

Monadology

By Leibniz

Based on the translation by George Montgomery, and edited, with minor emendations, corrections, and changes to contemporary American usage and spelling, by Daniel Kolak

1. The monad, of which we will speak here, is nothing else than a simple substance, which goes to make up composites; by simple, we mean without parts.
2. There must be simple substances because there are composites; for a composite is nothing else than a collection or aggregate of simple substances.
3. Now, where there are no constituent parts there is possible neither extension, nor form, nor divisibility. These monads are the true atoms of nature and, in fact, the elements of things.
4. Their dissolution, therefore, is not to be feared and there is no way conceivable by which a simple substance can perish through natural means.
5. For the same reason there is no way conceivable by which a simple substance might, through natural means, come into existence, since it can not be formed by composition.
6. We may say then, that the existence of monads can begin or end only all at once, that is to say, the monad can begin only through creation and end only through annihilation. Composites, however, begin or end gradually.
7. There is also no way of explaining how a monad can be altered or changed in its inner being by any other created thing, since there is no possibility of transposition within it, nor can we conceive of any internal movement which can be produced, directed, increased or diminished there within the substance, such as can take place in the case of composites where a change can occur among the parts. The monads have no windows through which anything may come in or go out. The attributes are not liable to detach themselves and make an excursion outside the substance, as could sensible species of the Scholastics. In the same way neither substance nor attribute can enter from without into a monad.
8. Still, monads need to have some qualities, otherwise they would not even be existences. And if simple substances did not differ at all in their qualities, there would be no means of perceiving any change in things. Whatever is in a composite can come into it only through its simple elements and the monads, if they were without qualities (since they do not differ at all in quantity) would be indistinguishable one from another. For instance, if we imagine a plenum or completely filled space, where each part receives only the equivalent of its own previous motion, one state of things would not be distinguishable from another.

9. Each monad, indeed, must be different from every other monad. For there are never in nature two beings which are exactly alike, and in which it is not possible to find a difference either internal or based on an intrinsic property.

10. I assume it as admitted that every created being, and consequently the created monad, is subject to change, and indeed that this change is continuous in each.

11. It follows from what has just been said, that the natural changes of the monad come from an internal principle, because an external cause can have no influence on its inner being.

12. Now besides this principle of change there must also be in the monad a variety which changes. This variety constitutes, so to speak, the specific nature and the variety of the simple substances.

13. This variety must involve a multiplicity in the unity or in that which is simple. For since every natural change takes place by degrees, there must be something which changes and something which remains unchanged, and consequently there must be in the simple substance a plurality of conditions and relations, even though it has no parts.

14. The passing condition which involves and represents a multiplicity in the unity, or in the simple substance, is nothing else than what is called perception. This should be carefully distinguished from apperception or consciousness, as will appear in what follows. In this matter the Cartesians have fallen into a serious error, in that they deny the existence of those perceptions of which we are not conscious. It is this also which has led them to believe that spirits alone are monads and that there are no souls of animals or other entelechies, and it has led them to make the common confusion between a protracted period of unconsciousness and actual death. They have thus adopted the Scholastic error that souls can exist entirely separated from bodies, and have even confirmed ill-balanced minds in the belief that souls are mortal.

15. The action of the internal principle which brings about the change or the passing from one perception to another may be called appetition. It is true that the desire (*l'appetit*) is not always able to attain to the whole of the perception which it strives for, but it always attains a portion of it and reaches new perceptions.

16. We ourselves, experience a multiplicity in a simple substance, when we find that the most trifling thought of which we are conscious involves a variety in the object. Therefore all those who acknowledge that the soul is a simple substance ought to grant this multiplicity in the monad, and Pierre Bayle should have found no difficulty in it, as he has done in the article "Rorarius" of his Dictionary.

17. It must be confessed, however, that perception, and that which depends upon it, are inexplicable by mechanical causes, that is to say, by figures and motions. Supposing that there were a machine whose structure produced thought, sensation, and perception, we could conceive of it as increased in size with the same proportions until one was able to enter into its interior, as he would into a mill. Now, on going into it one would find only pieces working upon each another, but never would one find anything to explain perception. It is accordingly in the simple substance, and not in the composite nor in a machine that the perception is to be sought. Furthermore, there is nothing besides perceptions and their changes to be found in the simple

substance. And it is in these alone that all the internal activities of the simple substance can consist.

18. All simple substances or created monads may be called entelechies, because they have in themselves a certain perfection. There is in them a sufficiency which makes them the source of their internal activities, and renders them, so to speak, incorporeal automatons.

19. If we wish to designate as *soul* everything which has perceptions and desires in the general sense that I have just explained, all simple substances or created monads could be called souls. But since feeling is something more than a mere perception, I think that the general name of monad or entelechy should suffice for simple substances which have only perception, while we may reserve the term soul for those whose perception is more distinct and is accompanied by memory.

20. We experience in ourselves a state where we remember nothing and where we have no distinct perception, as in periods of fainting, or when we are overcome by a profound, dreamless sleep. In such a state the soul does not sensibly differ at all from a simple monad. As this state, however, is not permanent and the soul can recover from it, the soul is something more.

21. Nevertheless it does not follow at all that the simple substance is in such a state without perception. This is so because of the reasons given above; for it cannot perish, nor on the other hand would it exist without some affection and the affection is nothing else than its perception. When, however, there are a great number of weak perceptions where nothing stands out distinctively, we are stunned; as when one turns around and around in the same direction, a dizziness comes on, which makes one swoon and makes one able to distinguish nothing. Among animals, death can occasion this state for quite a period.

22. Every present state of a simple substance is a natural consequence of its preceding state, in such a way that its present is big with its future.

23. Therefore, since on awakening after a period of unconsciousness we become conscious of our perceptions, we must, without having been conscious of them, have had perceptions immediately before; for one perception can come in a natural way only from another perception, just as motion can come in a natural way only from motion.

24. It is evident from this that if we were to have nothing distinctive, or so to speak prominent, and of a higher flavor in our perceptions, we should be in a continual state of stupor. This is the condition of monads which are wholly bare.

25. We see that nature has given to animals heightened perceptions, having provided them with organs which collect numerous rays of light or numerous waves of air and thus make them more effective in their combination. Something similar to this takes place in the case of smell, in that of taste and of touch, and perhaps in many other senses which are unknown to us. I shall have occasion very soon to explain how that which occurs in the soul represents that which goes on in the sense organs.

26. The memory furnishes a sort of consecutiveness which imitates reason but is to be distinguished from it. We see that animals when they have the perception of something which

they notice and of which they have had a similar previous perception, are led by the representation of their memory to expect that which was associated in the preceding perception, and they come to have feelings like those which they had before. For instance, if a stick be shown to a dog, he remembers the pain which it has caused him and he whines or runs away.

27. The vividness of the picture, which comes to him or moves him, is derived either from the magnitude or from the number of the previous perceptions. For, oftentimes, a strong impression brings about, all at once, the same effect as a long-continued habit or as a great many reiterated, moderate perceptions.

28. Men act in like manner as animals, in so far as the sequence of their perceptions is determined only by the law of memory, resembling the empirical physicians who practice simply, without any theory, and we are empiricists in three-fourths of our actions. For instance, when we expect that there will be daylight tomorrow, we do so empirically, because it has always happened so up to the present time. It is only the astronomer who uses his reason in making such an affirmation.

29. But the knowledge of eternal and necessary truths is that which distinguishes us from mere animals and gives us reason and the sciences, thus raising us to a knowledge of ourselves and of God. This is what is called in us the rational soul or the mind.

30. It is also through the knowledge of necessary truths and through abstractions from them that we come to perform reflective acts, which cause us to think of what is called the I, and to decide that this or that is within us. It is thus, that in thinking upon ourselves we think of being, of substance, of the simple and composite, of a material thing and of God himself, conceiving that what is limited in us is in him without limits. These reflective acts furnish the principal objects of our reasonings.

31. Our reasoning is based upon two great principles: first, that of contradiction, by means of which we decide that to be false which involves contradiction and that to be true which contradicts or is opposed to the false.

32. And second, the principle of sufficient reason, in virtue of which we believe that no fact can be real or existing and no statement true unless it has a sufficient reason why it should be thus and not otherwise. Most frequently, however, these reasons cannot be known by us.

33. There are also two kinds of truths: those of reasoning and those of fact. The truths of reasoning are necessary, and their opposite is impossible. Those of fact, however, are contingent, and their opposite is possible. When a truth is necessary, the reason can be found by analysis in resolving it into simpler ideas and into simpler truths until we reach those which are primary.

34. It is thus that with mathematicians the speculative theorems and the practical canons are reduced by analysis to definitions, axioms, and postulates.

35. There are finally simple ideas of which no definition can be given. There are also the axioms and postulates or, in a word, the primary principles which cannot be proved and, indeed, have no need of proof. These are identical propositions whose opposites involve express contradictions.

36. But there must be also a sufficient reason for contingent truths or truths of fact; that is to say, for the sequence of the things which extend throughout the universe of created beings, where the analysis into more particular reasons can be continued into greater detail without limit because of the immense variety of the things in nature and because of the infinite division of bodies. There is an infinity of figures and of movements, present and past, which enter into the efficient cause of my present writing, and in its final cause there are an infinity of slight tendencies and dispositions of my soul, present and past.

37. And as all this detail again involves other and more detailed contingencies, each of which again has need of a similar analysis in order to find its explanation, no real advance has been made. Therefore, the sufficient or ultimate reason must needs be outside of the sequence or series of these details of contingencies, however infinite they may be.

38. It is thus that the ultimate reason for things must be a necessary substance, in which the detail of the changes shall be present merely potentially, as in the fountainhead, and this substance we call God.

39. Now, since this substance is a sufficient reason for all the above mentioned details, which are linked together throughout, there is but one God, and this God is sufficient.

40. We may hold that the supreme substance, which is unique, universal and necessary with nothing independent outside of it, which is further a pure sequence of possible being, must be incapable of limitation and must contain as much reality as possible.

41. Whence it follows that God is absolutely perfect, perfection being understood as the magnitude of positive reality in the strict sense, when the limitations or the bounds of those things which have them are removed. There where there are no limits, that is to say, in God, perfection is absolutely infinite.

42. It follows also that created things derive their perfections through the influence of God, but their imperfections come from their own natures, which cannot exist without limits. It is in this latter that they are distinguished from God. An example of this original imperfection of created things is to be found in the natural inertia of bodies.

43. It is true, furthermore, that in God is found not only the source of existences, but also that of essences, in so far as they are real. In other words, he is the source of whatever there is real in the possible. This is because the understanding of God is in the region of eternal truths or of the ideas upon which they depend, and because without him there would be nothing real in the possibilities of things, and not only would nothing be existent, nothing would be even possible.

44. For it must needs be that if there is a reality in essences or in possibilities or indeed in the eternal truths, this reality is based upon something existent and actual and, consequently, in the existence of the necessary Being in whom essence includes existence or in whom possibility is sufficient to produce actuality.

45. Therefore God alone (or the necessary Being) has this prerogative that if he be possible he must necessarily exist, and, as nothing is able to prevent the possibility of that which involves no bounds, no negation and consequently, no contradiction, this alone is sufficient to establish a

priori his existence. We have, therefore, proved his existence through the reality of eternal truths. But a little while ago we also proved it a posteriori, because contingent beings exist which can have their ultimate and sufficient reason only in the necessary being which, in turn, has the reason for existence in itself.

46. Yet we must not think that the eternal truths being dependent upon God are therefore arbitrary and depend upon his will, as Descartes seems to have held, and after him Poiret. This is the case only with contingent truths which depend upon fitness or the choice of the greatest good; necessarily truths on the other hand depend solely upon his understanding and are the inner objects of it.

47. God alone is the ultimate unity or the original simple substance, of which all created or derivative monads are the products, and arise, so to speak, through the continual outflashings (fulgurations) of the divinity from moment to moment, limited by the receptivity of the creature to whom limitation is an essential.

48. In God are present: power, which is the source of everything; knowledge, which contains the details of the ideas; and, finally, will, which changes or produces things in accordance with the principle of the greatest good. To these correspond in the created monad, the subject or basis, the faculty of perception, and the faculty of appetite. In God these attributes are absolutely infinite or perfect, while in the created monads or in the entelechies (perfectihabies, as Hermolaus Barbarus translates this word), they are imitations approaching him in proportion to the perfection.

49. A created thing is said to act outwardly in so far as it has perfection, and to be acted upon by another in so far as it is imperfect. Thus action is attributed to the monad in so far as it has distinct perceptions, and passion or passivity is attributed in so far as it has confused perceptions.

50. One created thing is more perfect than another when we find in the first that which gives an a priori reason for what occurs in the second. This is why we say that one acts upon the other.

51. In the case of simple substances, the influence which one monad has upon another is only ideal. It can have its effect only through the mediation of God, in so far as in the ideas of God each monad can rightly demand that God, in regulating the others from the beginning of things, should have regarded it also. For since one created monad cannot have a physical influence upon the inner being of another, it is only through the primal regulation that one can have dependence upon another.

52. It is thus that among created things action and passivity are reciprocal. For God, in comparing two simple substances, finds in each one reasons obliging him to adapt the other to it; and consequently what is active in certain respects is passive from another point of view, active in so far as what we distinctly know in it serves to give a reason for what occurs in another, and passive in so far as the reason for what occurs in it is found in what is distinctly known in another.

53. Now as there are an infinity of possible universes in the ideas of God, and but one of them can exist, there must be a sufficient reason for the choice of God which determines him to select one rather than another.

54. And this reason is to be found only in the fitness or in the degree of perfection which these worlds possess, each possible thing having the right to claim existence in proportion to the perfection which it involves.

55. This is the cause for the existence of the greatest good; namely, that the wisdom of God permits him to know it, his goodness causes him to choose it, and his power enables him to produce it.

56. Now this interconnection, relationship, or this adaptation of all things to each particular one, and of each one to all the rest, brings it about that every simple substance has relations which express all the others and that it is consequently a perpetual living mirror of the universe.

57. And as the same city regarded from different sides appears entirely different and is, as it were, multiplied respectively, so, because of the infinite number of simple substances, there are a similar infinite number of universes which are, nevertheless, only the aspects of a single one as seen from the special point of view of each monad.

58. Through this means has been obtained the greatest possible variety, together with the greatest order that may be; that is to say, through this means has been obtained the greatest possible perfection.

59. This hypothesis, moreover, which I venture to call demonstrated, is the only one which fittingly gives proper prominence to the greatness of God. Pierre Bayle recognized this when in the article "Rorarius" of his *Dictionary* he raised objections to it; indeed, he was inclined to believe that I attributed too much to God, and more than it is possible to attribute to him. But he was unable to bring forward any reason why this universal harmony which causes every substance to express exactly all others through the relation which it has with them is impossible.

60. Besides, in what has just been said can be seen the a priori reasons why things cannot be otherwise than they are. It is because God, in ordering the whole, has had regard to every part and in particular to each monad; and since the monad is by its very nature representative, nothing can limit it to represent merely a part of things. It is nevertheless true that this representation is, as regards the details of the whole universe, only a confused representation, and is distinct only as regards a small part of them, that is to say, as regards those things which are nearest or greatest in relation to each monad. If the representation were distinct as to the details of the entire Universe, each monad would be a deity. It is not in the object represented that the monads are limited, but in the modifications of their knowledge of the object. In a confused way they reach out to infinity or to the whole, but are limited and differentiated in the degree of their distinct perceptions.

61. In this respect composites are like simple substances, for all space is filled up; therefore, all matter is connected. And in a plenum or filled space every movement has an effect upon bodies in proportion to this distance, so that not only is every body affected by those which are in contact with it and responds in some way to whatever happens to them, but also by means of them the body responds to those bodies adjoining them, and their intercommunication reaches to any distance whatsoever. Consequently every body responds to all that happens in the universe, so that he who saw all could read in each one what is happening everywhere, and even what has

happened and what will happen. He can discover in the present what is distant both as regards space and as regards time; "all things conspire," as Hippocrates said. A soul can, however, read in itself only what is there represented distinctly. It cannot all at once open up all its folds, because they extend to infinity.

62. Thus although each created monad represents the whole universe, it represents more distinctly the body which specially pertains to it and of which it constitutes the entelechy. And as this body expresses all the universe through the interconnection of all matter in the plenum, the soul also represents the whole universe in representing this body, which belongs to it in a particular way.

63. The body belonging to a monad, which is its entelechy or soul, constitutes together with the entelechy what may be called a rising being, and with a soul what is called an animal. Now this body of a living being or of an animal is always organic, because every monad as a mirror of the universe is regulated with perfect order there must needs be order also in what represents it, that is to say in the perceptions of the soul and consequently in the body through which the universe is represented in the soul.

64. Therefore every organic body of a living being is a kind of divine machine or natural automaton, infinitely surpassing all artificial automatons. Because a machine constructed by man's skill is not a machine in each of its parts; for instance, the teeth of a brass wheel have parts or bits which to us are not artificial products and contain nothing in themselves to show the use to which the wheel was destined in the machine. The machines of nature, however, that is to say, living bodies, are still machines in their smallest parts ad infinitum. Such is the difference between nature and art, that is to say, between divine art and ours.

65. The author of nature has been able to employ this divine and infinitely marvelous artifice, because each portion of matter is not only, as the ancients recognized, infinitely divisible, but also because it is really divided without end, every part into other parts, each one of which has its own proper motion. Otherwise it would be impossible for each portion of matter to express all the universe.

66. Whence we see that there is a world of created things, of living beings, of animals, of entelechies, of souls, in the minutest particle of matter.

67. Every portion of matter may be conceived as like a garden full of plants and like a pond full of fish. But every branch of a plant, every member of an animal, and every drop of the fluids within it, is also such a garden or such a pond.

68. And although the ground and air which lies between the plants of the garden, and the water which is between the fish in the pond, are not themselves plants or fish, yet they nevertheless contain these, usually so small however as to be imperceptible to us.

69. There is, therefore, nothing uncultivated, or sterile or dead in the universe, no chaos, no confusion, save in appearance; somewhat as a pond would appear at a distance when we could see in it a confused movement, and so to speak, a swarming of the fish, without however discerning the fish themselves.

70. It is evident, then, that every living body has a dominating entelechy, which in animals is the soul. The parts, however, of this living body are full of other living beings, plants and animals, which in turn have each one its entelechy or dominating soul.

71. This does not mean, as some who have misunderstood my thought have imagined, that each soul has a quantity or portion of matter appropriated to it or attached to itself for ever, and that it consequently owns other inferior living beings destined to serve it always; because all bodies are in a state of perpetual flux like rivers, and the parts are continually entering in or passing out.

72. The soul, therefore, changes its body only gradually and by degrees, so that it is never deprived all at once of all its organs. There is frequently a metamorphosis in animals, but never metempsychosis or a transmigration of souls. Neither are there souls wholly separate from bodies, nor bodiless spirits. God alone is without body.

73. This is also why there is never absolute generation or perfect death in the strict sense, consisting in the separation of the soul from the body. What we call generation is development and growth, and what we call death is envelopment and diminution.

74. Philosophers have been much perplexed in accounting for the origin of forms, entelechies, or souls. Today, however, when it has been learned through careful investigations made in plant, insect and animal life, that the organic bodies of nature are never the product of chaos or putrefaction, but always come from seeds in which there was without doubt some preformation, it has been decided that not only is the organic body already present before conception, but also a soul in this body, in a word, the animal itself; and it has been decided that, by means of conception the animal is merely made ready for a great transformation, so as to become an animal of another sort. We can see cases somewhat similar outside of generation when grubs become flies and caterpillars butterflies.

75. These little animals, some of which by conception become large animals' may be called spermatoc. Those among them which remain in their species, that is to say, the greater part, are born, multiply, and are destroyed, like the larger animals. There are only a few chosen ones which come out upon a greater stage.

76. This, however, is only half the truth. I believe, therefore, that if the animal never actually commences by natural means, no more does it by natural means come to an end. Not only is there no generation, but also there is no entire destruction or absolute death. These reasonings, carried on a posteriori and drawn from experience, accord perfectly with the principles which I have above deduced a priori.

77. Therefore we may say that not only the soul (the mirror of the indestructible universe) is indestructible, but also the animal itself is, although its mechanism is frequently destroyed in parts and although it puts off and takes on organic coatings.

78. These principles have furnished me the means of explaining on natural grounds the union, or rather the conformity between the soul and the organic body. The soul follows its own laws, and the body likewise follows its own laws. They are fitted to each other in virtue of the preestablished harmony between all substances since they are all representations of one and the same universe.

79. Souls act in accordance with the laws of final causes through their desires, ends and means. Bodies act in accordance with the laws of efficient causes or of motion. The two realms, that of efficient causes and that of final causes, are in harmony, each with the other.

80. Descartes saw that souls cannot at all impart force to bodies, because there is always the same quantity of force in matter. Yet he thought that the soul could change the direction of bodies. This was, however, because at that time the law of nature which affirms also that conservation of the same total direction in the motion of matter was not known. If he had known that law, he would have fallen upon my system of preestablished harmony.

81. According to this system bodies act as if (to suppose the impossible) there were no souls at all, and souls act as if there were no bodies, and yet both body and soul act as if the one were influencing the other.

82. Although I find that essentially the same thing is true of all living things and animals, which we have just said (namely, that animals and souls begin from the very commencement of the world and that they no more come to an end than does the world) nevertheless, rational animals have this peculiarity, that their little spermatoc animals, as long as they remain such, have only ordinary or sensuous souls, but those of them which are, so to speak, elected, attain by actual conception to human nature, and their sensuous souls are raised to the rank of reason and to the prerogative of spirits.

83. Among the differences that there are between ordinary souls and spirits, some of which I have already instanced, there is also this, that while souls in general are living mirrors or images of the universe of created things, spirits are also images of the Deity himself or of the author of nature. They are capable of knowing the system of the universe, and of imitating some features of it by means of artificial models, each spirit being like a small divinity in its own sphere.

84. Therefore, spirits are able to enter into a sort of social relationship with God, and with respect to them he is not only what an inventor is to his machine (as in his relation to the other created things), but he is also what a prince is to his subjects, and even what a father is to his children.

85. Whence it is easy to conclude that the totality of all spirits must compose the city of God, that is to say, the most perfect state that is possible under the most perfect monarch.

86. This city of God, this truly universal monarchy, is a moral world within the natural world. It is what is noblest and most divine among the works of God. And in it consists in reality the glory of God, because he would have no glory were not his greatness and goodness known and wondered at by spirits. It is also in relation to this divine city that God properly has goodness. His wisdom and his power are shown everywhere.

87. As we established above that there is a perfect harmony between the two natural realms of efficient and final causes, it will be in place here to point out another harmony which appears between the physical realm of nature and the moral realm of grace, that is to say, between God considered as the architect of the mechanism of the world and God considered as the monarch of the divine city of spirits.

88. This harmony brings it about that things progress of themselves toward grace along natural lines, and that this earth, for example, must be destroyed and restored by natural means at those times when the proper government of spirits demands it, for chastisement in the one case and for a reward in the other.

89. We can say also that God, the architect, satisfies in all respects God the law giver, that therefore sins will bring their own penalty with them through the order of nature, and because of the very structure of things, mechanical though it is. And in the same way the good actions will attain their rewards in mechanical way through their relation to bodies, although this cannot and ought not always to take place without delay.

90. Finally, under this perfect government, there will be no good action unrewarded and no evil action unpunished; everything must turn out for the well-being of the good; that is to say, of those who are not disaffected in this great state, who, after having done their duty, trust in providence and who duly love and imitate the Author of all Good, delighting in the contemplation of his perfections according to the nature of that genuine, pure love which finds pleasure in the happiness of those who are loved. It is for this reason that wise and virtuous persons work on behalf of everything which seems conformable to presumptive or antecedent will of God, and are, nevertheless, content with what God actually brings to pass through his secret, consequent and determining will, recognizing that if we were able to understand sufficiently well the order of the universe, we should find that it surpasses all the desires of the wisest of us, and that it is impossible to render it better than it is, not only for all in general, but also for each one of us in particular, provided that we have the proper attachment for the author of all, not only as the architect and the efficient cause of our being, but also as our lord and the final cause, who ought to be the whole goal of our will, and who alone can make us happy.