

A New System of the Nature and Communication of Substances, and of the Union of the Soul and Body (1695)

By Gottfried Wilhelm Leibniz

A FEW YEARS have already passed since I conceived this system and communicated with some learned men about it, especially with one of the greatest theologians and philosophers of our time, who had learned about some of my opinions through a person of the highest nobility, and had found them extremely paradoxical. But having received my explanations, he changed his attitude in the most generous and edifying way possible; and, having approved some of my propositions, he withdrew his censure regarding the others, with which he still disagreed. Since that time I have continued my meditations, as circumstances allow, so as to give the public only well-examined opinions; I have also tried to satisfy objections raised against my essays on dynamics, which are connected with this system. Finally, since some important persons have desired to see my opinions further clarified, I have risked publishing these meditations, even though they are not at all popular, nor can they be appreciated by all sorts of minds. I have decided upon this mainly to profit from the judgments of persons enlightened in these matters, since it would be too troublesome to seek out and call individually upon all those who would be disposed to give me instruction--which I shall always be glad to receive, provided that it contains the love of truth, rather than a passion for preconceived opinions.

Although I am someone who has done much work on mathematics, I have continued to meditate on philosophy since my youth, for it always seemed to me that one can establish something solid there through clear demonstrations. I had penetrated far into the territory of the Scholastics, when mathematics and the modern authors made me withdraw from it, while I was still young. I was charmed by their beautiful ways of explaining nature mechanically, and I rightly despised the method of those who use only forms or faculties, from which one can learn nothing. But since then, having attempted to examine the very principles of mechanics in order to explain the laws of nature we learn from experience, I perceived that considering extended mass alone was not sufficient, and that it was necessary, in addition, to make use of the notion of force, which is very intelligible, despite the fact that it belongs in the domain of metaphysics. It also seemed to me that although the opinion of those who transform or degrade animals into pure machines may be possible, it is improbable, and even contrary to the order of things.

In the beginning, when I had freed myself from the yoke of Aristotle, I accepted the void and atoms, for they best satisfy the imagination. But on recovering from that, after much reflection, I perceived that it is impossible to find the principles of a true unity in matter alone, or in what is only passive, since everything in it is only a collection or aggregation of parts to infinity. Now, a multitude can derive its reality only from true unities, which have some other origin and are considerably different from [[mathematical]] points [[which are only the extremities and modifications of extension,]] which all agree cannot make up the continuum. Therefore, in order to find these real entities I was forced to have recourse to a formal atom,

since a material thing cannot be both material and, at the same time, perfectly indivisible, that is, endowed with a true unity. Hence, it was necessary to restore, and, as it were, to rehabilitate the substantial forms which are in such disrepute today, but in a way that would render them intelligible, and separate the use one should make of them from the abuse that has been made of them. I found then that their nature consists in force, and that from this there follows something analogous to sensation and appetite, so that we must conceive of them on the model of the notion we have of souls. But just as soul must not be used to explain the particular details of the economy of the animal's body, I judged that we must not use these forms to explain the particular problems of nature, even though they are necessary to establish the true general principles. Aristotle calls them first entelechies; I call them, perhaps more intelligibly, primitive forces, which contain not only act or the completion of possibility, but also an original activity.

I saw that these forms and souls must be indivisible, as our mind is; I remembered that this was Saint Thomas's view on the souls of animals. But this truth revived the great difficulties about the origin and duration of souls and forms. For, since every [[simple]] substance which has a true unity can begin and end only by miracle, it follows that they can begin only by creation and end only by annihilation. Thus I was forced to recognize that, except for the souls that God wishes to create expressly, the forms constitutive of substances must have been created together with the world, and must always subsist. Moreover, certain Scholastics, like Albertus Magnus and John Bacon, glimpsed a part of the truth about the origin of these forms. This should not appear extraordinary, since we ascribe to forms only duration, which the Gassendists grant their atoms.

I judged, however, that we must not indiscriminately confuse minds or rational souls [[with other forms or souls]], for they are of a higher order, and have incomparably greater perfection than the forms thrust into matter [[(which, in my view, are found everywhere)], minds being like little gods in comparison with them, made in the image of God, and having in them some ray of the light of divinity. That is why God governs minds like a prince governs his subjects, and even like a father cares for his children, whereas he disposes of other substances like an engineer handles his machines. Thus minds have particular laws, which place them above the upheavals [revolutions] in matter, [[through the very order which God has put in them]]; and we can say that everything else is made only for them, and that these tumultuous motions themselves are adjusted for the happiness of the good and the punishment of the wicked.

However, returning to ordinary forms, or to material souls, the duration that we must attribute to them, in place of the duration that had been attributed to atoms, might make us suspect that they pass from body to body--which would be metempsychosis--somewhat like some philosophers have believed in the transmission of motion and species. But this fancy is far removed from the nature of things. There is no such passage; this is where the transformations of Swammerdam, Malpighi, and Leeuwenhoek, the best observers of our time, have come to my aid, and have made it easier for me to admit that animals and all other organized substances have no beginning, although we think they do, and that their apparent generation is only a

development, a kind of augmentation. I have also noticed that the author of the *Search after Truth*, Régis, Hartsoeker and other able persons have held opinions not far removed from this.

But the greatest question still remained: what becomes of these souls or forms at the death of the animal or at the destruction of the individual organized substance? This question is most perplexing, since it hardly seems reasonable that souls should remain uselessly in a chaos of confused matter. This made me judge that there is only one reasonable view to take--namely, the conservation not only of the soul, but also of the animal itself and its organic machine, even though the destruction of its larger parts reduces it to a smallness which escapes our senses, just as it was before its birth. Moreover, no one can specify the true time of death, which for a long time may pass for a simple suspension of noticeable actions, and is basically never anything else in simple animals--witness the resuscitations of drowned flies buried under pulverized chalk, and several other similar examples which are sufficient to show that there would be many other resuscitations, and greater ones, if men were in a position to restore the machine. This may be similar to something the great Democritus discussed, complete atomist that he was, though Pliny made fun of him. It is therefore natural that an animal, having always been alive and organized (as some persons of great insight are beginning to recognize), always remains so. And since there is no first birth or entirely new generation of an animal, it follows that there will not be any final extinction or complete death, in a strict metaphysical sense. Consequently, instead of the transmigration of souls, there is only a transformation of the same animal, according to whether its organs are differently enfolded and more or less developed.

However, rational souls follow much higher laws, and are exempt from anything that might make them lose the quality of being citizens of the society of minds; God has provided so well that no changes of matter can make them lose the moral qualities of their personhood. And we can say that everything tends not only toward the perfection of the universe in general, but also toward the perfection of these creatures in particular, creatures who are destined for such a degree of happiness that the universe finds itself benefited by virtue of the divine goodness that is communicated to each, to the extent that supreme wisdom can allow.

With respect to ordinary animal bodies and other corporeal substances, whose complete extinction has been accepted until now, and whose changes depend on mechanical rules rather than moral laws, I noted with pleasure that the ancient author of the book *De diaeta*, attributed to Hippocrates, had glimpsed something of the truth when he stated explicitly that animals are not born and do not die, and that things we believe to begin and perish merely appear and disappear. This was also the opinion of Parmenides and Melissus, according to Aristotle. For these ancients were much more solid than people believe.

I am the most readily disposed person to do justice to the moderns, yet I find that they have carried reform too far, among other things, by confusing natural things with artificial things, because they have lacked sufficiently grand ideas of the majesty of nature. They think that the difference between natural machines and ours is only the difference between great and small. Recently this led a very able man, the author of the *Conversations on the Plurality of Worlds*, to assert that when we examine nature more closely we find it less admirable than

previously thought and more like the workshop of a craftsman. I believe that this conception does not give us a sufficiently just or worthy idea of nature, and that my system alone allows us to understand the true and immense distance between the least productions and mechanisms of divine wisdom and the greatest masterpieces that derive from the craft of a limited mind; this difference is not simply a difference of degree, but a difference of kind. We must then know that the machines of nature have a truly infinite number of organs, and are so well supplied and so resistant to all accidents that it is not possible to destroy them. A natural machine still remains a machine in its least parts, and moreover, it always remains the same machine that it has been, being merely transformed through the different enfolding it undergoes, sometimes extended, sometimes compressed and concentrated, as it were, when it is thought to have perished.

In addition, by means of the soul or form there is a true unity corresponding to what is called the self [moy] in us. Such a unity could not occur in the machines made by a craftsman or in a simple mass of matter, however organized it may be; such a mass can only be considered as an army or a herd, or a pond full of fish, or like a watch composed of springs and wheels. Yet if there were no true substantial unities, there would be nothing substantial or real in the collection. That was what forced Cordemoy to abandon Descartes and to embrace the Democritean doctrine of atoms in order to find a true unity. But atoms of matter are contrary to reason. Furthermore, they are still composed of parts, since the invincible attachment of one part to another (if we can reasonably conceive or assume this) does not eliminate diversity of those parts. There are only atoms of substance, that is, real unities absolutely destitute of parts, which are the source of actions, the first absolute principles of the composition of things, and, as it were, the final elements in the analysis of substances. We could call them metaphysical points: they have something vital, a kind of perception, and mathematical points are the points of view from which they express the universe. But when corporeal substances are contracted, all their organs together constitute only a physical point relative to us. Thus physical points are indivisible only in appearance; mathematical points are exact, but they are merely modalities. Only metaphysical points or points of substance (constituted by forms or souls) are exact and real, and without them there would be nothing real, since without true unities there would be no multitude.

After I established these things, I thought I was entering port; but when I began to meditate about the union of soul and body, I felt as if I were thrown again into the open sea. For I could not find any way of explaining how the body makes anything happen in the soul, or vice versa, or how one substance can communicate with another created substance. Descartes had given up the game at this point, as far as we can determine from his writings. But his disciples, seeing that the common opinion is inconceivable, judged that we sense the qualities of bodies because God causes thoughts to arise in the soul on the occasion of motions of matter, and that when our soul, in turn, wishes to move the body, it is God who moves the body for it. And since the communication of motions also seemed inconceivable to them, they believed that God imparts motion to a body on the occasion of the motion of another body. That is what they call the system of occasional causes, which has been made very fashionable by the beautiful reflections of the author of the Search after Truth.

I must admit that, by noting what cannot be the case, the difficulty is penetrated. But it seems the problem is not resolved merely by describing what actually happens. It is quite true that, speaking with metaphysical rigor, there is no real influence of one created substance on another, and that all things, with all their reality, are continually produced by the power [vertu] of God. But in solving problems it is not sufficient to make use of the general cause and to invoke what is called a Deus ex machina. For when one does that without giving any other explanation derived from the order of secondary causes, it is, properly speaking, having recourse to miracle. In philosophy we must try to give reasons by showing how things are brought about by divine wisdom, but in conformity with the notion of the subject in question.

Therefore, since I was forced to agree that it is not possible for the soul or any other true substance to receive something from without, except by divine omnipotence, I was led, little by little, to a view that surprised me, but which seems inevitable, and which, in fact, has very great advantages and rather considerable beauty. That is, we must say that God originally created the soul (and any other real unity) in such a way that everything must arise for it from its own depths [fonds], through a perfect spontaneity relative to itself, and yet with a perfect conformity relative to external things. And thus, since our internal sensations (meaning those in the soul itself, and not those in the brain or in other subtile parts of the body) are merely phenomena which follow upon external beings, or better, they are true appearances and like well-ordered dreams, these internal perceptions in the soul itself must arise because of its own original constitution, that is, they must arise through the representative nature (capable of expressing external things as they relate to its organs) given to the soul from its creation, which constitutes its individual character. This is what makes every substance represent the whole universe exactly and in its own way, from a certain point of view, and makes the perceptions or expressions of external things occur in the soul at a given time, in virtue of its own laws, as if in a world apart, and as if there existed only God and itself (to make use of the manner of speaking used by a certain person of great spiritual elevation whose piety is renowned). There will be a perfect agreement among all these substances, producing the same effect that would be noticed if they communicated through the transmission of species or qualities, as the common philosophers imagine they do. In addition, the organized mass, in which the point of view of the soul lies, being expressed more closely by the soul, is in turn ready to act by itself, following the laws of the corporeal machine, at the moment when the soul wills it to act, without disturbing the laws of the other--the spirits and blood then having exactly the motions that they need to respond to the passions and perceptions of the soul. It is this mutual relation, regulated in advance in each substance of the universe, which produces what we call their communication, and which alone brings about the union of soul and body. We can thus understand how the soul has its seat in the body by an immediate presence which could not be greater, since the soul is in the body as unity is in the resultant of unities, which is a multitude.

This hypothesis is entirely possible. For why should God be unable to give substance, from the beginning, a nature or an internal force that can produce in it, in an orderly way (as would happen in a spiritual or formal automaton, but free in the case where it has a share of

reason), everything that will happen to it, that is, all the appearances or expressions it will have, without the help of any created being? This is especially so since the nature of substance necessarily requires and essentially involves progress or change, without which it would not have the force to act. And since this nature that pertains to the soul is representative of the universe in a very exact manner (though more or less distinctly), the series of representations produced by the soul will correspond naturally to the series of changes in the universe itself, just as the body, in turn, has also been accommodated to the soul for the situations in which the soul is thought to act externally. This is all the more reasonable insofar as bodies are made only for minds capable of entering into community with God and celebrating his glory. Thus, once we see the possibility of this hypothesis of agreements, we also see that it is the most reasonable hypothesis, and that it gives us a marvelous idea of the harmony of the universe and the perfection of the works of God.

It also has this great advantage, that instead of saying that we are free only in appearance and in a way sufficient for practical purposes, as several intelligent persons have believed, we should rather say that we are determined only in appearance, and that, in rigorously metaphysical language, we have a perfect independence relative to the influence of every other creature. This also throws a marvelous light on the immortality of our soul and the always uniform conservation of our individual being, which is perfectly well regulated by its own nature and protected from all external accidents, appearances to the contrary notwithstanding. Never has any system made our eminence more evident. Since every mind is like a world apart, self-sufficient, independent of any other creature, containing infinity, and expressing the universe, it is as durable, subsistent, and absolute as the universe of creatures itself. Thus we should judge that it must always behave in the way most proper to contribute to the perfection of the society of all minds, which is their moral union in the City of God. There is also a new proof for the existence of God in our system, one which has extraordinary clarity. For the perfect agreement of so many substances which have no communication among them can only come from the common source.

Besides all the advantages that recommend this hypothesis, we can say that it is something more than a hypothesis, since it hardly seems possible to explain things in any other intelligible way, and since several serious difficulties which, until now, have troubled minds, seem to disappear by themselves when we properly understand the system. Ordinary ways of speaking are also preserved. For we can say that the substance, whose disposition accounts for change intelligibly, in the sense that we may judge that the other substances have been accommodated to this one in this regard from the beginning, according to the order of God's decree, is the substance we must consequently conceive as acting upon the others. Furthermore, the action of one substance on another is neither the emission nor the transplanting of an entity, as commonly conceived, and can reasonably be taken only in the manner just stated. It is true that we readily conceive emissions and receptions of parts in matter, by which we can reasonably explain all the phenomena of physics mechanically. But since material mass is not a substance, it is clear that action with respect to substance itself can only be as I have just described.

These considerations, however metaphysical they may seem, have yet another marvelous use in physics, in order to establish the laws of motion, as our Dynamics will be able to show.

For we can say that in the impact of bodies, each body suffers only through its own elasticity, caused by the motion already in it. And as for absolute motion, nothing can fix it with mathematical rigor, since everything terminates in relations. This makes for the perfect equivalence of hypotheses, as in astronomy, so that no matter how many bodies we take, we may arbitrarily assign rest or a particular degree of speed to any body we choose, without being refuted by the phenomena of rectilinear, circular, or composite motion. However, it is reasonable to attribute some true motions to bodies, in accordance with the assumption that accounts for the phenomena in the most intelligible way, this denomination being in conformity with the notion of action we have just established.