

Leibniz

Lecture 2 | Michaelmas 2017

Dr Maarten Steenhagen (ms2416@cam.ac.uk)

These Lectures

1. **Metaphysics:** Theory of Substance and the Monadology
2. **Logic:** The Principles of Predicate Containment, Sufficient Reason, Identity of Indiscernibles
3. **Epistemology:** The Response to Locke
4. **Cosmology:** Pre-established Harmony, Theodicy, and the Mind-Body Problem

Substance in Leibniz

Important Leibnizian motivation: Explain activity and freedom in the natural world without attributing all activity to God. ("It is quite difficult to distinguish God's actions from those of his creatures.", *Discourse VIII*)

1. A substance is the subject of predication ('merely nominal' feature)
2. A substance has a *complete notion*
3. A substance remains identical through change
4. A substance is a true unity; a 'true atom of nature' (*Monadology*, 3).
5. A substance is causally self-sufficient: cannot be changed
6. A substance is essentially a source of activity (always active)

Leibniz against Cartesian 'extended substance'

Descartes thought that extension (the extended) is a substance, because extension is one of the principal attributes. Leibniz objects:

1. Cartesian extended substance is infinitely divisible and so no individual or true unity
2. Cartesian extended substance cannot account for the activity in nature

"You ask me to divide a portion of mass into the substances of which it is composed for you. I respond there are as many individual substances in it as there are animals or living things or things analogous to them in it. And so I divide it in the same way one divides a flock or a fish pond... You ask how far one must proceed in order to have something that is a substance and not [a collection of] substances. I respond, until a thing without subdivision is displayed and each such thing is an animal." (Letter to John Bernoulli, September 1698)

Monads

Leibniz thinks of substance as a monad: A Monad ('a world on its own') (The term 'soul' he reserves for higher Monads, i.e. those with memory, *Monadology* 19)

"Thus the universe is multiplied in some sort as many times as there are substances, and the glory of God is multiplied in the same way by as many wholly different representations of his works." (*Discourse IX*)

What reasons, if any, do we have for thinking that monads exist? One reason: not all activities are God's activities (activity is *part* of creation, not just its cause).

Principle of Predicate-in-Notion (PIN)

"Always in every true affirmative proposition, whether necessary or contingent, universal or particular, the notion of the predicate in some way included in that of the subject.

Predicatum inest subjecto; otherwise I do not know what truth is." (*Philosophical Papers and Letters*, ed. L.E. Loemker, p. 337)

"In other words, the account of truth claims that a categorical, affirmative proposition, whether singular or universal, is true just in case the concept of its predicate is contained in the concept of its subject." (Mercer 2002, p. 473; this work contains a useful Appendix with Leibniz's principles)

Puzzle:

Leibniz's theory of truth (Predicate-in-Notion) makes every truth analytic (i.e. it can at least in principle be represented as the result of a conceptual analysis). But it seems that every analytic truth is a necessary truth. Therefore, it seems that Leibniz needs to accept that every truth is necessary. But surely there are contingent truths, right?

Leibniz's solution:

"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." (*Monadology* §33)

Truths of reason express an absolute necessity: 'The triangle has three sides' is analytically true *simpliciter*. Truths of fact express a hypothetical necessity: 'Julius Caesar crossed the Rubicon' is analytically true, *given that Julius Caesar exists* (i.e. conditional on the actual world)

Principle of Sufficient Reason (PSR)

"[the principle] 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." (*Monadology*, §32)

"nothing without a reason, or there is no effect without a cause." (*First Truths*, 1689)

Principle of Identity of Indiscernibles (PII)

"There is no such thing as two individuals indiscernible from each other. An ingenious gentleman of my acquaintance, discoursing with me, in the presence of Her Electoral Highness the Princess Sophia, in the garden of Herrenhausen; thought he could find two leaves perfectly alike. The Princess defied him to do it, and he ran all over the garden a long time to look for some; but it was to no purpose." (Correspondence with Clarke)

Note: in *Discourse IX* Leibniz seems to suggest PII follows from his theory of substance (or perhaps his theory of truth); in other work, however, he invokes the PSR.

"in nature, there cannot be two individual things that differ in number alone. For it certainly must be possible to explain why they are different, and that explanation must derive from some difference they contain." (*First Truths*)

Passages from:

Discours on Metaphysics (VIII, IX, XII)
Monadology (1-7, 17-19, 31-39)

VIII. *In order to distinguish between the activities of God and the activities of created things we must explain the conception of an individual substance.*

It is quite difficult to distinguish God's actions from those of his creatures. Some think that God does everything; others imagine that he only conserves the force that he has given to created things. How far can we say either of these opinions is right?

In the first place since activity and passivity pertain properly to individual substances (*actiones sunt suppositorum*) it will be necessary to explain what such a substance is. It is indeed true that when several predicates are attributes of a single subject and this subject is not an attribute of another, we speak of it as an individual substance, but this is not enough, and such an explanation is merely nominal. We must therefore inquire what it is to be an attribute in reality of a certain subject. Now it is evident that every true predication has some basis in the nature of things, and even when a proposition is not identical, that is, when the predicate is not expressly contained in the subject, it is still necessary that it be virtually contained in it, and this is what the philosophers call *inesse*, saying thereby that the predicate is in the subject. Thus the content of the subject must always include that of the predicate in such a way that if one understands perfectly the concept of the subject, he will know that the predicate appertains to

it also. This being so, we are able to say that this is the nature of an individual substance or of a complete being, namely, to afford a conception so complete that the concept shall be sufficient for the understanding of it and for the deduction of all the predicates of which the substance is or may become the subject. Thus the quality of king, which belonged to Alexander the Great, an abstraction from the subject, is not sufficiently determined to constitute an individual, and does not contain the other qualities of the same subject, nor everything which the idea of this prince includes. God, however, seeing the individual concept, or *hæcceity*, of Alexander, sees there at the same time the basis and the reason of all the predicates which can be truly uttered regarding him; for instance that he will conquer Darius and Porus, even to the point of knowing *a priori* (and not by experience) whether he died a natural death or by poison,—facts which we can learn only through history. When we carefully consider the connection of things we see also the possibility of saying that there was always in the soul of Alexander marks of all that had happened to him and evidences of all that would happen to him and traces even of everything which occurs in the universe, although God alone could recognize them all.

IX. *That every individual substance expresses the whole universe in its own manner and that in its full concept are included all its experiences together with all the attendant circumstances and the whole sequence of exterior events.*

There follow from these considerations several noticeable paradoxes; among others that it is not true that two substances may be exactly alike and differ only numerically, *solo numero*, and that what St. Thomas says on this point regarding angels and intelligences (*quod ibi omne individuum sit species infima*) is true of all substances, provided that the specific difference is understood as Geometers understand it in the case of figures; again that a substance will be able to commence only through creation and perish only through annihilation; that a substance cannot be divided into two nor can one be made out of two, and that thus the number of substances neither aug-

ments nor diminishes through natural means, although they are frequently transformed. Furthermore every substance is like an entire world and like a mirror of God, or indeed of the whole world which it portrays, each one in its own fashion; almost as the same city is variously represented according to the various viewpoints from which it is regarded. Thus the universe is multiplied in some sort as many times as there are substances, and the glory of God is multiplied in the same way by as many wholly different representations of his works. It can indeed be said that every substance bears in some sort the character of God's infinite wisdom and omnipotence, and imitates him as much as it is able to; for it expresses, although confusedly, all that happens in the universe, past, present and future, deriving thus a certain resemblance to an infinite perception or power of knowing. And since all other substances express this particular substance and accommodate themselves to it, we can say that it exerts its power upon all the others in imitation of the omnipotence of the creator.

XII. That the conception of the extension of a body is in a way imaginary and does not constitute the substance of the body.

But to resume the thread of our discussion, I believe that he who will meditate upon the nature of substance, as I have explained it above, will find that the whole nature of bodies is not exhausted in their extension, that is to say, in their size, figure and motion, but that we must recognize something which corresponds to soul, something which is commonly called substantial form, although these forms effect no change in the phenomena, any more than do the souls of beasts, that is if they have souls. It is even possible to demonstrate that the ideas of size, figure and motion are not so distinctive as is imagined, and that they stand for something imaginary relative to our perceptions as do, although to a greater extent, the ideas of color, heat, and the other similar qualities in regard to which we may doubt whether they are actually to be found in the nature of the things outside of us. This is why these latter qualities are unable to constitute "substance" and if there is

no other principle of identity in bodies than that which has just been referred to a body would not subsist more than for a moment.

The souls and the substance-forms of other bodies are entirely different from intelligent souls which alone know their actions, and not only do not perish through natural means but indeed always retain the knowledge of what they are; a fact which makes them alone open to chastisement or recompense, and makes them citizens of the republic of the universe whose monarch is God. Hence it follows that all the other creatures should serve them, a point which we shall discuss more amply later.

THE MONADOLOGY

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 *aggregatum* 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.

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 he would find only pieces working upon one another, but never would he 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 (ἔχουσι τὸ ἐντελές). There is in them a sufficiency (αὐτάρκεια) which makes them the source of their internal activities, and renders them, so to speak, incorporeal Automaton.

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.

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 fountain-head, 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.*