7

Leibniz

* *Sudha Gopinath*

Introduction

Leibniz was born in 1646. He was a great mathematician and scientist. He shared with Newton the honour of having discovered infinitesimal calculus. However, there is no doubt that Leibniz's notation was more convenient than that of Newton. . Some of the popular and important works of Leibniz are -

1. New Essays on Human Understanding
2. Monadology
3. Discourse on Metaphysics.
4. Theodicy

Like Descartes and Spinoza, Leibniz continued to employ the geometrical method, and based his philosophy on the notion of substance, but he differed radically from them as regards the relation of mind and matter and the number of substances. Descartes admitted three substances, viz., God, Mind and Matter. Spinoza admitted God alone. For Descartes extension is the essence of matter and for Spinoza both extension and thought are attributes of God. But Leibniz held that extension cannot be an attribute of substance. According to Leibniz extension involves plurality and belongs to an aggregate of substances. Each single substance must be

Dr. Sudha Gopinath, Koramangala, Bangalore

unextended. He, therefore, believed in an infinite number of substances, which he called "Monads".

The Truths of Reason and the Truths of Fact

Leibniz was a great logician and believed that logic is the basis of Metaphysics. He even worked on Mathematical Logic but he abstained from publishing it. If he had published his work, Symbolic Logic would have come to light one and a half centuries earlier than it did. He felt that even in Metaphysics and morals we should be able to solve problems like in Geometry.

While discussing Leibniz's logical principles the first point to be explained is the distinction between truths of reason and truths of fact. Leibniz based his philosophy on two logical premises – the Law of Contradiction and the Law of Sufficient Reason. For Leibniz every proposition possesses the subject – predicate form or they can be analysed into a proposition or set of propositions of this form. –Truth consists in the correspondence of a proposition with reality, which may be either actual or possible. The propositions of this form are of two kinds- Truths of reason and Truths of facts. Truths of reason are necessary propositions because they are either self-evident or reducible to self-evidence. By knowing its meaning we know that it's opposite or contradictories cannot be true. They are based on the principle of contradiction or the principle of identity. To take Leibniz's own example, it is not possible to deny that an equilateral rectangle is a rectangle without getting into contradiction.

Truths of fact are not necessary propositions, but they are contingent. When we deny them, there will be no logical contradiction... Quoting Leibniz from 'Monodology', "Truths of reason are necessary and their opposite is impossible; truths of fact are contingent and their opposite is possible". We cannot deduce truths of fact

a-priori from self-evident propositions. They are based on the law of sufficient reason. When we make existential statements we have to give sufficient reason to say that they are true.., Leibniz makes one exception, saying that 'God Exists' is a proposition embracing truths of reason. It is a necessary proposition whose denial would be a logical contradiction. To state that God is possible is to state that God exists. Apart from this exception no truths of reason affirm existence of any subject. Among truths of reason are those primitive truths which Leibniz calls 'identicals'. They are known by intuition, their truth being self-evident, like, A is A or what is A cannot be not A. In this manner Leibniz shows that truths of reason are finitely analytic propositions. For Leibniz all true propositions in a sense are analytic. The existence of the world and the whole harmonious system of finite things requires a sufficient reason which Leibniz finds in a free decree of God. The ultimate sufficient reason and ground of certainty of truths of fact is to be found in God. No finite mind can perform this analysis. It is in this sense Leibniz calls truths of fact as 'incapable of analyses. Only God can possess that complete and perfect idea of individuality of a being in order to know apriori all that will be predicted of him. It is therefore clear that applying the law of sufficient reason Leibniz affirms that all true propositions are analytic and this rule applies to even empirical statements concerning matters of fact. For human beings, there is a difference between truths known by logic and truths known by experience. But this difference arises only because of ignorance and intellectual limitation. For God this difference does not exist. . In conclusion we can say that Leibniz has complicated matters by saying that even contingent propositions are in some sense analytic.

Doctrine of Monads and Pre-established Harmony

Leibniz points out that it is not possible to demonstrate by any argument with certainty that external world exists, and says that the existence of spirit is more certain than that of sensible objects. However, we observe that the visible bodies, the objects of senses are divisible. Bodies are compounds or aggregates of simple substances without parts, called by Leibniz 'monads'. They are the 'true atoms of nature' or 'elements of things' says Leibniz in 'Monadology'. He believed in a plurality of monads and each monad can be looked upon as a unit of reality.

According to Leibniz, extension cannot be an attribute of substance. Hence each monad is a soul with the attribute of thought. Thus Leibniz was led to deny the reality of matter, and to substitute an infinite family of souls. He affirms that no two monads can ever have any causal connection. Monads are "windowless". It neither requires anything from outside nor does it give anything. This view led to two difficulties, one in dynamics where bodies seem to affect each other, as in impact, the other in perception which seems to be an effect of the perceived object on the percipient. With regard to perception, Leibniz held that every monad mirrors the universe, not because the universe affects it, but because God has given it a nature which spontaneously produces this result. There is "pre-established harmony" between the changes in one monad and those in another. This resembles interaction.

Monads form a hierarchy in which some are superior to others in the clearness and distinctness with which they mirror the universe. The activity of monads is "perception". The fully active monad whose perception is conscious is called "apperception". Perception is an

active process of unfolding its own nature in each monad. The monads differ only in degrees. Some are least active and their perception is dull and confused and there are others which are higher in grade. Leibniz speaks of three grades of monads, viz., the bare monads, souls and spirits. Bare monads are inanimate things such as rocks and stones. Their perception would be very dim and confused like that of a person who gets up from a swoon. Animals have a relatively high degree of clearness of perception as they can learn by experience. These are souls. Men are spirits, with memory and they can learn and have knowledge by reason of the eternal truths. The Chief Monad is God. Each monad signifies a small little world in itself. There are monads, from the lowest to the highest. In this theory of monads, Leibniz brings out the importance of continuity. Aggregates of monads are continually forming joining some and losing some. These are the changes of bodies in the phenomenal world, the appearances of the real changes within each monad making up the aggregate. Monad has an inner tendency to activity and self-development. Force and energy are the essence of substance. Activity is the activity of a substance. This means that there is in the monad a principle of activity or a primitive force, which can be distinguished from the actual successive activities of the monad. Leibniz thus introduced the idea of entelechy or substantial form. This entelechy is not to be conceived as a mere potentiality for acting which requires an external stimulus to make it active. Monads have a positive force that generally fulfils itself. In this manner Leibniz reintroduced the Aristotelian theory of forms in dynamic terms of force or energy. But Leibniz did not turn his back on the mechanical view of nature though he considered it insufficient. He insisted that the mechanical views of Nature are complementary.

In spite of the fact that each monad is a principle of activity, no created monad is without a passive component which Leibniz calls 'prime' or 'first matter'. However, prime matter does not consist in mass or extension but only points to the fact that it has potentiality to act. It also indicates that the created substances are limited and imperfect and this imperfection and passivity is shown in confused perceptions. There is a dominant monad in each aggregate and that dominant monad confers unity upon aggregates. The best example of such dominance is the relation of the human mind to its body. According to Leibniz each self-existent being unfolds its changes according to its own inner principle and "mirrors" changes in other monads. Each monad contains within itself a representation of the whole universe from one particular point of view that differs to an infinitely small degree from the representation contained in some other monad. Since Leibniz affirms that monads cannot interact, the fact of perception makes it necessary to speak of the harmonious unfolding of each monad with every other. This is his principle of "pre-established harmony." It gives the reason as to how we can speak of perceiving the world and at the same time believes that monads are "windowless". Though no two substances can act upon each other, everything in the universe takes place as if the natural interaction were real. Substances form a system, not of physical relations but of harmony or natural compatibility. In the creation of the world, the inner development of each monad has been so pre-arranged that all its changes are accompanied by corresponding changes in others. Succession of changes in each monad is different from that in every other, and yet all are in harmony. One monad influences another ideally through an inner pre-established conformity. There is a 'pre-established harmony' which gives the appearance of

interaction between two monads. Commenting on the concept, Bertrand Russell says, "Leibniz has an infinite number of clocks, all arranged by creator to strike at the same instant, not because they affect each other but because each is a perfectly accurate mechanism." (History of Western Philosophy – page 565 – Routledge, London and New York.)

There are ever so many worlds like the plants, the insects, the animals, the human, and the planetary and so on. In each one of these worlds, there is a certain order or perfect arrangement. The monads exist in such a way that there is a continuity and hierarchy. From the smallest to the biggest, from the lowest to the highest, there is a definite continuity. The Universe is a system of parts in perfect mutual adoption. Similarly a human body is entirely composed of monads. Each monad is a soul and is immortal but there is one dominant Monad, the soul of the man whose body it forms part. The changes in the human body is for the sake of the soul. When my arm moves, the purpose served by the movement is in the dominant Monad. This is the truth of what appears to common sense as the control of my will over my arm. Pre-established harmony thus solves the Cartesian dualism of mind and matter. Leibniz explains this as the mirroring of all substances. God's action upon the world, the relation of minds and bodies in perception and movement are simply examples of the general mirroring. Leibniz points out that the soul or mind follows its own laws and the body likewise follows its own laws. They agree with each other in virtue of the pre-established harmony of all substances since they are all representations of the same universe. , The ultimate realities are monads or simple substances. These are invisible. What we perceive are aggregates of monads. When an aggregate has a dominant monad, it is an organic body. It is this form which Leibniz calls

a corporeal substance. Thus for Leibniz, substances in the sense of aggregates of monads are phenomena. What is meant is that stones and trees appear to our senses as being unitary things. But they are really aggregates of simple un-extended substances. In other words, our everyday life, the world of sense experience, the world of science is phenomenal. The monads or ultimate realities are not phenomenal. They do not appear in our sense perception but are known only by a process of philosophical analysis.

This World as the Best of all Possible Worlds

According to Leibniz there are an infinite number of possible worlds; "possible" stands for what is logically possible. Leibniz points out that before creating this world, God contemplated on all the possibilities and decided to create the best. The best is that where there is the greatest excess of good over evil. Good and evil go together and therefore it is not possible to have a world without any evil... The value of good health is known only because there are illnesses. From the point of view of Theology, the example of free will maybe considered. Freewill is a great good but once there is freedom of choice, sin is bound to be committed. Thus Leibniz argues that it was impossible for God to bestow freewill, and at the same time decree that there should be no sin. Hence God made man free, being able to make his choice although God foresaw that man would commit sins and also get punishment. However, according to Leibniz, this is the best of all possible worlds because even though there is evil, there is surplus of good over evil. Leibniz represents the creation as a free act of God. God chose to create this world among all the possible worlds. God being perfectly good and wise, He had a sufficient reason to create the best, and hence the statement 'God created an inferior world' is self-

contradictory'. In other words, "This is the best of all possible worlds" is necessarily true. While explaining that God had a sufficient reason to choose this world instead of any other possible world, Leibniz uses the principle of perfection as a complementary principle. In Leibniz's opinion it is possible to assign a maximum of perfection to every possible world or set of compossibles. But God chose this world instead of any other because it has the greatest maximum of perfection. Further, God created man in such a way that he chooses what seems to him to be the best. God chose the most perfect world freely. So also, man chooses what seems to him to be the best. For an infinite mind man's actions are certain apriori. This means that when God chose to create Adam, he chose to create the monad containing the whole course of later events, including his off-springs, their history, etc., Successive events in the life history of a monad are connected by its appetition towards the good. Since the states of this monad reflect the states of all other monads, the complete system will reflect the final cause of God's intention of bringing into existence the greatest amount of good which can co-exist. So far as a man is concerned, to act in accordance with a judgement of reason is to act freely. . If there were no best possible series, God would have created nothing. He cannot act without a reason or prefer the less perfect for the more perfect. Leibniz also points out that the "possible" has a claim to existence, meaning that creation is in some sense necessary. Leibniz makes a distinction between logical or metaphysical necessity on the one hand and moral necessity on the other. It was not logically or metaphysically necessary for God to create the best of all possible worlds but it was morally necessary for Him to act for the best. This necessity is not incompatible with contingency, because like logical necessity there is no contradiction in its denial.

Arnauld has criticised Leibniz saying that the view that God can foresee every event concerning an individual, is to say that man really has no freedom. But Leibniz does not consider this as a problem because there are final causes to fulfil the purpose of God in creating the best of all possible worlds. The necessity is hypothetical because it is initially dependent on God's choice and the whole courses of events contain free choices which God has given his creatures. Leibniz points out that having considered all the possibilities, God in his infinite goodness created the best of all possible worlds.

The Relativity of Space and Time

Space and time, according to Leibniz, are relative. Space is an order of co-existents and time an order of successions. When we think of different things as co-existing, we have an idea of space as an order of co-existence, where the different things are in some relation. Further, when we consider that there are no actual existents and yet think of possible situations, we have an abstract idea of space. With this argument Leibniz insists that abstract space is not real. It is simply the idea of a possible relational order. Time is also relational. If two events A and B are not simultaneous and if they have a relation with each other, then we say B is after A or A is before B. There is no abstract time. Both space and time are ideal. Further, Leibniz points out that when X substitutes for A with relation to B, C, D, we say X has taken the place of A. When we say this we feel that 'place' is extrinsic to X and A and it is real. However, that is not the case, because the 'places'of co-existents can be determined only by relations. A relation supposes 'accidents' or 'affections' in the related things and no two things can have the same 'affections'. Therefore, in true accuracy 'X' does not acquire the same relation that 'A' formerly had. Space is a mental

abstraction, an idea but not real. Only the relations that form the basis of the mental construction are real. With these arguments, Leibniz affirms that the void or empty space and empty time are absurdities. Space as it appears to the senses and as it is assumed in Physics is not real. . Monads which are simple substances conceived on the analogy of souls are the only real substances. The arrangement of monads in a three dimensional order is what mirrors this world. Each monad sees the world in a certain perspective peculiar to itself. In this sense we can speak of a monad as having a spatial position. In formulating the laws of motion, a scientist has to determine as to what moves and where the movement is. The first view is that atoms of matter which are extended though indivisible move through the void, and motion is imparted to the atoms by contact with one another. The second view is that non-extended elements may exert force on one another without contact and set up motion in the void. The third hypothesis is the Cartesian hypothesis that material substance is essentially extended. All these possibilities are not possibilities but absurdities, according to Leibniz. Leibniz's objection to all these views is that they all presuppose that motion is imparted to an otherwise inert substance. Out of these objections emerges his view of the ultimate entities as essentially active, non-extended, not in any medium not even in space. These ultimate entities are the monads. The simple elements cannot be derived in spatial terms. The atoms cannot serve as the elements in the laws of motion. The essence of an atom is extension and it cannot resist impact, because the motion will be lost on impact. Leibniz affirms that the elements must be such as to resist impact. Therefore the essential property must be force not extension.

Leibniz opposes Newtonian absolute space with specific arguments. Leibniz points out that the concept of empty

space and time is irrational. Leibniz's first argument is theological. He says that if there were empty spaces it would mean that a wise and benevolent being missed the opportunity to place beings in it, which is absurd. The second argument invokes the principle of sufficient reason and the identity of indiscernibles. For every state of affairs here is a sufficient reason why it is thus and not otherwise. If we suppose the material universe in absolute space, then the question is as to why it should be here and not there? There must be some sufficient reason for this state of affairs; otherwise the various states of affairs are indiscernible and hence identical. If this is so, God would be acting without a reason. . The same argument applies to empty time. In creating the world earlier than later, God would be again acting without a reason. The only true cause in operation is final cause and all monads direct their activity toward the best. The same argument offers a further objection to atoms. Further, Leibniz argues that unity cannot belong to an extended thing that is a mere aggregate of parts. Unity can belong only to an "entelechy", a centre of activity like a mind. A mind in its unity and activity is most like a monad. Thus Leibniz says that the ultimate entities cannot be described in terms of categories such as space, time and matter. The series of monads is the real counterpart of the continuity of space.

Metaphysical Proofs for the Existence of God

Leibniz gives four proofs for the existence of God. They are:

1) The Ontological argument
2) The Cosmological argument
3) The argument from Eternal Truths
4) The argument from Pre-established Harmony.

1) The Ontological argument is dependent on the distinction between existence and essence. Generally we speak of things or beings as existing and possessing certain qualities that forms the essence of those things or beings. It is also possible to imagine certain things or beings as possessing various properties. The scholastics expressed this by saying that in the case of a finite substance, the essence does not imply its existence. But this is not so in the case of God. God is defined as a most perfect Being and hence Anslem and Descartes held that in the case of God essence does imply existence. Anslem and Descartes argued that God who has all the perfections is better if he exists than if he does not. Leibniz did not accept the ontological argument in this form. For Leibniz it is important to prove that the idea of God is possible. Leibniz, therefore, first proves that all perfections are compatible since perfection is a simple quality that is positive and absolute. From this it follows that God exists, for, existence is one of the perfections. God as a subject of all perfections exists, since existence is one of the perfections. Kant has criticised this theory by pointing out that existence is not a predicate.

2) Leibniz's version of the cosmological argument rests on the principle of sufficient reason. Cosmological argument is the First-Cause argument. Every effect has a cause and the causal chain cannot be infinite and hence it must end in an uncaused cause. That is God. In Aristatle's words, God is the Unmoved Mover. Leibniz presents this argument in a different form. He says that everything has to have a sufficient reason and therefore universe as a whole must have a sufficient reason. This reason must be outside the universe and this sufficient reason is God. Leibniz's use of the principle of sufficient reason is

to argue from truths of fact to the existence of God. Every event or everything can be explained in terms of finite causes. The process of explanation in terms of finite causes might proceed to infinity. But there must be a final reason or sufficient reason outside the sequence or series of this detailed contingents, however, infinite it may be. This final or sufficient reason must be in a necessary substance. This is what we call God. This substance being the sufficient reason of all details, also linked together throughout, there is but one God. This, according to Leibniz, is an a posteriori argument.

Leibniz's version of the cosmological argument is better than the straight forward First-cause argument. The First-cause argument rests on the assumption that every series must have a first term. It is easy to show that this assumption is false because the series of proper fractions has no first term. But Leibniz's argument does not depend upon the view that the universe must have had a beginning in time. Leibniz maintains a difference between necessary and contingent propositions. He calls all existential propositions contingent with the sole exception of the existence of God. God exists necessarily but when it comes to the creation of this world, He is not compelled by logic but he creates out of his own Free Choice motivated by his goodness. .

Kant criticises the above argument saying that this argument depends on the ontological argument. If the existence of the world is because of a necessary being, then the essence of that Being must involve existence. So the defects of the Ontological argument will be applicable to the Cosmological argument as well.

3) The argument from Eternal Truths: is little difficult to state precisely. Roughly the argument states that those propositions that are always true are called eternal truths. For example, 'four plus four is eight' is always true, everywhere and never false, whereas, a statement like 'It is raining now' may be either true or false, and hence such statements (existential statements) are contingent. The argument is that the gist of a truth must be the content of a mind, and hence eternal truths must be contents of an Eternal Mind. The reason for contingent truths must be in necessary truths. The reason for this whole contingent world cannot be found in contingency but it must be sought in eternal truths. Thus the eternal truths must exist in the mind of God. The question that arises is, in what sense can we speak of any truth as "existing" in a mind? Though it is the mind that apprehends the truth, the meaning of 'existence' in this context gets blurred. The truth is that eternal truths are so because they are self-consistent.

4) The argument from pre-established harmony is Leibniz's version of the argument from design. This argument follows from his doctrine of monads that mirror the universe. The monads do not interact with each other, yet they are like clocks, which keep the same time. This is possible because there must be a single outside cause that regulates all of them. Without reference to the metaphysics of Leibniz, what can be said is that surveying the world, this world cannot be explained as the product of blind forces but it has to be viewed as having a beneficent purpose.

   The premises of this argument are empirical and it has no formal logical defect. Having spoken of a beneficent Creator, Liebniz had to address the

problem of evil. Leibniz speaks of three types of evil – the metaphysical, the physical and the moral. Metaphysical evil is the imperfection involved in finite beings. Physical evil is necessary because it serves a purpose of acting as a penalty for sin. The chief problem considered by Leibniz is that of moral evil. God created the best of all possible worlds in which He had to make room for freewill. Therefore God is not responsible for evil. The harmony in the world makes all things progress towards grace. Sensitive souls get elevated to the rank of spirits. The harmonious union of spirits composes the city of God, a moral world within the natural world.

Criticisms

1. Leibniz is guilty of an inconsistency in combining pluralism with subject- predicate logic. Only a monist like Spinoza can speak of all propositions being of this form. According to Leibniz even the propositions of matters of fact are analytic. It is very difficult to understand this view.

2. According to his doctrine of Monads, the Monads never interact. If so, how does any one of them know that there are others? How the perfect independence of Monads is to be a reconciled with the continuity of their series is a question which Leibniz does not answer.

3. The idea that this is the best of all possible worlds is unacceptable to both philosophers and laymen. Schopenhauer is one of the philosophers who has severely criticised this view saying that this world is not the best but the worst.

4. Leibniz was eager to show the importance of free will but his system does not succeed in that. Arnauld

criticises Leibniz as having made his system as deterministic as that of Spinozas.

5. Leibniz's solution to the problem of evil is logically possible but it is not very convincing.

What has been said so far refers to Leibniz's popular philosophy but he left a lot of his philosophical thoughts unpublished. This can be called esoteric philosophy. He did not want his philosophy to be Spinozaist and hence he refused to make many of his thought public. This unit can be concluded with a quotation from Bertrand Russell. ".....Leibniz remains a great man, and his greatness is more apparent now..... He was a pioneer in mathematical logic of which he perceived the importance when no one else did so. .....Even his Monads can still be useful as suggesting possible ways of viewing perception, though they cannot be regarded as windowless. What I, for my part, think best in his theory of monads is his two kinds of space, one subjective, in the perceptions of each Monad, and one objective, consisting of the assemblage of points of view of the various monads. This, I believe, is still useful in relating perception to physics." (History of Western Philosophy–Page-576).

Conclusion

The three chief philosophical concepts of Leibniz are:

I. Intention, force or life in the form of perception and appetitions is the essence of real, individual substance.

II. The principle of continuity or the identity of indiscernible is the hypothesis by which Leibniz endeavours to explain the system or inter-relation of strictly individual substances.

III. The pre-established harmony is introduced to account for the possibility of change in elementary substances without prejudice to the whole.

References

Copelston, Frederich. *Descartes to Leibniz: A History of Philosophy.* Vol. 4. New York: Image books, 1963.

Latta, R. *The Monadology and Other Philosophical Writings*. Oxford: Oxford University Press, 1898.

O'Connor, D.J., ed. *A Critical History of Western Philosophy.* NewYork: The Free Press, 1964.

Russell, Bertrand. *History of Western Philosophy*. London and New York: Routledge, 2000.

Windelband, W. *History of Philosophy*. New York: Macmillan, 1960.