The Monadology

by Gottfried Wilhelm Leibniz

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Prefatory Note

THE MONADOLOGY^ 1714. PREFATORY NOTE. The Monadology is one of the latest of the works of Leibniz, having been written at Vienna in 1714, two years before his death. On this last visit of his to Vienna he had met the soldier prince Eugene of Savoy, who (probably through Queen Sophia Charlotte of Prussia) had heard of the one great work Leibniz had hitherto published, the Theodicee, which appeared in 1 7 10. Having read the Theodicee, Prince Eugene begged Leibniz to write for him a condensed statement of the main principles of his philosophy, and having obtained this, in the form either of what we now call the Monadology or of the Principles of Nature and of Grace, he was so delighted with it that he kept it like a jewel in a case, so that his friend, Count Bonneval, wrote to Leibniz, perhaps with a touch of humorous exaggeration : — 'He keeps your writing as the priests at Naples keep the blood of St. Januarius ; he lets me kiss it and immediately shuts it up again in its casket.' (Guhrauer, ii. 287.) The Monadology was written in French ; but it was not published in its original form until 1840, when P^rdmann, who had discovered the MS. in the Royal Library at Hanover, printed it in his edition of the philosophical works of Leibniz. German and Latin translations of it appeared in 1720 and 1721, and it was for a long time combined with the Principles of ' Erdmann gave the name ^ La Monadologie' to this work wlien he published it in 1840, Kohler published a German version of it in 1720, under the title: Lehrsdtze iiber die Monadologie, &c. Dutens gives a Latin translation of the German and entitles it : Prindpia philosophiae seu theses in gratiam Principis Engenii. The original MSS. have no title. Nature and of Grace, there being some doubt as to

which of the two was the treatise written for Prince Eugene. The two writings are similar in scope and intention, and were probably written about the same time. Gerhardt holds that the work written for Prince Eugene was not the Monadology but the . Principles of Nature and of Grace. (See G. vi. 483 and prefatory note to the Priitciples of Nature and of Grace in this edition.) The Principles of Nature and of Grace certainly appears to be the earlier of the two. As to its contents, the Monadology is to be regarded, not as an introduction to the philosophy of Leibniz, but rather as a condensed statement of the principles expressed in many philosophical papers, and expounded^ after a somewhat desultory fashion, in the Theodicee. Leibniz himself indicated this fact ty putting on the margin of his manuscript of the Monadology a series of references to sections -of the Theodicee in which his views are more fully expressed. Thus, as Erdmann says, the Monadology is (in the German sense) an ' Encyclopaedia ' of the philosophy of Leibniz, and the full understanding of it presupposes some general knowledge of his thinking. It is not possible rightly to understand it at a first reading. The Monadology expounds a Metaphysic of Substance, and it may for convenience be regarded as consisting of two main divisions, in the first of which an account is given of the essential nature of all the substances, created and uncreated, which constitute the reality of the universe/while the second division explains the mutual relations through which they form one world. §§ I to 48 make up the first of these divisions, the second consisting of §§ 49 to 90. In the first division three principal parts may be discriminated; {a) §§ 1-18, in which the nature of Created Monads is explained; (h) §§ 19-30, in which three great classes of Created Monads are discriminated ; and (c) §§ 31-48, in which transition is made from the highest class of Created Monads (the self-conscious) to the Uncreated Monad (God) through the two great principles of Reason, that trf Contradiction and that of Sufficient Reason. Thus a philo- ' sophic view is taken of the whole universe, considered as a hierarchy of individual beings. The second division of the Monadology, in which the mutual relations of substances are more

fully explained, may also be subdivided into three principal parts: (a) §§49-60, expounding the general principles T7 of the inter-relation of substances through the hypothesis of the Pre-established Harmony and the doctrine of 'the best of all possible worlds' ; (b) §§ 61-82, explaining in more detail the relations of particular classes of substances to one another, and dealing with questions of organism and of the relations of soul and body, including birth and death, &c. ; and (c) §§ 83-90, in which the whole system of relations is brought to unity in God, the distinction and harmony between efficient and final causes (which had been found to be the basis of the distinction between body and soul), being supplemented by an analogous distinction and harmony between the ' physical realm of nature and the moral realm of grace, that is to say, between God, considered as Architect of the machine of the universe and God considered as Monarch of the divine City of spirits.' This brief analysis is to be taken merely as a suggestion of the line of thought in the Monadolof/y ; the texture of the work is so close that it is impossible to make perfectly satisfactory divisions in it. The translation is made from the text given by M. Boutroux. who has collated the MSS. at Hanover and corrected some errors of Erdmann. The Monadologij is given in E. 705 sqq. ; G. vi. 607 sqq.

The Monadology

1. The Monad, of which we shall here speak, is nothing but a simple substance, which enters into compounds. By 'simple 'is meant 'without parts.' (Theod. 10.)

2. And there must be simple substances, since there are compounds ; for a compound "^ is nothing but a collection or aggnijatum of simple things ^ "^ There is a slight but interesting difference between this and the corresponding passage in the Principlcf; of Nature and 0/ Grace (sec p. 4o6j. Leibniz speaks here of 'a compound' in general {le compose) : in the other passage he uses the expression ' conipouml substance ' (Ja composce). In both cases he must be understood to mean 'body,'

which, he elsewhere tells us, is not a substance, strictly speaking Introduction, Pai't iii. pp. 96 and iii). Accordingly, the expression here is more exact than that in the Principles: of Nature and of Grace; but the difference illustrates the looseness of Leibniz's terminology in this connexion. ^ If the 'simple things' are, like the Monads, non-quantitativo, can we attach any intelligible meaning to 'compounds,' whicli are mere aggregates of them ? Does not xiu aggregate always imply

3. Now where there are no parts *, there can be neither extension nor form [figure] nor divisibility. These Monads are the real atoms of nature and, in a word, the elements of things ^.

4. No dissolution of these elements need be feared, and there is no conceivable way in which a simple substance can be destroyed by natural means. {Thcod. 89.)

5. For the same reason there is no conceivable way in which a simple substance can come into being by natural means, since it cannot be formed by the combination of parts [composition] ^. elements which are quantities, however small ? Leibniz elsewhere makes it perfectly clear that nothing quantitative can ever be absolutely simple, and thus there seems a weakness in his reasoning at this point. The diflficulty is fundamental and affects the whole of Leibniz's system : it is, indeed, the crux of every Individualist or Atomist philosophy. Leibniz's hypothesis of a 'living [formel] atom,' a ' fertile simplicity,' a ' centre which expresses (or represents) an infinite circumference ' (i?e>;o>?.se aux Reflexions de Bayle, 1702, E. 187 a; G. iv. 562), is the suggestion of a way out of Atomism ; but it does not take us entirely out of the wood. We have still, in the spirit of much of Leibniz's philosophizing, to ask ouj-selves the question — ' Are not " simple " and " com pound " purely relative terms, so that to search for an absolutely simple thing is to explore blind alleys ? * Kant shows us the blind alleys in his second Antinomy Critique of Pure Reason, Meiklejohn's Tr , p. 271). See also the interesting analysis and criticism of Kant's arguments in Hegel's Wissenschaftder Logik. bk. i. div. 2, ch. i. sect. A, note. Cf.

Hegel's Geschichte der Philosophie, vol. iii. p. 525 (Eng. Tr., p. 449). * i. e. where there are no spatial distinctions. ' Cf. New Sysfem, § 3. Ordinary physical atoms have form and extension ; and, though they may not be physically divisible, yet they must be ideally divisible ad infinUum, inasmuch as they occupy space. Thus for Leibniz all merely physical atoms are unreal. Cf. Lange's Histonj of Matericdism, bk. i. sect. 4, ch. iv. (Eng. Tr., vol. ii. pp. 124 sqq.^. * According to Leibniz a thing is produced by nature only when it comes into being gradually, bit by bit. But the Monads, having no parts, cannot come into being by the adding of part to part. Yet it may be pointed out that every Monad has an iniemal development, which js gradual. It is not born perfect, fully realized. Why, then, should it not come into being by natural means ? T9

6. Thus it may be said that a Monad can only come into being or come to an end all at once ; that is to say. it can come into being only by creation and come to an end only by annihilation, while that which is compound comes into being or comes to an end by parts".

7. Further, there is no way of explaining how a Monad can be altered in quality or internally changed ' by any other created thing; since it is impossible to change the place of anything in it or to conceive in it any internal motion which could be produced, directed, increased or diminished therein, although all this is possible in the case of compounds, in which there are changes among the partsV The Monads have no windows, through which anything could come in or go out. Accidents cannot separate themselves from substances nor go about outside of them, as the * sensible species ' of the Scholastics used to do ^°. Thus ' Consider, by way of analogy and contrast, what Spinoza says regarding the eternity of the human mind. Ethics^ v. prop. 23. Spinoza dispenses with the idea of creation. But according to Leibniz there are created Monads, whoso creation is, nevertheless, not an event in time, for time and space have to do merely with phenomena, and the Monads are not in time and space, but con 220 THE :*10NAD0L0GY neither substance nor accident

can come into a Monad from outside".

8. Yet the Monads must have some qualities, otherwise they would not even be existing things ^ And if simple substances did not differ in quality, there would be is a considerable variety of more or less vague opinion as to the nature of the relation. Leibniz is evidently thinking of a theory {not that of Thomas Aquinas), according to which sense-perception means that particles are detached from the body perceived and pass into the percipient, in whom they are reconstructed into images or representations of qualities in the thing perceived. Images of this kind were called ei'ScuAa by Democritus. Cf. Ritter and Preller, Hisforia Philosophiae Graecae, § 155. Atomists felt bound to explain the action of body upon soul by the suggestion of some kind of injluxus pliysicus. Descartes has a parallel passage to this of Leibniz, in which he says that he ' desires to rid people's minds of all these little images, flying through the air, called intentional species, which give so much work to the imagination of philosophers.' Diopfrique, Discours L Cf. other passages quoted by Veitch in his Translation of Descartes" s Method and MecUtaticms, note 2 — ' Idea.' " Kant pointed out that a thing may have intensive' as well as 'extensive' quantity, i.e. quantity which is not divisible into spatial parts as well as quantity which is so divisible. A stone descending from a height loses a certain ' intensive quantity ' without losing any of its spatial parts. And thus a simple substance may, in a certain sense, lose and receive quality. Cf. Critique of Pure Beason (Hartenstein, ii. 178; Rosenkranz, ii. 145; Meiklejohn's Tr., p. 125). Kant argues that the simplicity of the soul (i.e. the absence of parts in it) does not necessarily prove its indestructibility, for, though it has no parts, it may lose consciousness and the rest of its essential qualities (Hartenstein, ii. 318; Rosenkranz, ii. 792; Meiklejohn's Tr,, p. 245). Compare Kant's ' intensive quantity' with Leibniz's degrees of Perception and Appetition. ^^ After this sentence Leibniz originally wrote, and then deleted, these words : * And if simple substances were nonentities [riens], .compounds also would be reduced to nothing.' This emphasizes Lthe point that a being without quality is

indistinguishable from nothing ; cf. Hegel's Logic, Wallace's Tr., pp. 158 sqq. Quantity always presupposes quality ; see Introduction, Part ii. pp. 27 sqq. — Leibniz seems also to imply that each Monad must have more than one quality. On the other hand, Herbart (1776-1841), whose Monadology owes much to that of Leibniz, and who calls his Monads * primary qualities ' {Urqualitaien), holds that a substance cannot be perfectly simple unless it has only one ultimate quality. fibsolutely no means of perceiving any change in things. For what is in the compound can come only from the simple elements it contains, and the Monads, if they had no qualities, would be indistinguisliable-fram^ne another, since they do not differ in quantity ^^ Consequently, space being a' plenum, each part of space would always receive, in any motion, exactly the equivalent of what it already had, and no one state of things would be discernible from another^*. ^^ Kant would say that they may differ in * intensive quantity' ; see note ir. Leibniz makes the distinction between quality and quantity as sharp as the Aristotelian distinction between noiov and TToaov. Yet in some respects his Law of Continuity sugc^ests a different view. " E. reads 'one state of things would be indistinguishable from another.' Cf. Epistola ad Des Bosses (1706) (G. ii. 295) : 'If we were to admit, as the Cartesians desire, the plenum and the uniformity of matter, adding to these motion alone, it would follow that nothing would ever take place among things but a substitution of equivalents, as if the whole universe were reduced to the motion of a perfectly uniform wheel about its axis or, again, to the revolutions of concentric circles, each made of exactly the same materials. The result of this would be that it would not be possible, even for an angel, to distinguish the state of things at one moment from their state at another. For there could be no variety in the phenomena. Accordingly, in addition to figure, size, and motion, we must allow certain Forms, whence there arises a distinction amon*' the phenomena of matter ; and I do not see whence these Forms are to be taken, if they are to be intelligible, unless it be from Entelechies.' To avoid a possible misunderstanding, it should be noted that for Leibniz, the Monads are not in

space, which is a relation between phenomena ; see Introduction, Pai-t iii. p. lor. Cf. Episfola ad Des Bosses (1712) (E. 682 b; G. ii. 450^: 'Space is the order of co-existing phenomena, as time is the order of successive phenomena. There is no nearness or distance, whether spatial or absolute, among Monads, and to say that they are collected together in one point or dispersed throughout space, is to make use of certain fictions of our mind, by which we try to represent to ourselves in imagination what cannot be imagined but only understood.' Kant, misled by the position of Wolff, does not rightly interpret Leibniz's view of space, which he discusses in the Critique of Pure Reason. Hartenstein, ii. 256 sqq. ; Rosenkranz, ii. 216 sqq. ; Meiklejohn's Tr., pp. 191 sqq., especially p. 199. Cf. Introduction. Part iv. pp. 168 sqq.

9. Indeed, each Monad must be different from every other. For in nature there are never two beings whicli are perfectly alike and in which it is not possible to find an internal difference, or at least a difference founded upon an intrinsic quality [denomination] '^

10. I assume also as admitted that every created being, and consequently the created Monad, is subject to change, and further that this change is continuous injBach,'^ " This is the principle of the * identity of indiscernibles ' ; see Introduction, Part ii. p. 36. Cf Nouveaux Essais, bk. ii. ch. xxvii. § 3 (E. 277 b ; G. V. 214). For Kant's criticism see Critique of Pure Jimson, Ilartenstein, ii. 267 ; Rosenkranz, ii. 229 ; Meiklejolin's Tr., p. 202, Probably the first statement of tin- principle is to be found in the writings of Nicholas of Cusa (1401-1464). He says that ♦there cannot be several things exactly the same [aequalia'], for in that case there would not be several things, but the same thing itself. Therefore all things both agree with and differ from one another.' {De Vcnaiioae Sapientiae, 23.) Cf. De docta ignorantia, iii. i : ' All things must of necessity differ from one another. Among several individuals of the same species there is necessarily a diversity of degrees of perfection. There is nothing in the universe which does not enjoy a certain singularity, which is to be

found in no other thing.' His theories are full of suggestions of Leibniz, Cf. Falckenberg, History of Modern Philosophy, English Tr., pp. 20 sqq. Refei'enoe may also be made to a very interesting article by Zimmei'mann, Niculaus Cusanus als Vorldufer Leihnitzens .Wien. Akad. Sitzungsberichte, vol. 8, p. 306). There is no mention of Nicholas of Cusa in any of Leibniz's philosophical writings ; but in a letter to the Ada Eruditorum (1697) Leibniz refers to him as a mathematician (cf. Dutens, iii. 345). — Intrinsic qualities are those which things have in themselves, e.g. figure, motion, &c., while extrinsic qualities are those which arise from their relations to other things, e.g. their being perceived, desired, &c. Cf. Port-Royal Logic, part i, ch. ii. (Baynes's Tr. , p. 37) : 'There are some modes which may be called internal, because they are conceived to be in the substance, as round, square ; and others which may be called external, because they are taken from something which is not in the substance, as loved, seen, desired, which are names taken from the actions of another — and this is what is called in the schools external denomination.' '* There is constant change in created substances, even though there may appear to be no change. What appears to us as absence of change is i-eally a very small degree of change. We have here an application of the Law of Continuity.

11. It follows from what has just been said, that the natural " changes of the Monads come from an internal principle^ since an external cause can have no influence upon their inner being. {Thcod. 396, 400.)

12. But, besides the principle of the change, there must be a particular series of changes \un detail de ce qui change], which constitutes, so to speak, the specific nature and variety of the simple substances.

13. This particular series of changes should involve a inultiplicity^in_th.e_yi}it [unite] or in that which is simple. For, as every natural change takes place gradually, something changes and something remains unchanged'^; >ind consequently a sinq^le substance must be aftected and related in many ways, although it has no

parts '". " i. e. other than miraculous changes or than sucli change as m.-i^be implied in the creation or annihilation of a Monad, ^* At the beginning of § 12 Leibniz originallywrote : 'And generally it may be said that force is nothing but the principle of the change.' He seems afterwards to have felt that force was not a deep enough notion to be an adequate expression of the principle which, in §§ 14 and 15, he describes under the names of Perception and Appetition. *^ The Law of Continuity. Everything is continually changing, and in every part of this change there is both a permanent and a varying element. That is to say, at any moment everything both 'is' and 'is not,' everything is becoming something else — something which is, nevertheless, not entirely 'otlicr.' ^" In illustration of this and the following sections, cf. Rcponseavx. Reflexions de Baijle (1702) (E. 186 b ; G. iv. 562) : 'The state of the soul, as of the atom, is a state of change, a tendency. The atom tends to change its place, the soul to change its thought : each changes of itself in the simplest and most uniform way, that its state allows. Whence comes it, then (I shall be asked), that there is so much simplicity in the change of the atom' [which is taken as being always motion in a straight line at a uniform speed] 'and so much variety in the changes of the soul'i The reason is that the atom (as it is supposed to be, for there is no such thing in nature), although it lias parts, has nothing which causes any variety in its tendency, because it is supposed that these parts do not change their relations ; while on the other hand the soul, though it is perfectly indivisible, has a composite tendency, that is to say, it contains a multitude of present thoughts, of which each tends to

14. The passing condition, which involves and represents a multiplicity in the unit [unite] or in the simple substance, is nothing but what is called Perception ^\ which is to be distinguished from Apperception or Consciousness, as will afterwards appear. In this matter the Cartesian view is extremely defective, for it treats as non-existent those perceptions of which we are not consciously aware ^\ This has also led them to believe that minds [esp^its] alone are Monads, and that there are no

souls of animals nor other Entelechies. Thus, like the crowd, they have failed to distinguish between a prolonged unconsciousness and absolute death ^^, which has made a particular change,- according to the nature of its content, and which all are present together in the soul, in virtue of the soul's essential relation to all the other things in the world. It is because they do not have this relation that the atoms of Epicurus have no existence in nature. For there is no individual thing, which is not to be regarded as expressing all others ; and consequently the soul, in regard to the variety of its modifications, ought to be likened to the universe, which it represents according to its point of view, and even in a way to God, whose infinity it represents yznzYe/y, because of its confused and imperfect perception of the infinite, rather than to a material atom.* Of. Appendix F, p. 272. ^^ Cf. Epistola ad Des Bosses (i'] 06) (E. 438 a; G. ii. 311): 'Since perception is nothing else than the expression of many things in one, all Entelechies or Monads must necessarily be endowed with perception.' Also Lettre a Arnauld (1687) (G. ii. 112) : 'Because of the continuity and divisibility of all matter, the least motion has its effect upon neighbouring bodies, and consequently upon one body after another ad infinitum, in a gradually lessening degree ; and thus our body must in some way be affected by the changes in all other bodies. Now, to all the motions of our body there correspond certain more or less confused perceptions of our soul, and accordingly our soul also will have some thought of all the motions in the universe, and in my opinion every other soul or substance will have some perception or expression of them.' See Introduction, Part ii. p. 33. '^ Cf. Method, Tint 5, and Meditations, 2 and 6. See also Principia Philosophiae, i. 48, and cf. Introduction, Part iii. p. 126. The Cartesian view is that animals and plants are purely mechanical structures or living automata, parts of extension, entirely separate from thought. " ' Sleep, which is an image of death, trances, the burying of them fall again into the Scholastic prejudice of souls entirely separate [from bodies], and has even confirmed ill-balanced-" minds in the opinion that souls are mortal'^^. a silkworm in its cocoon, the resuscitation of drowned flies

by means of a dry powder sprinkled upon them (when they would remain quite dead, if this were not done), the resuscitation of swallows which make their winter quarters among tlie reeds, where they are found without any appearance of life, the cases of men frozen to death, droAvned, or strangled, who have been brought to life again ... all these things serve to confirm my opinion that these different conditions differ only in degree, and if we have not the means of bringing about resuscitation from death in other forms, it is either because we do not know what ought to be done or because, though we do know it, our hands, our instruments, and our remedies cannot accomplish it, especially when dissolution takes place too quickly and has gone too far. Accordingly we must not content ourselves with the notions which the common people may have about life and death, when we have both analogies and (what is more^ solid arguments which prove the contrary. Lettre a Arnauld (1687) (G; ii. 123). ^* E. roads mal touches ; G. and Boutroux, mal tournes. ^^ Descartes regards the immortality of the soul as ultimately dependent on the will of God. See the Abrege prefixed to the M('dUations [Synopsis in Veitch's translation]. Cf. Biponses aux Deuxitmes Objections, 7. Leibniz thus criticizes the view of Descartes: • The immortality of the soul, as it is established by Descartes, is of no use and can give us no kind of consolation. For, granting that the soul is a substance and that no substance perishes, the soul then will not be lost, as, indeed, nothing is lost in nature ; but, like matter, the soul will change in appearance and, as the matter of which a man is made has at other times belonged to plants and animals, in the same way the soul may be immortal, indeed, but it will pass through innumerable changes and will have no recollection of its former states. But this immortality without recollection is ethically quite useless ; for it is inconsistent with reward and punishment. What good, sir, would it do you to become king of China, on condition that you forget what you have been ? Would it not be the same as if (Tod, at the moment He destroyed you, were to create a liing in China ? * (G. iv. p. 300.) From his own point of view, however, Descartes can say: 'Although all the accidents of the

mind be changed — although, for example, it think certain things, will others, and perceive others, the mind itself does not vary with these changes : while, on the contrary, the human body is no longer the same if a change take place in the form of any of its parts.' Abrege des Meditations. It

15. The activity of the internal principle which produces change or passage from one perception to another may be called Ai^petition. It is true that desire \Vapp6tit\ cannot always fully attain to the whole perception at which it aims, but it always obtains some of it and attains to new perceptions """.

16. We have in ourselves experience of a multiplicity in simple substance, when we find that the least thought of which we are conscious involves variety in its object-'. Thus all those who admit that the soul is a simple substance should admit this multiplicity in the Monad ; and M. Bayle ^^ ought not to have found any diificulty seems to me not improbable that in tlie last words of this section Leibniz may have in view, among others, the wandering Irishman, John Toland (1670-1722). author of Chrisfianify not MysferioHf;, who w^as in Berlin in 1702 and had a brief correspondence with Leibniz, in which the question of the immortality of the soul is referred to. Leibniz writes to the Princess Sophia Cliarlotte with something like a kindly contempt of Toland's readiness to take either side of a question. See G. vi. pp. 508 sqq. Of. Principles of Nature and of Grace J § 4. '® See Introduction, Part ii. p. 33. Cf. Princi2)lcn of Nature and of Grace, § 2. In many of his writings Leibniz uses the word * tendencies ' (ttndances) for appetitions. Force is a form of appetition or tendency, i.e. it is not merely what actually appears as motion, &c., but it includes something potintial. And it is not really, but only ideally, an influence of one substance upon another. Cf. appetition, in respect of likeness and difference, with Spinoza's Conatus. ^^ Cf. Xouveaux Essais, bk. ii. ch. 2 (E. 227 a ; G. v. 109). *® Pierre Bayle, the son of a Pi'otestant clergyman, was born at Carlat in Languedoc, in 1647. He was educated at the University of Toulouse, where, under the influence of Jesuit teachers, he became a Roman Catholic. But his Roman Catholicism was not

lasting and, having returned to his original faith, he avoided the censures of the Church by going to Geneva. After some years of wandering he became a Professor of Philosophy in the University of Sedan (1675). But owing to the 'free-thinking' of Bayle and others Louis XIV summarily suppressed this Protestant University in 1681, and Bayle went, as Professor of History and Philosophy, to a newly established institution at Rotterdam. In 1684110 founded the Nonvellps de la Republique des Lettres, a monthly review of new books, &e., to which there is frequent reference in the writings of Leibniz. in this, as he has done in his Dictionary, article ' Rorarius "^ .

17. Moreover, it must be confessed that 2')6rc£pfion and that which de23ends upon it are inexplicable on mecJuinicul In 1693, ostensibly on political as well as theological grounds, lie was deprived of his professorship, and he afterwards devoted himself to his IHdionnairc Hisforique et Critique (1695-96), which was the precursor of the Encyclopaedias and the Encyclopaedist movement in the following century. Among other writings he also published a tract against religious persecution and a reply to Maimbourg's libels upon Calvinism. He died in 1706. The Tkeodicee of Leibniz is to a large extent devoted to answering the arguments of Bayle, who maintained the impossibility of reconciling faith with reason. There is much difference of opinion as to whether Bayle was sincere in his combination of philosophical scepticism with an appeal to faith in matters of religion. Probably in this regard he meant to follow the example of Descartes. Leibniz seems to have believed in the sincerity of Bayle's religious faith. He always writes of Bayle with the greatest respect, saying of him \^Theod. § 174): ' Ubi lene, nemo melius,' and again, after his death: * We must believe that Bayle is now enlightened with that light, which is refused to earth, since, according to all appearance, he has always been a man of good will.' ^'•^ Like the greater part of Bayle's Dictionary, the article * Rorarius' may be said to consist mostly of foot-notes. Jerome Rorarius (1485-1566), an Italian, was Papal Nuncio at the Court of Ferdinand of Hungary. He

was so great an admirer of the Emperor Charles V that, on hearing a learned man speak of him as inferior to Otho and to Frederick Barbarossa, he was moved to write a treatise maintaining that men are less rational than the lower animals. This treati^e .{Quod animaUa bruta ratione utanUir meliiis homine) was not i:)ul)lished until about 100 years after it was written, when Descartes's views regarding the souls of animals were under dii-cussion. Bayle accordingly makes the name of Rorarius the occasion of a full consideration of the question, in the couise of which he expounds and criticizes the opinions of Leibniz. Bayle thinks it a pity that the position of Descartes is so diflReult to maintain and so unlikely to be true; for otherwise it would be very helpful to the true faith. That is to say, the Cartesian view is regarded as confirming belief in the immortality of the soul by making a very great distinction between man and ' the brutes which perish.' But it seems to Bayle that Leibniz (^whom he calls * one of the greatest minds in Europe') has made some suggestions (in regard to the solution of the general problem) which are worthy of being developed. These suggestions are contained in the New (jrounds, that is to say, by means of figures and motions. And supposing there were a machine, so constructed as to think, feel, and have perception, it might be conceived as increased in size, while keeping the same proportions, so that one might go into it as into a mill. That being so, we should, on examining its interior, find only parts which work one upon another, and never anything by which to explain a perception ^^ Thus it is in a simple substance, and not in a compound or in a machine, that perception must be sought for^\ Further, nothing-but this (namely, perceptions and their changes) can be found in a simple substance. It is also in this alone that all System, which was published in the Journal des Savans of June 27, 1695 (the year before the seyond vol. of Bayle's Dictionary appeared). Bayle's criticism is directed mainly against the pre-established harmony and the spontaneous development of all their states by simple substances. Cf. Appendix F. p. 272. "" That is to say, even if we had microscopes powerful enough to reveal to us, on a large scale, all the intricacies of

nerve-cell and nerve-fibre in the brain, we should still never get beyond figures and motions. Cf. Comynentatio de A)dma Brutorum (1710 E. 463 a ; G. vii. 328): 'If in that which is organic there is nothing but mechanism, that is, bare matter, having differences of place, magnitude and figure ; nothing can be deduced and explained from it, except mechanism, that is, except such differences as I have just mentioned. For from anything taken by itself nothing can be deduced and explained, except differences of the attributes which constitute it. Hence we may readily conclude that in no mill or clock as such is there to be found any principle which perceives what takes place in it ; and it matters not whether the things contained in the " machine " are solid or fluid or made up of both. Further we know that there is no essential difference between coarse and fine bodies, but only a difference of magnitude. Whence it follows that, if it is inconceivable how perception arises in any coaj'se "machine," whether it be made up of fluids or solids, it is equally inconceivable how perception can arise from a finer "machine"; for if our senses were finer, it would be the same as if we were perceiving a coarse "machine," as we do at present.* See also Ntw Essays, Introduction, p. 400. (G. v. 59 ; E. 203 a.) ^' Mechanism always means partes extra partes. This is characteristic of all compounds, but not of any simple substances. Thus it can never be said that matter thinks. Matter pre-supposes a thinking or at least a 'perceiving' principle. the infernal acfwities of simple substances can consist. {Theod.Pr6f. [E. 474; G. vi. 37].)

18. All simple substances or created Monads might be called Entelechies ^^, for they have in them a certain perfection (€;(ovo-t TO cVrcAe?) ; they have a certain self-sufficiency [avTapKcia) which makes them the sources of their internal activities and, so to speak, incorporeal automata =^l {Theod, 87.) 22 f i/reXexem is probably derived from h t(\(i (x^'^> ^^ ^^ complete or absolute. Leibniz's use of the term differs considerably from that of Aristotle. (UTfX^xfia in Aristotle is the state of perfection or realization in which evfpyaa, as a process, ends, rovvofia ku^pyaa KiyfTai /card to epyov, kol avvTHvei it pus tjjv €VT€\(xetav. Melaph. 0, 8. 1050"

22. But the distinction between IvTfXkx^ia and ki'tpyaa in Aristotle is not by any means a sharp one. Thus he defines the soul i^vxv as Ij'TeAt'xfct 77 irpwTrj cwpuiTOS (pvaiKov Svvapd C^'^^ e'x"""""^' -^" Anima, ii, i. But elsewhere he calls it ovaia Knl kvepyaa (rwfxaTos Tifos. Metaph. H, 3, 1043" 35. First entelechy is related to secoml enteleehy as k-niaT-qpLrj (implicit) is related to dewpeiv (explicit). Thus the soul is defined as first or implicit entelechy because it exists in sleep as well as awake. The entelechy of Leibniz, however, is to be understood as an individual substance or force, containing within itself the principle of its own changes. It is called entelechy, not because it is a state of perfect realization, but because it contains in germ an infinity of perfections, whicii it tends to develop. It is thus not so much the final developed condition of a thing, opposed to its potentiality {dvvapiis or v\r]), but it rather implies the tendency or virtuality, of which Leibniz speaks as something intermediate between the bare potency (jmissnnce) and the fully developed activity [acte) of the Scholastics. Cf. Introduction, Part iii. pp. 91, 105. ' The Forms of the Ancients or Entelechies are nothing but forces.' Lettre au Pire Bouvet, E. 146 a. Cf. Trendelenbui'g, Be Ani^na, pp. 295, 320. In the eighth book of Aristotle's Metaphijsics there is a remark of much interest, when considered in relation to Leibniz : 17 ova'ia %v ovtcvs, dW' ovx ws Xiyovai TivfS oTov fiovds tis ovcra fj cmyfxrj, dAA.' ej/rtAexfci fcni (pvms rt? fKacTT]. H, 3, 1044" 7. fxovds is, of course, used here in its original sense of a unit. '^ That is to say, not merely machines, such as those made by man, but entirely self-moving machines or machines which contain within themselves the ground or principle of all their states or conditions, in as complete independence of all else as if there were nothing in the universe but God and themselves. Monads alone are automata in this sense. Corporeal automata, in so far as they

19. If we are to give the name of Soul to everything which has perceptions and desires [apjK'tiis] in the general sense which I have explained, then all simple substances or created Monads might be called souls ; but as feeling \le sentiment] is

something more than a bare perception, I think it right that the general name of Monads or Entelechies should suffice for simple substances which have perception only, and that the name of Souls should be given only to those in which perception is more distinct, and is accompanied by, niemory ^*.

20. For we experience in ourselves a condition in which we remember nothing and have no distinguishable perception ; as when we fall into a swoon or when we are ^ overcome with a profound dreamless sleep. In this state I the soul does not perceptibly differ from a barejionad ; but as this state is not lasting, and the soul comes out of it, the soul is something more than a bare Monad. {Theod. 64.)

21. And it does not follow that in this state the simple substance is without any perception. That, indeed, cannot be, for the reasons already given ; for it cannot perish, and it cannot continue to exist without being affected in some way, and this affection ^^ is nothing but its perception. But when there is a great multitude of little perceptions, in which there is nothing distinct, one is stunned ; as when one turns continuously round in the are corpoi'eal, cannot be said to have this avrap/cda. Cf. § 64. Spinoza speaks of the soul as 'acting according to certain laws and as if it were a kind of spiritual automaton.' De Intellectus Emendaiione, 85 ; Bruder's ed., ii. 34. '^* Memory is thus the sign of consciousness as distinct from unconscious perception. This is in harmony Avith the view, emphasized by modern writers, that conscious sensation pro-supposes miemory, because we can know one sensation only when it has been brought into comparison with others. Leibniz in one of his early writings suggestively remarks that body is ' momentary mind, i. e. mind without memory ' (mens momenianea, seu carena recordatione). Theoria Motus Ahstracti (1671) (G. iv. 230). ^^ Leibniz originally wrote ' variation.' 1 same way several times in succession, whence comes a giddiness .which may make us swoon, and which keeps us from distinguishing anything ^^ Death can for a time put animals into this condition ^^

22. And as everj'^ present state of a simple substance is naturally a consequence of its preceding state, in such a way that its present is big with its future ^^ ; {Theod. 350.)

23. And as, on waking from stupor, we arc conscious of our perceptions, we must have had perceptions immediately before we awoke, although we were not at all conscious of them ; for one perception can in a natural way come only from another perception, as a motion can in a natural way come only from a motion ^K (Tlicod. 401-403.)

24. It thus appears that if we had in our perceptions nothing marked and, so to speak, striking and highlyflavoured, we should always be in a state of stupor. And this is the state in which the bare Monads are.

25. We see also that nature has given heightened perceptions to animals, from the care she has taken to provide them with organs, which collect numerous rays of light, or numerous undulations of the air, in order, by uniting them, to make them have greater effect *^ Some-^ Leibniz's point is that in such states as these we are still nmnifestly in certain peculiar relations to the external world, although consciousness has, for the time, become so slight as to be imperceptible. ^^ Cf. Monadology, § 14, note 23. ^* Cf. §§ 78 and 79. "^ In virtue of the principle of sufficient reason, every perception must have a cause, which can be nothing but another perception (see § 17) ; and if the antecedent perception did not immediately precede the consequent, there would be a breach of continuity in the existence of the soul. Ultimately, of course, motions are themselves perceptions ; but they are confused perceptions, of such a kind tliat their relations to one another can be stated according - to mechanical laws, which, however, are abstract and pre-suj)pose, for their full explanation, the system of final causes or the laws of perception in general. *° Cf^ Helmholtz, Popular Scientijic Lectures, vol. i. p. 186. See also Principles of Nature and uf Grace, § 4. thing similar to this takes place in smell, in taste and in

toueli. and perhaps in a number of other senses, which ^are unknown to us *\ And I will explain presently ^" how j that which takes place in the soul represents what happens L|n the bodily organs.

26. Memory provides the soul with a kind of consccufh)cncss*'\ which resembles [hnifc] reason, but which is to be distinguished from it. Thus wo see that when animals have a perception of something which strikes them and of which they have formerly had a similar perception, they are led, by means of representation in their memory, to expect what was combined with the thing in this jirevious perception, and they come to have feelings similar to those they had on the former occasion. For instance, when a stick is shown to dogs, the}- remember the pain it has caused them, and howl and run away*^ (Throd. Difiro^irs rle la Conform if f'\ Slc, § 65.)

27. And the strength of the mental image which im presses and moves them comes either from the magnitude or the number of the preceding perceptions. For often a strong impression produces all at once the same eifect as a long-formed habit, or as many and oft-repeated ordinary percept ion s ' '\ " C'f. LiiM>ock, Anfs, Bees and JVa^ps, eh. 8, especially pp. 220 and 225. ^^ See §§ 61 and 62. ^^ Conficciifio^ eoncatenation or sequence of perceptions. Leibniz is referring to what would now be called association of ideas. Cf. Ntjuvpanx Eftsni.'i. bk. ii. cli. 11. § 11 (E. 237 b; G. v. 130% and bk. ii. ch. 33 (Iv 296 a ; G. v. 252. In the latter of these chapters ('On the Association of Ideas') he is thinking niainh'- of a 'nonnatural connexion of ideas,' as in the case of strange prejudices or superstitions. *' Does Jjeibniz in this section, as some critics maintain, overlook his ' Pre-established Ilnnnony' and unconsciously a

28. In so far as the concatenation of their perceptions is due to the principle of memory alone, men act like the lower animals, resembling the empirical physicians ■"". whose methods are those of mere practice without theory. Indeed, in tliree-fourth.s of our actions we are nothing but empirics. For instance, when we

expect that there will be daylight to-morrow, we do so empirically, because it has always so happened until now. It is only the astronomer who thinks it on rational grounds*^.

29. But it is the knowledge of necessary and eternal truths that distinguishes us from the mere animals and gives us licason and the sciences, raising us to the knowledge of ourselves and of God"". And it is this in us that is called the rational soul or mind [fsprit], us, we must attend to partieiilnr instances in proportion to their frequency ; for then the expectation or recollection of another perception, usually connected with the perception we are experiencing, is reasonable ; especially in cases where we liave to take precautions. But as the violence [^themmcb] of a very powerful impression often produces all at once as much effect as the frequency and repetition of several moderate impressions could have done in the long-run, it happens that this violence engraves in the fancy an image as deep and as vivid as long experience could have done. Whence it comes that a chance but violent impression combines in our memory two ideas, which were already tog*'ther there, and gives us the same inclination to connect them and t I

30. It is also through the knowledge of necessary truths, and through their abstract expression, that we rise to acts of reflexion, which make us think of what is called I, and observe that this or that is within us : and thus, thinking of ourselves, we think of being, of substance, of the simple and the compound, of the immaterial, and of God Himself, conceiving that what is limited in us is in Him without limits. And these acts of reflexion furnish the chief objects of our reasonings ^^ {TJieod. Pre/. [E. 469 ; G. vi. 27].) ness or knowledge of these truths is knowledge of ourselves, and it is at the same time knowledge of God, who is the final reason of all things. Cf. Kouveaux Essais, bk. i. eh. i, § 4 (E. 207 b ; G. v. 72). 'A pretty general agreement among men is an indication and not a demonstration of an innate principle ; but the exact and decisive proof of these principles consists in showing that their certainty comes only from what is in us. ... It may be said that all Arithmetic and all Geometry

are innate and are in us in a virtual manner, so that we could find them by attentively considering and arranging what is already in our mind, without making use of any truth learned by experience or by external tradition, as Plato has shown in a dialogue' [Meno, 82 sqq.] 'in which he introduces Socrates leading a child to abstruse truths by questions alone, without giving him any information.' Cf. Frincip'Cs of Nature and of Grace, § 5. \ ^' Thus consciousness becomes self-consciousness (reflective con■"^^ 'sciousness) when we realize the eternal truths as eternal, that is to say, as the innate principles of our being and of the whole world. Substance is always a soul of some kind, because it must be something analogous to what we find in ourselves. Cf. Nouveaux Essais, bk. i. ch. i, § 21 (E. 211 b ; G. v. 70). 'Very often knowledge of the nature of things is nothing but knowledge of the nature of our mind [_es2)rit] and of those innate ideas, which there is no need to look for outside of it.' Cf. also § 23 (E. 212 b ; G. v. 71): 'Intellectual ideas or ideas of reflexion are derived from our mind ; and I should like very much to knoAv how we could have the idea of being, were it not that we oiirselves are beings and thus find being in ourselves.' We see here (in however imperfect a form) the germ of the Kantian transition from 'substance' to 'subject' as the ultimate metaphysical reality. Cf. p. 190. Boutroux finds in this passage the indication of a succession of stages in the progress of self-conscious reflexion. The nature of God is the truth or ultimate reality of our nature. Thus in ' reflexion, that is to say, in the return of the being towards its

31. Our reasonings are grounded upon two great principles, that of contradiction, in virtue of which we judge false that which involves a contradiction, and true that which is opposed or contradictory to the false '^ ; {Theod. 44, 169.)

32. And that of sufficient reason, in virtue of which we hold that there can be no fact real or existing, no statement true, unless there be a sufficient reason, why it should be so and not otherwise, although these reasons usually cannot be known by us"". {Theod. 44, 196.)

33. There are also two kinds of truths, those of reasonsource, which is God . . . we first of all come upon the ego, or the being which is in us, in so far as it is limited and distinct from other beings, and then upon being, substance and the immaterial, coming ever nearer to the Divine Essence itself. And finally, through perception which has thus become reflective and conscious, we reach the Infinite Being, whom, from the first, created beings are seeking confusedly and unwittingly. Then the circle, so to speak, closes upon itself : the created being identifies itself witli the Creator in so far as He is in it ; the finite has done all that its nature allowed in the way of reproducing the infinite.' (Edition of Za Monadologic, p. 156.) ^^ Cf. Introduction, Part ii. pp. 58 sqq. Leibniz sometimes distinguishes between the principle of contradiction and that of identity (A = A). But he recognizes that they ai'e ultimately one. Cf. Kouveaiix Essais, bk. iv. ch. 2, § i (E. 339 a; G. v. 343 . 'The principle of contradiction is in general : a proposition is either true or false. This contains two true statements ; (i) that the true and th*? false are not compatible in the same proposition or that a proposition cannot be true and false at the same time ; ^2) that the opposites or negations of the true and the false are not compatible, or that there is no middle term between tlie true and the false, or rather that it is impossible for a proposition to be neither true nor false.' See Aristotle, Metaph. V, 3, 1005^ 19 and 7, ion" 23. '•'^ In his earlier writings Leibniz calls the sufficient reason the determining reason, meaning the reason which determines the existence of this or that out of a number of possibilities, each of which involves no self-contradiction. As synonymous with the ' pnnciple of sufficient reason,' he also sometimes uses the phrase, 'principle of fitness [convenance] or of harmony.' He thus suggests that the sufficient reason of a thing is always to be found in its relations to other things, its place in the general system. We give the sufficient reason of anything when we show its ' compossibility ' with other 236 THE MO^S^ADOLOGY ing and those oi fact ^^ Truths of reasoning are necessary and their opposite is impossible : truths of fact are contingent and their opposite is possible ^\ When a truth is necessary, its

reason can be found by analysis, resolving it into more simple ideas and truths, until we come to those which are primary"". (Thcod. 170, 174. 189, 280282, 367. Abrcgc, Ohjcct. 3.) things in addition to its abstract 'possibility.' The principle of sufficient reason is the principle of final cause. Leibniz's adoption of the word 'sufficient' is supposed to have been suggested by its use in Mathematics in a sense similar to that in whieh we say that a certain magnitude 'satisfies' a pai-ticular equation. """^ Cf. the Scholastic raUo cognoscp.niH and ratio e^^fieyiOi. ^^ Cf. Thi'iyUcce, § 174 , E. 557 b ; G. vi. 217). 'It may be said of M. Bayle : Ubi bene, nemo meliufi, though it could not be said of him, as it was said of Origen: UM male, nemo iiejvs. . . . Yet M. Bayle adds at the end ' i of a passage, quoted by Leibniz in the previous section | •words which somewliat si>oil what he has so justly remarked. '• Now what contradiction would tliere have been if Spinoza had died at Leyden ? Would nature have been less perfect, less wise, less powerful?" He here confounds what is impossible, because it involves a contradiction, with what cannot happen, because it is not well fitted to be chosen. It is true that there would have been no contradiction in the supposition that Spinoza had died at Leyden and not at the Hague : it was perfectly possible. Accordingly, as regards the power of God, the matter w;\s indifferent. But it must not be imagined that any event, however insignificant. can be regarded as indifferent in rehition to God's wisdom and goodness.' •'"* Leibniz does not give us a very clear idea of the relations of tlje two principles to the two kinds of truths. This is probably • lUe to his hesitancy regarding the relations of the two principles to one another. In the Appendix to the Theodicec entitled Bemnrqura .su>- le firrr: dc M. Ki>ig, Leibniz says (E. 641 b; G. vi. 414): 'Both principles must apply not only to necessary, but also to contingent truths, and, indeed, that which has no sufficient reason must necessarily be non-existent. For it may in a manner be said that these two principles are included in the definition of the true and the false. Nevertheless when, by analyzing a suggested truth, we see that it depends upon truths whose opposite involves a contradiction, we can say that it is absolutely

necessary. But when, carrying our analysis as far as we like, we can never reach sucli elements of the given truth, it must be said to be contingent, and to have its origin in a prevailing reason, which inclines without necessitating.' But on the other hand, at a later date, Leibniz

34. It is thus that in Mathematics speculative Theorems and practical Canons are reduced by sxnalysis to Dcfinition.s, Axioms and FostitJates.

35. In short, there are simjjle ideas, of which no definition can be given " ; there are also axioms and postulates, in a word, primarij principles, which cannot be i)roved, and indeed have no need of proof ; and these are identical propositions '"% whose opposite involves an express contradiction. {Theod. 36, 37, 44, 45. 49, 52, 121-122, 337, 340-344.)

36. But there must also be a sufficient reason for con- ^ tinfjent truths or truths of fact ■'\ that is to say, for the. sequence or connexion of the things which are dispersed thioughout the universe of created beings, in which the analyzing into particular reasons might go on into endless detail, because of the immense variety of things in nature and the infinite division of bodies '\ There is an infinity writes to Clarke (71'"* Ecrit de Leibni::, E. 748 a ; G. vii. 355) : 'Tlio principle of contradiction is by itself suflficient for the demonstration of the whole of Arithmetic and Geometry, that is to say, of all mathematical principles. But in order to pass from Mathematics to Physics, another principle also is needed, the principle of sufficient reason.' See Introduction, Part ii. pp. 66 sqq. In the Monadulogij, Leibniz's position is the same as in the curlier of the passages (juoted. " The definition of an idea is, for Leibniz, the statement of the elements which a complet- analysis reveals in it. Cf. Mcditatloncs d of present and past forms and motions which go to make up the efficient cause of my present writing ; and there is an infinity of minute tendencies and dispositions of my soul, which go to make its final cause ^^.

37. And as all this detail again involves other prior or more detailed contingent

things, each of which still needs a similar analysis to yield its reason, we are no further forward : and the sufficient or final reason must be outside of the sequence or series of particular contingent things, however infinite this series may be ^°.

38. Thus the final reason of things must be in a necessary substance, in w^hich the variety of particular changes exists only eminently '", as in its source ; and tliis substance -we call God. (Theod. 7.) visible : it cannot consist of partes extra partes. And the ' infinite division' of bodies is merely another way of describing the infinite number of particular substances or Monads. *9 See Introduction, Part iii. p. 107. Cf. § 61. Here, in another form, arises the difficulty as to the relation of Leibniz's 'principles ' to one another. Apparently the efficient and the final cause (ombined make up the sufficient reason, neither by itself being enough. Yet elsewhere Leibniz represents efficient causes as ultimately depending on final causes. And efficient causes are by Leibniz usually identified with mechanical causes, whose principle is that of contradiction. See also Appendix F, p. 272. ^ This is an argument on the same lines as that by means of which Aristotle infers a 'prime mover.' It depends on his principle, dvayKT] (XTTjuai, i. e. v/e must come to a stop somewhere in the regress of causes or conditions. Cf. Phys. B, 6, 237" 3 ; 0, i, 251* 17 ; 0, 5, 256"' 13. Also Kant's Critique 0/ Pure Reason, Transcendental Dialectic, bk. ii. ch. 2 tind 3. *^ Eminently in contrast with formally. The terms are Scholastic and they were adopted by Descartes. Thomas Aquinas expresses the difference thus : ' Whatever perfection is in the effect must also appear in the cause, after the same manner if the agent and the effect are of the same kind {univocal) (thus man begets man), or in a more eminent, that is to say excellent, way, if the agent is of another kind {equivocal).' Descartes says: 'By the objective reality of an idea, I mean the entity or being of the thing represented by the idea, in so far as this entity is in the idea ; and in the same way we may speak of an objective perfection or an objective design, &c. For all that we conceive as being in the objects of ideas is objectively

39. Now as this substance is a sufficient reason of all this variety of particulars,

which are also connected together throughout ; there is only one God, and this God is sufficients'^.

40. We may also hold that this supreme substance, which is unique, universal '" and necessary, nothing outer by representation in tlie ideas themselves. Tlie same things are said to be formally in the objects of the ideas, when they exist in the objects just as we conceive them to exist ; and they are said to be eminently in the objects, wlien they do not really exist as we conceive them, but when they are so great that their excellence makes up for this defect.' Rcponses aux Deuxiemes Objections. Raisons qui prouvent I'existence de Dieu, iii. and iv., cf. note on this distinction in Yeitch's Translation of Descartes. 'Formally' as opposed to 'objectively' is almost equivalent to our ^objectively' (as opposed to ' subjectively ') or * really ' (as opposed to ' in idea '). As opposed to eminently, formally is secundum eandeni formam et rationeyn, while eminently is gradii or modo eminentiori. / ^^ That is to say, all particular things are connected together in one system, which implies one principle, one necessary substance, one God. The argument is not merely from the existence of order in the world to the existence of an intelligence which produces this order, but from the fact that the whole forms one system to the existence of one ultimate sufficient reason of the whole. Otherwise there might be various * orders ' or ' disorders ' in conflict with one another, each pre-supposing its own first principle or ' God.* This is Leibniz's form of the Cosmological proof of the existence of God. "•* 'Universal* in the sense of being equally the cause or first principle of all things. The whole spirit of Leibniz's philosophy is opposed to the supposition of a universal substance or spirit, of which all particular substances are merely modes. Thus in the Considerations sur la Doctrine d'un Esprit Unit ersel{i"] 02) he endeavours to refute the view that ' there is but one spirit, which is universal and which animates the whole universe and all its parts, each according to its structure and according to the organs it possesses, as the same blast of wind produces a variety of sounds from different organ-pipes' or tliat ' the universal spirit is like an ocean composed of an

infinite number of drops, which are separated from it when they animate some particular organic body and which are reunited with their ocean after the destruction of the organism.' This is 'the view of Spinoza and of other similar authors, who will have it that there is only one substance, viz. God, who thinks, l)elieves and wills one thing in me, and who thinks, believes and wills quite the oj»posite in some one else — an opinion the absurdity side of it being independent of it,— tliis substance, which is a pure sequence of possible being, must be illimitable and must contain as much reality as is possible ".

41. Whence it follows that God is absolutely perfect ; \ »j ^^^ perfection is nothing but amount of jjositive reality, in the strict sense, leaving out of account the lijnits or bounds in things which are limited. And where there are no bounds, that is to say in God, perfection is absolutely infinite. [TJicod. 22, !*}■('/. |E. 469 a; G. vi. 27].)

42. It follows also that created beings derive their perfections from the influence of God, but that their imperfections come from their own nature, which is incapable of being without limits. For it is in this that they differ from God ^". An instance of this original "^ ')u.i^k- {i'^'^W-^'f^c^^07i of created beings may be seen in the natural | U>i6T//a of bodies *^'". (T/t back only by other similar tendencies. This is what is meant by the 'claims' and '•asj)irations' — ttf-Wie Monads, mentioned in §§ 51 and 54. *•' Created beings must be essentially limited ; otherwise they would not be created, but would be identical with God. In the Theodicc'e Leibniz (following the Scholastic principle, bonuyn habel causain efficientcm, malum autcm dcficientcm), uses this as a hypothesis by which to remove from God the responsibility for the existence of evil. The origin of evil is the essential imperfection of created substances ; and God is the cause only of the perfection or positive^ reality of created things. *'^ This sentence is not given by E. It seems to have been added

43. It is farther true that in God there is jnot only the source of existences but also that of essences, in so far as thenars real, that is to say, the source of what is real in

tha„ possible ®^. For the understanding of God is the region of eternal truths or of the ideas on which they depend ^% and without Him there would be nothing real in the possibilities of things, and not only would there be nothing in existence, but nothing would even be possible. (TJieod. 20.) Ity Leibniz in revising the first copy of the Monadology. G. gives it in a foot-note. The natural inertia of a body is its passivity or that in it which limits its activity. So far as the passivity of the body is realXi.L,er potajnere appearance to us), it consists of confuseiL perception. But God is actus purus, entirely without passivity, and His perceptions are all perfectly clear and distinct. ""^ That is to say, God is not only the source of all actual existence, but also the source of all potential existence, of all that fends to exist. 'What is real in the possible' is its tendency to exist. In a sense, 'essences' or 'possible' things are independent of God. Ho does not create them as essences. They are the ol)jects of His understanding, and ' He is not the author of His own understanding' {Tfu'odirt'e, §380; E. 614 b ; G. vi. 341'. The nnture of ♦essences nr possibilities is determined solely by the principle of contradiction. And yet, in another sense, they mny be said to be dependent upon God, inasmuch as th;ions of His nature in one or another aspect or with particular limitations. His freedom, however, extends only to a choice of those which shall actually exist, and this choice is determined by His wisdom and His goodness, having regard to the nature of the * essences ' themselves. 'Without Him there would be nothing m erisfence,' for the existence of things is the result of His will. His choice. •Without Him nothing would be 2'>ossiblc,' for all that is j^ossible is the object of His understanding, and as His understanding is perfect (i.e. entirely free from confusion in its perceptions), its ')bject must be the ultimate nnture of things, that is, the very •essence of God Himself. Thus in § 44 Leibniz practically identifies •essences' or 'possibilities' with 'eternal truths.' Cf. Introduction, Part ii. p. 66. *"'•' Leibniz connects this port of his system with Plato's world ■)f ideas. Ho mentions as one of the ' many niost excellent doctrines of Plato' that 'there is in the Divine mind an intelligible world, which I also am wont to call the region of ideas.'

Epistola ad Hanschium (i707\ E. 445 b.

44. For "'^ if there is a reality in essences or possibilities, or rather in eternal truths, this reality must needs be founded in something existing and actual, and consequently in the existence of the necessary Being, in whom essence involves existence, or in whom to be possible is to be actual '°. {Theod. 184-189, 335.)

45. Thus God alone (or the necessary Being) has this prerogative that He must necessarily exist, if He is possible. And as nothing can interfere with the possibility of that which involves no limits, no negation and consequently no contradiction, this [His possibility] is sufficient of itself to make known the existence of God a priori We have thus proved it, through the reality of eternal truths. But a little while ago ^^ we proved it also a posteriori, since there exist contingent beings, which can have their final or sufficient reason only in the necessary Being, which has the reason of its existence in itself.

46. We must not, however, imagine, as some do, that eternal truths, being dependent on God, are arbitrary and depend on His will, as Descartes'^, and afterwards *® G. reads car, E. cependant. '" See Appendix G, p. 274. " §§ 36-39. '2 Cf. Descartes, Lettre au Pere Mersenne (Cousin's ed., vol. vi. p. 109). * The metaphysical truths which you call eternal have been established by God and are entirely dependent upon Him, like all other created things. Indeed, to say that these truths are independent cf God is to speak of God as a Jupiter or a Saturn and to subject Him to Styx and the Fates. . . . God has established these laws in nature, just as a king establishes laws in his kingdom.' Cf. loc. cit., p. 103. * We cannot without blasphemy say that the truth of anything precedes the knowledge which God has of it, for in God willing and knowing are one.' Elsewhere he says that God was perfectly free to make it untrue that the three angles of a triangle should be equal to two right-angles. As early as 167 1. in a letter to Honoratus Fabri, Leibniz writes : ' If truths and the natures of things are dependent on the choice of God, I do not see

how knowledge Iscientia] or even will can be attributed to Him. For will certainly presupposes some understanding, since no one can will except in view of some good [sub ratione honi]. But understanding presupposes something that can be understood, that is to say, some nature. But if all natures are the result of will. M. Poiret^^, appear to have held. That is true only of contingent truths, of which the principle is fitness [convenance] '"^ or choice of the hest^ whereas necessary truths depend solely on His understanding and are its inner object. {Theod. 180-184, 185, 335, 351, 380.)

47. Thus God alone is the primary unity or original simple substance, of which all created or derivative Monads are products and have their birth, so to speak, through continual fulgurations ^'^ of the Divinity from understanding also will be the result of will. How, then, does will presuppose understanding?' (G. iv. 259). The point was much discussed by the Scholastics, with special reference to the question whether or not the moral law is independent of the will of God. Descartes's view is in harmony with that of Duns Scotus, while Leibniz follows Thomas Aquinas. For Descartes, the Divine and the human understanding differ in kind : for Leibniz they differ merely in degree. ^^ Pierre Poiret (1646-17 19), a Calvinist minister, who held a charge in the Duchy of Zweibriicken, in the Rhine Palatinate. He was at first a Cartesian and published a book, Cogitatioms rationales de Deo, Anima et Malo, which Bayle attacked. Afterwards he came under the influence of Antoinette Bourignon, the Dutch religious enthusiast, whose life he wrote and whose views he expounded at very great length. This influence led him to attack Cartesianism with much fervour, and he is now remembered as a mystic rather than as a philosopher. ^* By convenance is meant mutual conformity, of such a kind tliat things ' fit into ' one another in the most perfect way. Thus the principle of coyivenance or of the best is what we should now call the idea of system. With Leibniz it is the same as the principle of sufficient reason, which is the principle of conditioned, as distinct from unconditional reality or truth. Cf. note 85. '^ That is to say, ' flashings ' or 'sudden

emanations.' ' God is the primary centre from which all else emanates' (G. iv. 553^. Cf. the Stoic r6vos which Cleanthes calls a 'stroke of fire' {TrXTjyr) -nvpoi), Frag. 76. The relation of God to the other Monads is the crux of Leibniz's philosophy. He wishes to maintain both the individuality of the Monads and their essential unity with God. Thus he seems to take fulguration as a middle term between ci-eation and emanation. ' Creation ' would mean too complete a severance between God and the other Monads ; * emanation * would mean too complete an identity between them. ' Fulguration ' means that the Monad is not absolutely created out of nothing nor, on the other hand, merely a mode or an absolutely necessary product of the Divine moment to moment, limited by the receptivity of the created being, of whose essence it is to have limits. {TJieod. 3*^^2-391, 398, 395.)

48. In God there is Power, which is the source of all, also KnoicJedf/e, whose content is the variety of the ideas, and finally Will, which makes changes or products according to the principle of the best^^ (Theod, 7, 149, nature, but that it is a possibility tending to realize itself, yet requiring the assistance, choice or will of God to set it free from the counteracting influence of opposite possibilities. As a possibility it has essential limits (i. e. it is not entirely perfect, actus purus) ; but it is ready to spring or ' flash ' into being, at the will of God. If there were no choice of God, possibilities would simply couuJteract one another. But His choice means no more than the removal of hindrances to development, in the case of certain 'elect' possibilities. Creation adds no new being to the universe, and yet it is not emanation, in the sense of a mere modification of the one Eternal Being. Thus the ' continual fulgurations ' of Leibniz are to be distinguished from the ' continual creation ' of Descartes. According to Leibniz, conservation is not, as with Descartes, a miraculous renewal of the existence of things from moment to moment, an absolute re-creation constantly repeated ; but it is the continuance of the activity, choice or will of God, by which certain possible things were set free to exist and through which alone they can persist. The successive states of any being are neither

completely independent of one another, so that at each moment there is a new creation (Descartes), nor are they so absolutely dependent on one another that each proceeds from its pi-edecessor by a logical or mathematical necessity (Spinoza), but they are connected together in a sequence which has its ground in the nature of the being, so that each is automatically unfolded from its predecessor according to a regular law, provided that God chooses to allow this unfolding. The 'continual fulgurations' are the cont'nual exercise of God's will in allowing the Monads of the actual world to unfold or develop their nature. Cf. On the ultimate Origination of Things, p. 344. "^ In the Theodicee (§ 150 ; E. 549 a ; G. vi. 199) Leibniz hints at a connexion between this characterization of God's nature and the doctrine of the Trinity. ' Soine have even thought that there is in these three perfections of God a hidden reference to the Holy Trinity : that power has reference to the Father, that is to say, to the Godhead [Divinife] ; wisdom to the eternal Word, which is called A070S by the most sublime of the evangelists ; and will or love to the Holy Spirit.' 150.) These characteristics correspond to what in thtcreated Monads forms the ground or basis "\ to the faciilty ; of Perception and to the faculty of Appetition. But in God these attributes are absolutely infinite or perfect ; and in \ the created Monads or the Entelechies (or perfect ihahiae. \as Hermolaus Barbarus translated the word "^) there are ionly imitations of these attributes, according to the degree pfjDerfection of the Monad. {Theocl 87.)

49. A created thing is said to act outwardly "' in so far f as it has perfection, and to suffer [or be passive, pdtir'] in] relation to another, in so far as it is imperfect. Thus aetli-itf/ [action] is attributed to a Monad, in so far as it has distinct perceptions, and passivity [passion] in so far as its ^perceptions are confused. {Theocl 32, 66, 386.)

50. And one created thing is more perfect than another, in this, that there is found in the more perfect that which serves to explain a primi what takes place in the less perfect, and it is on this account that the former is said tti act upon the latter ^^. " Leibniz does not elsewhere discriminate three elements in the created Monad, and

we must not suppose that the 'ground or basis' is anything in itself, apart from the two 'faculties.' Leibniz wisht's to emphasize the view that the Monad, whether created or uncreated, is essentially force or activity, manifesting itself in perception and appetition. ^* Peifectihabia (from perfede and haheo) was formed to correspond to IvTfkix^ia (from IvnKws and ex*"')- Cf. note 32. Hermolaus Barbarus or Ermolao Barbaro (1454-1493) was an Italian scholar who endeavoured, by means of translations of Aristotle and of the Aristotelian commentaries of Themistius, to make known the true Aristotelian doctrine as against the degenerate forms which Scholasticism had given it. He came of a Venetian family and was Professor of Philosophy at Padua, where he lectured on Aristotle's Ethics. "^^ Of course, no Monad really does act outside itself. This is merely Leibniz's explanation of what we mean when we speak of outward action, just as the Copernican system explains what wc mean when we speak of 'sunrise' and 'sunset,' though the sun neither ' rises ' nor ' sets.' *" Thus the explanation or reason of an event is its actual cause. This connects itself with Leibniz's view that the existence of

51. But in simple substances the Jniluence-Mif^one Monad upon anotlifijijs only ideal, and it can have its effect only through the mediation of God, in so far as in the ideas of God any Monad rightly claims that God, in regulating the others from the beginning of things, should p have regard to it. For since one created Monad cannot j have any physical influence upon the inner being of another, it is only by this means that the one can be dependent upon the other ^\ {Theod. 9, 54, 65, 66, 201. Ahrege, Object 3.)

52. Accordingly, among created things, activities and passivities are mutual. For God, comparing two simple substances, finds in each reasons which oblige Him to adapt the other to it ^^, and consequently what is active in certain respects is passive from another pouit of view^^ ; a thing arises solely from the liberating of its essential activities, and that the Monads claim existence in proportion to their perfection, that is to say, to the distinctness of their perceptions. Cause and effect are

relative : every created Monad is both at once. God alone is pure cause or reason (acfvs purus). Cause = relative activity =■■ relative distinctness of perception. This may instructively be compared and contrasted with the views of Berkeley and Hume regarding cause and .' necessary connexion.' See Introduction, Part iii. p. 105. Cf. also Spinoza, Ethics, Part iii. Def. I and 2, and Prop, i, 2 and 3. *' We have here the principle of the Pre-established Harmony (further referred to in §§80 and 81). It is a harmony or mutual compatibility in the very nature of things, anterior to their creation. Its perfection in the actual world is the ground of God's choice of that world ; and thus it is not in any sense a created harmony. In this respect it differs from eveiy form of Occasionalism. See Introduction, Part ii. pp. 39 sqq. **- No two simple substances are exactly the same, yet all represent the same universe. Therefore a perception which is comparatively distinct in one must be comparatively confused in another or others, and whatever changes take place in one must be accompanied by corresponding changes in the others. Thus each fits into the others. "^ Leibniz's expiession here is point de consideration. But he generally uses the phrase point de vne, which he introduced as a regular term in philosophical literature. It need hardly be remarked that the term has a peculiar importance in Leibniz's philosophy. r active in so far as what we distinctly know in it serves to explain [rendre raison de\ what takes place in another, and passive in so far as the explanation [raison] of what takes place in it is to be found in that which is distinctly known '^ in another. (Thend. 66.)

53. Now, as in the Ideas of God there is an infinite number of possible universes, and as only one of them can be actual, there must be a sufficient reason for the choice of God, which leads Him to decide upon one rather than another^*. (Theod. 8, 10, 44, 173, 196 sqq., 225, 414-416.)

54. And this reason can be found only in the fitness [convenance], or in the degrees of perfection, that these worlds possess ^\ since each possible thing has the right to aspire to existence in proportion to the amount of perfection it contains in germ*^

{Tlieod. 74, 167, 350, 201, 130, 352, 345 »qq., 354.) *' See Introduction, Part ii. p. 65. ^^ See Monadology, note 74. God is not compelled by an absolute, metaphysical necessity, but * inclined ' by a moral necessity to create the world which, as one harmonious system, is the best. The distinction between moral necessity and absolute compulsion is of Scholastic origin. 'Possible things are those which do not involve a contradiction. Actual things are nothing but the possible things which, all things considered, are the best. Therefore things which «re less perfect are not on that account impossible ; for we must distinguish between the things which God can do and those He wills to do. He can do everything, He wills to do the best.' Episiola ad BernmclUum (1699), (G. Math. iii. 574). *" This aspiration to existence is the tendency to pass into existence and to proceed from confused to distinct perceptions, which makes the 'possible' things of Leibniz real essences as distinct from purely indeterminate capacities. Possibilities, according to Leibniz, are never quite empty : they are always realities in germ. Cf. notes 64 and 67. ' From the very fact that there exists something rather than nothing, we must recognize that in possible things, or in possibility or essence itself, there is a certain need of existence [exigentiam exisientiae] or (so to speak) a certain aspiration to exist, and, in a word, that essence by itself tends to existence. Whence it further follows that all possible things, i.e. things expressing essence or possible reality, tend with equal right to existence in proportion to the quantity of essence or reality they R r^ 248 THE MONADOLOGY

55. Thus the actual existence of the best that wisdom makes known to God is due to this, that His goodness makes Him choose it, and His power makes Him produce it^^ {Theod. 8, 78, 80, 84, 119, 204, 206, 208. Ahrege, Object I and 8.)

56. Now this connexion or adaptation of all created things to each and of each to all, means that each simple substance i as relations which express all the others, and. consequent^.y, that it is a perpetual living mirror of the universe*^. {Theod. 130, 360.)

57. And as the same town, looked at from various sides, appears quite different and becomes as it were numerous in aspects [^perspectivement] ; even so, as a result of the infinite number of simple substances, it is as if there were so many different universes, which, nevertheless are nothing but aspects [perspectives] of a single universe, according to the special point of view of each Monad ***. {Theod. 147.) ' " ^ '" contain or to their degree of perfection ; for perfection is nothing but quantity of essence/ Ultimate Origination of Tilings, p. 340. *■' This section states briefly the principles of Leibniz's Optimism, which are fully expounded and defended in the Theodicee. A world entirely free from evil would be indistinguishable from God Himself. The evil of the world arises entirely from the essential limitations of created things — their limitations as essences or possibilities. Consequently evil is not created by God ; but He creates the universe in which there is the least amount of evil that is possible in any system of things, *** Cf. Nicholas of Cusa, Bialogi de ludo gldbi (1454-59 , i- ^57 ^ • ' The whole is reflected in all the parts ; all things keep their own relation [lidbitwlo^ and proportion to the universe.' Also De doda ignorantia (1440), i. 11 : ' Visible things are images of the invisible, and the Creator can be seen and known by the creatures as in a miiTor darkly [quasi in speculo et aenigmate].* ^® The ' point of view ' of each Monad is its body. But we must not give a spatial meaning to the expression, as if the Monad's; point of view depended on its having this or that position in space. For the Monad is absolutely non-spatial, and the nature of its body depends on the degree of confusedness (or distinctness) of its perceptions. Thus to say that the body is the point of view of the soul means simply thf.t the particular way in which the soul represents or perceives the universe is determined by the degree

58. And by this means there is obtained as great variety as possible, along with the greatest possible order ; that is to say, it is the way to get as much perfection as possible^". {Uieod, 120, 124, 241 sqq., 214, 243, 275.)

59. Besides, no hypothesis but this (which I venture to call proved) fittingly exalts

the gi-eatness of God ; and this Monsieur Bayle recognized when, in his Dictionary (article Eorarius^^), he raised objections to it, in which of distinctness of its perceptions. Cf. Theodicee, § 357 (E. 607 b ; G. vi. 327). * The projections of perspective, which, in the case of the circle, are the same as the Conic Sections, show that one and the same circle can be represented by an ellipse, by a parabola and by a hyperbola, and even by another circle, by a straight line and by a point. Nothing seems more different, nothing more unlike, than these figures; and yet there is an exact relation between them, point for point. Thus it must be recognized that each soul represents to itself the universe, according to its point of view and by a relation peculiar to itself ; but in this there always continues to be a perfect harmony.' *^ For Leibniz the highest perfection is the most complete unity or order in the greatest variety. The Monads have the most complete unity, because the essence of each consists in representing the same universe, while they have the greatest variety, because the points of view from which they represent it are infinitely various. ' For a world to be possible, it is enough that it should have intelligibility ; but in order to exist it must have a preeminence [prevalence] in intelligibility or order ; for there is order in proportion as there is much to distinguish in a manifold \multitudey Lettre a Bourguet (17 12 ?) (E. 718 b ; G. iii. 558). ^^ See note 29. Bayle compares Leibniz's theory to the supposition that a ship might be constructed of such a kind that entirely by itself, without captain or crew, it could sail from place to place for years on end, accommodating itself to varying winds, avoiding shoals, casting and weighing anchor, seeking a haven when necessary and doing all that a normal ship can. He admits that the omnipotence of God could give such a power to a ship, but he maintains that the nature of the ship would make it impossible for it to receive such a power. And 'however infinite be the knowledge and power of God, He cannot, by means of a machine which lacks a certain part, do that which requires the help of that part.' Thus Bayle argues against the possibility of complete spontaneity in the Monads, and consequently maintains

that the Beus ex machina is involved in Leibniz's Pre-established Harmony quite as much as in Occasionalism. indeed he was inclined to think that I was attributing too much to God — more than it is possible to attribute. But he was unable to give any reason which could show the ^^ impossibility of this universal harmony, according to I which every substance exactly expresses all others through L^ the relations it has with them.

60. Further, in what I have just said there may be seen the reasons a priori why things could not be otherwise than they are. For God in regulating the whole has had regard ^^ to each part, and in particular to each Monad , whose nature being to represent, nothing can confine it to the representing of only one part of things ; though it is true that this representation is merely confused as regards the variety of particular things [le detail] in the whole universe, and can be distinct only as regards a small part of things, namely, those which are either nearest or greatest ^^ in relation to each of the Monads ; otherwise each Monad would be a deity. It is not as regards their object, but as regards the different ways in which they have knowledge of their object, that the Monads are. limited ^*. In a confused way they all strive after ivont a] the infinite, the whole ^^ ; but they are limited and differentiated through the degrees of their distinct perceptions.

61. And compounds are in this respect analogous with ^'^ So G. E. reads ' has a regard ' [a un egard]. ** If the Monads are non-spatial, how can we speak of anything ^^ being nearest or greatest in relation to a Monad ? Every Monad i has a body of some kind and this body is confusedly perceived as I spatial in itself and in relation to other bodies, though really it is I nothing but an aggregate of non-spatial Monads. When therefore it is said that certain things are near or great in relation to a Monad, what is meant is that they are near or great in relation to the body of the Monad. "• ^* That is to say, thought in the widest sense, conscious or unconscious, is limited only by itself : there can be nothing that is not an object of thought, more or less adequate. Contrast with this the position of Kant. See Introduction, Part iv,

pp. 178 sqq. *^ Cf. Nicholas of Cusa, Dialogus de Genesi (1447) 72 b : ' All things seek the same, which is something absolute.' \symholisent avec ^"^J simple substances. For all is a plenum (and thus all matter is connected together) and in the plenum every motion has an effect upon distant bodies in proportion to their distance, so that each body not only is affected by those which are in contact with it and in some way feels the effect of everything that happens to them,))ut also is mediately affected by bodies adjoining those with which it itself is in immediate contact. Wherefore it follows that this inter-communication of things extends to any distance, however great. And consequently every body feels the effect of all that takes place in the universe, so that he who sees all might read in each what is happening everywhere, and even what has happened or shall happen, observing in the present that which is far off as well in time as in place : crvfxin'oia Trdvra, as Hippocrates said "^. But a soul can read in itself only ^ The expression ' symbolize ' suggests the * calculus ' idea which is so continually in Leibniz's mind. As numbers are symbols of the things numbered, and "\ve make accurate calculations without referring at every step to the particular things for which our symbols stand, so in general unanalyzed thoughts may be symbols of their simple elements. In the same way compound things are symbols of the simple substances which compose them. What is perceived confusedly in compounds is not a mere illusion but an imperfect representation or symbol of the real characteristics of r^simple substances. Thus, in this section, Leibniz would say that the spatial or material plenum, (which is a confused perception of ours) is a symbol of the infinite (or perfectly complete) series of Monads, which has no gaps, since the Monads differ from one I another by infinitely small degrees. Similarly, the material action i»nd re-action throughout the universe, such that a change at any one point affects every other, is a symbol of the Pre-established Harmony among the Monads. And, again, the fact that everything that happens, has happened or shall happen in the luiiverse might be read in any one body is a symbol of the representative tharacter of each Monad as ideally containing

the whole within itself. It is because they are thus symbolic that the phenomena of the material world are j)henomena hencfundata, *' 'S.vfxirvoia (the noun) is probably a corruption from avfiirvoa (the adjective), * in agreement,' lit. ' breathing together,' com^irantia. Leibniz makes the same quotation in the New Essays, Introduction, p. 373. He there translates the phrase by the words 'tout est that which is there represented distinctly ; it cannot all at once unroll everything that is enfolded in it^**, for its complexity is infinite ^^ cotispirant.' The mistake may be due to an imperfect recollection of the phrase in Hippocrates: ^vppoia fxia, ^vfxnvoia/jLia, ^v/x-rradfa ■navra. {De Alimento, 4, Littre, (Euvres d'Hippoaate, vol. ix. p. io6). Cf. Plutarch, De fato, 574 E : rd (pvcd SiotKiiaOai rot/de rbv Koafiov avfAirvovv, kol av/MiraOrj, avrbv avrai ovra. For a later statement of the same position, see Fichte, Werke, ii. 178 sqq, 'In every moment of her duration, nature is one connected whole : in every moment each part must be what it is, because all the others are what they are. . . . You cannot conceive even the position of a grain of sand other than it is in the present without being compelled to conceive the whole indefinite past as having been other than it has been, and the whole indefinite future other than it will be ... I am what I am because in this conjuncture of the great whole of nature only such, and no other, was possible ; and a spirit who could look through the secrets of nature would, from knowing one single man, be able distinctly to declare what men had formerly existed and what men would exist at any future moment ; in otie individual he would cognize all real individuals. My connexion, then, with the whole of nature is that which determines what I have been, am.' and shall be, and the same spirit would be able, from any possible moment of my existence, to discover infallibly what I had been and what I was to become.' [Trans, by Prof. Adamson, Philosophy of Kant, p. 221.] ** E. reads ses regies: Q. reads ses replis. The latter phrase is used in the Principles of Nature and of Grace, § 13. ^» Cf. Leibnitiana, Dutens, vol. vi. Part i. p. 332. ' I admit that after death we do not at first remember what we were, for this is neither naturally right nor in accordance with the fitness of things [ni propie

ni hienseant dans la nature]. Nevertheless I believe that whatever has once happened to the soul is eternally imprinted upon it, although it does not at all times come back to us in memory ; just as we know a number of things which we do not always recollect, unless something suggests them and makes us think about them. For who can remember all things? But since in nature nothing is futile and nothing is lost, but everything tends to perfection and maturity, each image our soul receives will ultimately become one [un tout] with the things which are to come, so that we shall be able to see all as in a mirror and thence to derive that which we shall find to be more fitted to satisfy us. Whence it follows that the more virtuous we have been and the more good deeds we have done, the more shall we have of joy and satisfaction,' ^

62. Thus, although each created Monad represents the I whole universe, it represents more distinctly the body ' which specially pertains to it, and of which it is the entelechy ^"°; and as this body expresses the whole universe through the connexion of all matter in the 'plenum, the soul also represents the whole universe in representing this body, which belongs to it in a special way. {Uieod. 400.)

63. The body belonging to a Monad (which is its entelechy or its soul) constitutes along with the entelechy what may be called a living being, and along with the soul what is called an animal ^°\ Now this body of a living being or of an animal is always organic ; for, as every Monad is, in its own way, a mirror of the universe, and as the universe is ruled according to a perfect order, there must also be order in that which represents it, i. e. in the perceptions of the soul, and consequently there must be order in the body, through which the univei-se is represented in the soul ^^^. (Theod. 403.) ^ ^'*' See note 32. The entelechy or soul is at once the final cause of the body and the power which controls it or the force which acts through it. As dominant Monad, the soul has more clearly the perceptions which are relatively confused in the Monads implied by the body. The soul is thus relatively the perfection of the body. And similarly, in the soul is to be read tlie reason (i. e. the

distinct perception) of what takes place in the body, and it is therefore the adivUy or force of the body. Cf. Introduction, Part iii. p. no. ^'^^ See § 19. Leibniz uses the term living being not as including all beings which have life, but specifically with reference only to those whose dominant Monad is unconscious, while in the animal (as distinct from the living being) the dominant Monad has consciousness and memory. 102 'p]^ug order and organism are conceived by Leibniz under the idea of an infinite series of elements, each differing from its i^eighbour to an infinitely small extent. The Monad-series of the universe, extending from God t<5 the lowest of Monads, is reflected in the structure of the individual organism, extending from the dominant Monad downwards, and that again is reflected in the series of perceptions within each Monad itself, extending from the most distinct perceptions to which it has attained down to the most obscure.

64. Thus the organic body of each living being is a kind of divine machine or natural automaton, which infinitely surpasses all artificial automata. For a machine made by the skill of man is not a machine ^"^ in each of its parts. For instance, the tooth of a brass wheel has parts or fragments which for us are not artificial products, and which do not have the special characteristics of the machine, for they give no indication of the use for which the wheel was intended. But the machines of nature, namely, living bodies, are still machines in their smallest jiarts ad infimtum '*'*. It is this that constitutes the dif^^^ i. e. Jiot a machine made by man. From another point of view, as a product of nature, it is (as tliis section says) a machine in its smallest parts, for in reality all bodies are living bodies. Thus the words ' for us * in the next sentence of this section were added by Leibniz in a revision of his original manuscript, evidently in order to suggest that while the fragments of the wheel are not products of ' human art,' they are yet products of 'divine art.' ^"* Cf. Lettrc a M. V:^vtque de Meaux (Bossuet) (1692), (FoTicher de Careil, i. 277 ; Dutens, i. 531). ' The machines of nature are machines throughout, however nmall a part of them we take ; or rather the least part is itself an infinite world, which even expresses in its

own way all that there is in the rest of the universe. That passes our imagination, yet we know that it must be so ; and all that infinitely infinite variety is animated in all its parts by a constructive [architectonique] wisdom that is more than infinite. It may be said that there is Harmony, Geometry, Metaphysics, and, so to speak. Ethics [moraJe'] everywhere, and (what is surprising) in one sense each substance acts spontaneously as indci^endont of all other created things, while in another sense, all others compel it to adapt itself to them ; so that it may be said that all nature is lull of miracles, but miracles of reason, miracles which become miracles in virtue of their being rational, in a way which amazes us. For the reasons of things follow one another in an infinite succession [s'y pousse a un progres infini], so that our mind while it sees that things must be so, cannot follow so as to comprehend. Formerly people admired nature without in any way understanding it, and that was supposed to be the right thing to do. Latterly they have begun to think nature so easy to undeistand that they have developed a contempt for it, and some of the 710 w philosophers even encourage themselves in idleness by imagining that the^- know enough about nature already.' See also Introduction, Part iii. p. 108. ference between nature and art, that is to say, between the divine art and ours '*'^ {Theod. 134, 146, 194, 403.)

65. And the Author of nature has been able to employ this divine and infinitely wonderful power of art, because each portion of matter is not only infinitely divisible, as the ancients observed "", but is also ^actually subdivided without end "", each part into further parts, of which '*"" Cf. Nicholas of Cus.i. Idiotae Lihri quatuor, iii. 2,82 a. ^ Human (it^ artes imagines Dirinae ariis/ ^^ See Aristotle, Phys., Z, 9, asg** 5. Ov yap avyKeirai u xpovos (k rwv vvv dbiaiptTcuv, uaircp ov5' dWo pLfycOos ovS^v. Cf. Phys., Z, I, 231" 18 ; Z, 4 (to 5^ pifTafidWov dirav avAyurj Siaiperuv fivai) ; De Caelo, F, i, 298^ 33. See also Bayle's Dictionary, article * Zeno,* notes F and Cx. "^ Cf. Eeponse a la httrc dc M. Foitcher (1693), (E. 118 b. ; G. i. 416). 'There is no part of matter which is not, I do not say divisible, but

actually divided ; and consequently the smallest particle must be considered as a world filled with an infinity of different creatures.* The paradox in such statements as these arises from the way in which Leibniz speaks of matter as composed of non-spatial elements. Leibniz regards matter as a mere aggregate and as therefore not itself a real substance. But he never explains what he means by an aggregate of Monads, each of which is nonquantitative. Again it may be asked whether a real whole can consist of an infinite number of real parts ? Does not infinitedivisibility mean that it is impossible to bring to an end the enumeration of parts, because the relation of whole to parts is so indefinite that we have no means of determining what exactly is a part? Thus the term 'infinite' here means that the process of division is one which can never be completed. Consequently it seems self-contradictory to speak of things as * actually subdivided without end* or infinitely. (Cf. Kant's Critique of Ptire Reason, First and Second Antinomies. See also Bosanquet's Logic, vol. i. pp. 172 sqq.) It was Euler, the mathematician, who first brought this criticism against Leibniz, saying that the existence of units in the shape of Monads implies the finite divisibility of matter, while Leibniz at the same time maintains its infinite divisibility. (Lettres a nne Princesse d'AUemagne (1761), Brewster's Trans, vol. ii. pp. 30 sqq.) Euler's argument is directed mainly against the Wolffian adaptation of Leibniz's position. Leibniz might reply that matter as infinitely divisible, is a mere phenomenon, resulting from an actual infinity of real Monads. But even in this explanation the idea of ' infinite ' seems to be used in two opposite senses ,1) as equivalent to 'incapable of completion,* (2) as equivalent to * absolutely complete.' each has some motion of its own ; otherwise it would be impossible for each portion of matter to express the whole universe ^°^. (TJieod. Prelim., Disc, de la Conform. 70, and 195.)

66. Whence it appears that in the smallest particle of matter there is a world of creatures, living beings, animals, entelechies, souls.

67. Each portion of matter may be conceived as like a garden full of plants and like a

pond full of fishes. But each branch of every plant, each member of every animal, each drop of its liquid parts is also some such garden or pond.

68. And though the earth and the air which are between the plants of the garden, or the water which is between the fish of the pond, be neither plant nor fish ; yet they also contain plants and fishes, but mostly so minute as to be imperceptible to us ^^^. 108 rpj^Q I portions of matter,' of which Leibniz here speaks, are ultimately Monads, each of which must ideally contain the whole universe. The Monads are infinite in number, and each, as it ideally contains all, must therefore contain an infinity of 'parts.' Or the argument which Leibniz implies may be otherwise put thus : If the ' portions of matter ' are not actually subdivided without end, there must be ultimate undivided atoms. But such atoms necessarily imply a void ; they are inconsistent with a plenum. And unless there is a plenum it is impossible for each portion of matter to 'express' or be affected by all the rest. ^"^ Leibniz had a deep interest in the remarkable development of microscopic investigation, which took place during his lifetime. He frequently refers to the work of Leuwenhoek, the discoverer of spermatozoa, Swammerdam, the entomologist, and Malpighi, who, among many other works, made a microscopic study of the physiology of animals and plants. In a Meditation stir la notion commune de •a Justice (MoUat, p. 66), Leibniz says: 'It is very necessary to advance our microscopical knowledge. Scarce ten men in the world are earnestly devoted to it ; and though there were a hundred thousand, they would not be too many for the discovery of the important wonders of this new world which is the inside of the world we know and which is capable of making our knowledge a hundred thousand times as extensive as it is. For this reason I have often wished that great princes might be led to make arrangements for this and to support people who would devote

69. Thus there is nothing fallow, nothing sterile, nothing dead in the universe, no chaos, no confusion save in appearance ^^°, somewhat as it might appear to be in a pond at a distance, in which one would see a confused movement and, as it were, a

swarming of fish in the pond, without separately distinguishing the fish themselves. {Theod. Pre/. [E. 475 b ; 477 b ; G. vi. 40, 44].)

70. Hence it appears that each living body has a dominant entelechy, which in an animal is the soul ; but the members of this living body are full of other living beings, plants, animals, each of which has also its dominant entelechy or soul "\ themselves to it.' The view of Leibniz also suggests the celltheory of modern physiology ; but the analogy must not be pushed too far. However numerous, for instance, may be the cells in any portion of an organism, they are not, like Leibniz's 'portions of matter,' infinitely subdivided in their turn. In fact, the celltheory has in many ways a closer relation to the mechanical view of things than to the position of Leibniz. See Sandeman, Problems 0/ Biology, pp. 53 sqq. ^^^ Cf. Epistola ad Bemoullium (1699) (G. Math. iii. 565) : 'God, out of the infinite number of possible things, chooses by His wisdom that which is most fitting. But it is evident that if there were a vacuum (and similarly if there were atoms) there would remain sterile and fallow places, in which, nevertheless, without prejudice to any other things, something might have been produced. But it is not consistent with wisdom that such places should remain. And I think that there is nothing sterile and fallow in nature, although many things appear to us to be so.' "^ See Introduction, Part iii. p. in. May not the whole world, then, be conceived as one body, whose dominant soul is God, the Monad of Monads? 'AH are but parts of one stupendous whole, Whose body nature is and God the soul.' Pope, Essay on Man, Epistle i. 267. Yet Leibniz maintains that God has no body. Cf. Monadology, § 72. The difficulty is a fundamental one. Leibniz repeatedly disclaims the doctrine of a 'world-soul,' if it is understood as in any way /destroying the independence of individual souls. 'Although a soul / may have a body composed of parts, each of which has a soul of its \ own, the soul or form of the whole is not composed of the souls \or forms of the parts.' Lettre a Arnauld (1687) (G. ii. 100).

71. But it must not be imagined, as has been done by some who have misunderstood

my thought, that each soul has a quantity or portion of matter belonging exclusively to itself or attached to it for ever ^^^ and that it consequently owns other inferior living beings, w^hich are devoted for ever to its service. For all bodies are in a perpetual flux like rivers "", and parts are entering into them and passing out of them continually.

72. Thus the soul changes its body only by degrees, little by little, so that it is never all at once deprived of all its organs ; and there is often metamorphosis in animals, but never metempsychosis or transmigration of souls ^^* ; nor are there souls entirely separate [from '^2 The misunderstanding probably arose from a confusion of materia prima, the passive element in the individual created Monad, which is inseparable from the active or soul element, with materia secunda, the changing body of a compound substance, which is phenomenal and not perfectly real, although it is founded upon reality. Cf. Introduction, Part. iii. pp. 95 sqq. "^ The phrase is as old as Heraclitus, who, according to Plato, ' likened things to the flowing of a river,' Craiylus, 402 A. Cf. Aristotle, Mdajjh., A, 6, 987^ 32. See also Burnet, Early Greek PhilosopJnj, p. 149. 11* While soul and body are quite distinct from one another, their union is of the closest possible kind. Changes in the one correspond to changes in the other. But as the perceptions of the soul are clearer and more distinct than those of the body, the changes in the soul cause or explain the changes in the body. Transmigration of souls is inconsistent with this, because it means that the body remains the same, though the soul is changed. Accordingly, in Leibniz's view, the identity of any individual substance means 'the preservation of the same soul.' Nouveaux Essais, bk. ii. ch. 27, § 6. (E. 278 b ; G. v. 216.) He argues against Locke that identity is not fixed by time and place, and that the identity of plant, animal, and man does not consist in the possession of the same organic body. Thus, according to Leibniz, every soul or entelechy, whether conscious or not, has what he calls *real and physical identity ' (i. e. not a derived identity, but an identity belonging to its own nature, (ftvffis), and is, in virtue of this, imperishable

{incessable^' , while the self-conscious soul has in addition a 'personal* or 'moral' identity, in virtue of which it is immortal. Neither continued consciousness nor memory is essential to the maintenance of this ' moral ' identity. ' If I were to forget all the bodies] nor unembodied spirits [c/enies smis corps]. God alone is completely without body ^^K {Theod. 90, 124.)

73. It also follows from this that there never is absolute birth [generation] nor complete death, in the strict sense, consisting in the separation of the soul from the body. What w^e call h'lHhs [generations] are developments and growths, while what we call deaths are envelopments and diminutions.

74. Philosophers have been much perplexed about the origin of forms ^'^, entelechies, or souls ; but nowadays past, if I liad even to be taught anew my own name and how to read and write, I could always learn from other people my life in former times, just as I should still retain my rights, so that it would not be necessary to divide me into two people and to make me my own heir. No more is required to maintain the moral identittj, which constitutes the same person' (Joe. cit, § 9; E, 280 b ; G. v. 219). 'An immaterial being or a mind [esprit] cannot he deprived of all perception of its past existence. It retains impressions of all that has fortaerly happened to it ; but these feelings are usually too small to be capable of being distinguished and of being consciously perceived, although they may perhaps be developed some day. This continuing and connexion of perceptions makes the being really the same individual, but apperceptions — that is to say, when one is conscious [s'aperpit'] of past feelings — prove also a moral identity and make the real identity apparent' (Joe. cit., § 14; E. 281 b; G. V. 222). Cf. New Essays, Introduction, p. 373. ^^^ A soul without body (in the sense of materia secunda) would be a soul without any relation to other Monads. For a compound substance (i. e. soul and body) consists ultimately in the relation of a dominant Monad to subordinate Monads. * Creatures free or freed from matter would at the same time be separated from the universal connexion of things, and, as it were, deserters from the general order,'

Considerations sur les Principes de Vie (1705) (E. 432 b ; G. vi. 546). Again, a soul without body (in the sense of materia prima) would be a Monad without passivity or confused perception, i. e. it would be ac^uspwn 26o THE MONADOLOGY it has become known, through careful studies of plants, insects, and animals, that the organic bodies of nature are never products of chaos or putrefaction, but always come from seeds, in which there was undoubtedly some preformation^^"; and it is held that not only the organic except in appearance : Aristotle mentions this (De Caelo, bk. iii. ch. a). And the author of the De Liaeta, bk. i. (which is attributed to Hippocrates), expressly says that an animal cannot be engendered absolutely [tout de nouvcau] nor completely [tout a fait'] destroyed. Albeitus Magnus and John Bacon seem to have thought that substantial forms were already hidden in matter from the beginning of time. Fernel makes them descend from heaven, to say nothing of those who regard them as taken off from the soul of the world. They have all seen a part of the truth ; but they have not developed it. Several have believed in transmigration, others in the traduction of souls ' [i.e. iin the soul of the offspring being as it were begotten of the soul of the parent] 'instead of transmigration and the transformation of an animal already formed. Others, not being able to explain otlierwise the origin of forms, have admitted that they begin in ^ real creation, but while I allow that this creation takes place in time only in respect of the rational soul, and hold that all forms which do not think were created along with the world, they believe that this creation takes place every day when the smallest worxa is begotten.' Cf. New System, notes 43 and 44. "' * The living [animee] and organic seed is as old as the world.' Lettre a la}Reine Sophie Charlotte (G. vi. 517). Immediately before the time of iieibniz, the origin of life in the individual plant, animal, or man was explained either by a theory of traduction or by a theory of eduction. According to the theory of traduction, the * form ' of the offspring comes from the parental ' form ' or ' forms ' in the same way as the body of the offspring comes from the parental body or bodies. According to the theory of eduction, on the other hand, life comes from

inorganic matter, from * chaos or putrefaction.' Eductioiuthus corresponds to what we now call ' spontaneous generation.' According to the theory of preformation, adopted by Leibniz, the germ contains in miniature the whole plant or animal, point for point, and accordingly the ' form ' df the plant or animal exists in the spermatozoon in a contracted or ' enveloped ' state, and it has existed since the beginning of time. For, as we have seen (§ 65)* there is no limit to the smallness of things, and even a spermatozoon may contain an indefinite number of other living beings. This theory of preformation, which was based on the microscopic investigations of Malpighi and Leuwenhoek, has now been entirely abandoned, as the result of more thorough obsei-vations. Cf. Sande body was already there before conception, but also a soul in this body, and, in short, the animal itself ; and that by means of conception this animal has merely been prepared for the great transformation involved in its becoming a^x animal of another kind. Something like this is indeed seen apart from birth [generation], as when worms become flies and caterpillars become butterflies. {Theod. 86, 89. Pre/. [E. 475b; G. vi. 40sqq.]; 9©? 187, 188, 403, 86, 397.)

75. The animals, of which some are raised by means of conception to the rank of larger animals, may be called spennatic, but those among them which are not so raised but remain in their own kind (that is, the majority) are born, multiply, and are destroyed "* like the large animals, and it is only a few chosen ones [eliis] that pass to a greater theatre.

76. But this is only half of the truth "^, and accordingly man, ProUeyns of Biology, p. 92. While rejecting traduction in its ordinary form, Leibniz recognizes its affinity to his own view, which he describes as 'a kind of traduction, more satisfactory [traitahle'] than that which is commonly taught.' Theodicee^ § 397 (E. 618 b ; G. vi. 352). ^'* According to Leibniz, they are not entirely, but only apparently destroyed. The statement is made in the form in which scientific observers of Leibniz's time would have put it, and it is subject to the qualification made in § 76. / Leibniz's point

is that, just as thei-e is a visible world of larger organisms, «o there is a microscopic world of spermatozoa, undergoing in miniature all the changes which take place in the larger visible world. The larger organisms of the visible world are certain elect members of the spermatic world which, 'by means of conception,' have been enabled to grow from microscopic minuteness to visibility. "^ The scientific observers have only stated half of the truth ; but Leibniz thinks that they would have no objection to the other half. '1 think that if this opinion had occurred to them, they would not have found it absurd, and there is nothing more natural than to believe that what does not begin does not perish.' Lethe a Amatdd (1687) (G. ii. 123). Cf. Plato, Phaedrus, 245 D : 'Eirddri 5^ ayfvrjTov kari, koI d5id(p6opov avrd avdyKr/ tJvai, Leibniz elsewhere speaks of the view of Plato ' that the object of v/isdom is rcL uvtojs ovra, that is, simple substances, which are called by me ' [Leibniz] ' Monads, and which once existing always continue to exist, irpCjra ifKTiKcL TT]s (ojTJs, that is, God and souls, and of these the chief are I hold that if an animal never comes into being by natural means [iiaturellement], no more does it come to an end bynatural means ; and that not only will there be no birth [generation], but also no complete destruction or death in the strict sense '^°. And these reasonings, made a posteriori and drawn from experience are in perfect agreement with my principles deduced a priori, as above ^"\ {Theod. 90.)

77. Thus it may be said that not only the soul (mirror of an indestructible universe) is indestructible, but also the animal itself ^^'^, though its mechanism [machine] may often perish in part and take off or put on an organic slough [des dcpouilles organiqms^'^].

78. These principles have given me a way of explaining naturally ^^* the union or rather the mutual agreement [conformite] of the soul and the organic body. The soul follows its own laws, and the body likewise follows its own laws ; and they agree with each other in virtue of minds, images of the Deity, produced by God.' Epistola ad Hanschium (1707) (E. 445 b). This last passage involves a misunderstanding of

Plato's ibiai, which are universals, not Monads. Democritus calls his atoms to ov. ^'^^ ' There is always going on in the animal what goes on in it at the present moment ; that is, its body is in a continual change, like a river ; and what we call generation or death is only a greater and more rapid change than usual, such as would be the leap or cataract of a river. But these leaps are not absolute and such as I have refused to admit, as would be that of a body which should go from one place to another without going through intervening places [sans passer jpar le milieu'^.' Letire a Remond (1715) (E. 724 a ; G. iii. 635). ^21 Monadology, §§ 3, 4, and 5. This endeavour to show the agreement of a priori with a posteriori conclusions is specially characteristic of Leibniz. It illustrates his belief in the harmony of the physical with the metaphysical, the mechanical with the dynamical or final. ^"^'^ Because the soul must always have a body of some kind, which itself ultimately consists of imperishable Monads. Animals, however, are not immortal. Immortality belongs only to rational souls or self-conscious Monads. ^'^^ ' As a snake casts its old skin.' Lettre a laPrincesse Sophie (1696) (G. vii. 544). ^-* That is, in contrast to the Occasionalist theory, which according to Leibniz implies an endless series of miracles. the pre-ostablished harmony between all substances, since they are all representations of one and the same universe"•". {Prrf. [E. 475a; G. vi. 3()|; Tlirod. 340, 352, 353, 35«.)

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 motions. And the two realms, that of efficient causes and that of final causes, are in harmony with one another '^".

80. Descartes recognized that souls cannot impart any force to bodies, because there is always the same quantity "* That is to say, the prohlom of the connexion between soul and body is a special case of the wider problem as to the i-elation of any one simple substance or Monad to another. ^^^ They are in harmony, because ultimately the one is reducible to the other. When it is said that * souls act,' what is meant is

that they pass from one perception to another, i. e. that they hav«> appetition. Wlien it is said that ' bodies act,' what is meant is that tliey change their state or their relation to other bodies, i. e. that they have motion. What we call tlie ' state ' of a body and its 'relations to other bodies' ought in strictness to be called tlip (unconscious) perceptions of the Monads which constitute the body. And similarly, the ' motion * of the body is really the (uncon. oious) appetition of its constituent Monads. Thus the difference between efficient and final causes, like that between the unconscious and the conscious, is merely a diff'erence of degree. Cf. PrincipJes of Nature and of Grace, § 11. From a psychological point of view, Leibniz describes the parallelism of soul and body thus : 'I have carefully examined this matter and I have shown that there are really in the soul some materials of thought or objects of th*^ understanding, which the external senses do not supply, namely, the soul itself and its functions (nihil est in intclledu, quod nonfucrit in. semni, nisi ipse inhllechis) . . . but I find nevertbeless, that there is never an abstract thought which is not accompanied by some material images or marks [^'acc.s !, and I have made out a perfect parallelism between wliat passes in the soul and what takes place in matter, having shown that the soul, with its functions, is something distinct from matter but yet is always accompanied by material organs, and also that the functions of the soul are always accompanied by functions of its organs, which must coirespond to them, and that this is and always will be reciprocal.' Con'^i'Urahons sur la Doctrine d'un Esprit Universel unique (1702) (E. 180 a ; G. vi. 532). S of force in matter. Nevertheless he was of opinion that the soul could change the direction of bodies. But that is because in his time it was not known that there is a law of nature which affirms also the conservation of the same total direction in matter ^-'^. Had Descartes noticed this he would have come upon my system of pre-established harmony '2^ {Pref. [E. 477 a ; G. vi. 44J ; Theod. 22, 59, 60, 61, 63, 66, 345, 346 sqq., 354, 355.)

81. According to this system bodies act as if (to suppose the impossible) there were

no souls, and souls act as if there were no bodies, and both act as if each influenced the other '^^ '^^ See Introduction, Part iii. p. 89. Descartes ' believed he had found a law of nature, to the effect that the same quantity of motion is conserved in bodies. He did not think it possible for the influence of the soul to break this law of bodies ; but he thought that the soul might nevertheless have the power of changing the direction of the motions which take place in the body ; somewhat as a horseman, although he does not give any force to the horse he rides, nevertheless guides it by directing its force in the way that he thinks right. As this is done by means of bridle, bit, spurs, and other material aids, we see how it can take place ; but there are no instruments which the soul could employ for this purpose — nothing in soul or in body, that is to say, in thought or in mass, which could serve to explain this change of one by the other.' Thtodicee, § 60 (E, 519 b ; G. vi. 135). ^^* That is to say, Desciirtes would have seen that neither soul nor body has any influence whatever upon the other, and that they must therefore be regarded as acting merely in harmony. ^^ * All that ambition or any other passion brings to pass in the soul of Caesar is also represented in his body, and all the motions of these passions come from the impressions of objects combined with internal motions. And the body is so constituted that the soul never makes any resolution without the motions of the body agreeing with it. This applies even to the most abstract reasonings, because of the characters which represent them to the imagination. In a word, everything takes place in bodies, as regards the particular series _detail] of their phenomena, as if the evil doctrine of those who, like Epicurus and Hobbes, believe that the soul is material, were true ; or as if man himself were only a body or an automaton. . . . Those who show the Cartesians that their way of proving that the lower animals are only automata amounts to justifying him who should say that all men, except himself, are

82. As regards minds [esptits] or rational souls, though I find that what I have just been saying is true of all living beings and animals (namely that animals and souls

come into being when the world begins and no more come to an end than the world does), yet there is this peculiarity in rational animals, that their spermatic animalcules, so long as they are only spermatic, have merely ordinary or sensuous [sensitive] souls ; but when those which are chosen [dlus], so to speak, attain to human nature through an actual conception, their sensuous souls ai*e raised to the rank of reason and to the prerogative of minds [espnYs ^^°]. {Theod. 91, 397.) also mere automata, have said exactly what I need for that half of my hypothesis which concerns body. But, apart from the principles which make it certain that there are Monads, of which compound substances are only the results, the Epicurean doctrine is refuted by inner experience, by our consciousness of the Ego which consciously perceives the things which take place in the body ; and as perception cannot be explained by figures and motions, the other half of my hypothesis is established, and we are obliged to recognize that there is in us an indivisible substance, which must be itself the source of its phenomena. Consequently, according to this second half of my hypothesis, everything takes place in the soul as if there were no body ; just as, according to the first half, everything takes place in the body as if there were no soul. . . . Whatever of good there is in the hypotheses of Epicurus and of Plato, of the greatest Materialists and the greatest Idealists, is combined here.' Rtponsc aux Reflexions de Bayle (1702^ (E. 185 ; G. iv. 559). ^°^ This elevation of the merely sensuous soul to the rank of reason might, says Leibniz, ' be attributed to the extraordinary operation of God.' But he 'prefers to dispense with miracle in the generation of man as in that of the other animals,' and says that 'among the great number of souls and animals (or at least living organic bodies) which are in the seed, only those souls which are destined some day to attain to human nature contain in germ [enveloppeyii] the reason which will some day appear in them, and that only the organic bodies of these souls are preformed and predisposed to take the human form some day, the other animalcules or seminal living beings, in which nothing of this kind is preestablished, being essentially different from them and containing only

what is lower.' Theodicee, § 397 (E. 618 a ; G. vi. 352). Tliis question of the relation of rational to sub-rational souls is treated by Leibniz in a very unsatisfactory way. If we follow out Leibniz's

83. Among other differences which exist between ordinary souls and minds [esprits], some of which differences I have already noted '^', there is also this : that souls in general are living mirrors or images of the universe of created things, but that minds are also images of the Deity or Author of nature Himself, capable of knowing the system of the universe """*, and to some extent of imitating it through architectonic ensamples \echantUhns^"""\ each mind being like a small divinity in its own sphere. {TJicod. 147-)

84. It is this that enables spirits [or minds — esprits] to enter into a kind of fellowship w4th God, and brings it about that in relation to them He is not only what an inventor is to his machine (which is the relation of God to other created things), but also what a prince is to his subjects, and, indeed, what a father is to his children """\ main principles, it ought to be impossible to di*aw a sharp line l)*-tw('en these two classes of souls. Yet, while not regarding as absolute tlie distinction between the rational and the merely sensuous, Leibniz is afraid of minimizing this distinction and of thus putting in jeopardy the pre-eminence of man and the immortality >.4 the soul. In the draft of a letter to Arnauld (1686; he speaks of this question as *a special point [une particulariW] about which 1 have not light enough ' (G. ii. 73;. Cf. Introduction, Part iii. p. 116. "' §§ 19-30. '32

85. Whence it is easy to conclude that the totality I asscmhlage] of all spirits [csprits] must compose the City of God '-^^ that is to say, the most perfect State that is possible, under the most perfect of Monarchs. {Theod. 146 ; Ahrcge, Object. 2.)

86. This City of God, this truly universal monarchy, is a moral world in the natural world, and is the most exalted and most divine among the works of God ' ""; and it is in it that the glory of God really consists, for He would have no glory were not His

greatness and His goodness known and admired by spirits [csprits^^"]. It is race or like children of tlie house, since they alone can serve Him freely and act with knowledge, in imitation of the Divine nature : one single spirit [esprit] is worth a whole world, since it not onlyexpresses the world but also knows it and governs itself in the world [sy gouverne] after the manner of God.' Paper without title (1686) (G. iv. 461). "•"' The reference is to the civifas Dei of St. Augustine; but the difference of meaning is very great. St. Augustine's civifas Dei is the Christian Church as opposed to the civifas ferrena or e.arthly state. Leibniz's City of God, on the other hand, is not set in opposition to an earthly state, but is the moral order of the universe, as distinct from its natural order. Tlie City of God, according to Leibniz, includes not Christians alone, but all men. ^^ Cf. Fichte, Darstellung der Wissenschaffslehre (Werke, ii, 35) : 'The ground of the universe is . . . spirit itself. . . a kingdom of spirits and absolutely nothing else.' Also Werkc, v. 188 : * It is in no way doubtful, or rather it is the most certain of all things, and indeed the foundation of all certitude, the sole absolutely indisputable objective reality, that there is a moral order in the universe ; that each rational individual has his definite place in this universal order, a place indicated by his special work ; that each of the accidents of his existence, in so far as it does not result from his personal conduct, is a consequence of this general plan ; that, except in conformity with this plan, not a hair can fall from his head, any more than a sparrow from its roof ; that every truly good action succeeds, every bad action fails ; and that all things necessarily work for tlie greatest good of those wlio only rightly love the good.' See Introduction, Part iv. p. rSo note. "■^ Cf. Nicholas of Cusa, Cribratio Alchoran, 16: 'God created all things for the manifestation of His glory ; an unknown king is wanting in honour and in beneficence.' Cf. also Excitationes ex also in relation to this divine City that God specially has goodness"^, while His wisdom and His power are manifested everywhere. {Tlieod. 146; Ahrege, Object 2.)

87. As we have shown above that there is a perfect harmony between the two realms

in nature, one of efficient, and the other of final causes, we should here notice also another harmony between the physical realm of nature and the moral realm of grace "^, that is to say, between God, considered as Architect of the mechanism [machine] of the universe and God considered as Monarch of the divine City of spirits [esprits], (Theod. 62, 74, 118, 248, 112, 130, 247.) Sermonibus, vi. 112a: 'God desired to manifest the riches of His glory, and on this account He created the rational or intellectual creature, that He might manifest to him the riches of His glory ; for this creature alone can perceive the glory of God with intellectual appreciation [intellectuali gustu'] ; but these riches [of the glory of God] are eternal life.* ' God wishes to be known, and hence on this account all things are' {loc. ciL, 104 a). Cf. also Schiller's 'Freundlos war der grosse Weltenmeister,' &c. {Die Freundsckaft). ^^ Because moral distinctions and moral qualities belong specially to the moral order, i. e. to the society of rational souls. *"^ The question of the relation between the realm of nature and that of grace is, in one form or another, perennial. Leibniz seeks to apply the principles of his philosophy in a reconciling spirit to the seventeenth-century discussion of the question in its theological form. The harmony, of which Leibniz speaks, must not be taken as meaning (like the harmony between the Monads) that the two realms of nature and of grace are entirely exclusive of one another. The realm of final causes, for instance, does not belong entirely to nature : the realm of grace is the realm of final causes in its highest form. The relation between nature and grace is analogous to that between body and soul. Just as body, considered as an aggregate, is merely phenomenal and therefore quite distinct from soul or real substance, while yet it is & phenomenon bene fundahim and its reality is that of its component Monads or souls ; so nature, considered as subject to the law of efficient causes, is quite distinct from grace, while yet, since efficient causes, even in nature itself, derive their meaning and force from final causes, nature finds its perfection in grace, which is the highest expression of final cause. §§88 and 89 illustrate this. Cf. Principles of Nature and of Grace^ § 15,

88. A result of this harmony is that things lead to grace by the very ways of nature, and that this globe, for instance, must be destroyed and renewed by natural means at the veiy time when the government of spirits requires it, for the punishment of some and the reward of others. {TJieod. 18 sqq., no, 244, 245, 340.)

89. It may also be said that God as Architect satisfies in all respects God as Lawgiver ^*", and thus that sins must bear their penalty with them, through the order of nature, and even in virtue of the mechanical structure of things ; and similarly that noble actions will attain their rewards by ways which, on the bodily side, are mechanical, although this cannot and ought not always to happen immediately '^'.

90. Finally, under this perfect government no good action would be unrewarded and no bad one unpunished, and all should issue in the well-being of the good, that is to say, of those who are not malcontents in this great state, but who trust in Providence, after having done their duty, and who love and imitate, as is meet, the Author of all good, finding pleasure in the contemplation of His perfections, as is the way of genuine ' pure love '*V **" Tliat is to say. the world is built on a plan which perfectly harmonizes with the moral government of its inhabitants. ^*^ Leibniz regards sin as seeking one's own good in an imperfect, unenlightened way, without regard to the moral law or order, which is the only way of securing the highest possible good of all and of each. Thus sin brings punishment as inevitably as neglect or defiance of natural laws brings disease and pain. But owing to the harmony (above explained) between spirit and body, the moral and the natural worlds, the punishment of sin is not merely spiritual : the bodily or natural has a share in it. Similarly virtue has its reward, both spiritual and natural, because it is enlightened action in accordance with the ultimate law of the whole universe, the principle of the highest good. "^ That is to say, disinterested love, as distinct from interested or selfish love. One of the great subjects of theological discussion in the seventeenth century was the question whether there is such a thing as purely disinterested love.

About this a long pamphlet controversy (lasting from 1694 to 1699) took place between Bossuet which takes pleasure in the happiness of the beloved. This it is which leads wise and virtuous people to devote their energies to everything which appears in harmony with the presumptive or antecedent will of God, and yet makes them content with what God actually brings to pass by His secret, consequent and positive [decisive] will '^ ', recognizing that if we could sufficiently underand Ftiiiclon. Fonelon (partly in defence of Mme. Guyon) maintained the possibility of a disinterested love of God, that is, a love which has no regard to rewards and punishments. Ultimately, however. Pope Innocent XII condemned the views of Fenelon, at the same time censuring the controversial methods of Bossuet. The view of Leibniz is more fully given in his Preface, On the Xofioiis vf Rirjht and Justice (1693), p. 285 ; cf. Butler, Sermons xi, xiii, and xiv. '^■' 'i'he distinction between the antecedent and the consequent will of God is due to Thomas Aquinas. He says: 'This distinction is not founded upon the Divine will itself, for in it there is neither before nor after ; hut it is founded upon the objects of His will. ... A thing may be considered either in itself, absolutely, or with some particular circumstance, which forms a subsequent consideration. For instance it is good in itself that man should live and bad that he should be killed, considering the matter absolutely ; but if wo add, with regard to some particular man, that he is a murderer or that his living is a source of danger to a larae numbcjr of people, in this case it will be good that the man should be killed, and Vjad that hp should live. Accordingly it may be saiil that a judge wills with an antecedent will that every man should continue to live, but wills with a consequent will that a murderer should be hanged.' Smmna ThcoL i. Qu. 19, Art. 6 ad primum. Cf. Dc Veritafe, Qu. 23, Art. 2. Leibniz brings this into relation with his own hypotliesis regarding the region of possible things and the actual, existinfj world. 'In a general sense it may be said that will consists in the inclination to do something in proportion to tlu; good it contains. This will is called antecedent, when it is separate Idetarhe^] and has regard to each good by itself, in so far as it is

good. In this sense it may be said that God tends to all g"od in so far as it is sood, ad per/ectionem simpliciter simp/irem, in Scholastic language, and tliat by an antecedent will. He has an earnest inclination to sanctify and save all men, to do away with sin and to prevent damnation. It may even be said that this will is efficacious in itself {per .se), that is to say, so that the effect would f()llow, were there not some stronger reason which prevents it ; for this will does not go to the extreme of effort (ad surumum 1 stand the order of the universe, we should find that it exceeds all the desires of the wisest men, and that it is impossible to make it better than it is^**, not only as u whole and in general but also for ourselves in particular, if we are attached, as we ought to be, to the Author of all, not only as to the architect and efficient cause of our being, but as to our master and to the final cause, which ought to be the whole aim of our will, and which c^in alone make our happiness. {Thcod. 134, 278. Fref. [E. 469 ; G. vi. 27, 28 J.) conation'), otherwise it would never fail to produce its full efTt^ct, since CJud is ma^ste^ of all things, Comphite and infallible success belongs only to consequent anil, as it is called. It is complete, and this rule applies to it, namely, that we never fail to do what we will, when we can. Now this consequent, final and decisive will results from the conflict of all the antecedent volitions ['wills'!,))oth tliose which tend towards good and those which oppose evil, and it is fiom the concurrence of all these particular volitions that the total volition comes : as in mechanics the composite motion is the result of all the tendencies which concur in one and the same movable body, and equally satisfies each of them so far as it is possible to do so at onee. ... In this sense it may be said that antecedent will [volition] is in a way efficacious and even efiective and successful. From this it follows that God wills antcccdeii/ln the -.^ood, and conscqucnthj the best.' Thmriia-e, §§ 22 and 23 (E. 510b; G. vi. 115, ii6\ God antecedently wills the absolute good of all beings ; but He consequently wills the greatest good of each tliat is possible, considering the essential limitations of their natures and theii" relations to one another in the system of things. This greatest

2^osii6it; good is thus compatible with a certain amount of evil. ^*' This is not to be taken as meaning that it is impossible to make the world better than it is at this or any 'particular moment of time. Leibniz is speaking of the world as a system including all time, and accordingly he does not exclude progress in timtj.

The Monadology