingdom of nature in harmony with the kingdom of grace?
20. Why does Leibniz believe that rewards and punishments are administered naturally rather than through particular interventions by God?

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