

Leibniz's Predicate-in-Notion Principle and some of its alleged consequences

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HISTORICAL. What I call the Predicate-in-Notion Principle was, as far as I know, first explicitly formulated and recognized by Leibniz as a basic principle in his philosophy in the *Discourse on metaphysics*, which he wrote towards the end of 1685. It was further elucidated and defended in the correspondence with Arnauld, which was occasioned by Leibniz submitting a synopsis of the *Discourse* for Arnauld's inspection and criticism. Both the *Discourse* and the *Correspondence with Arnauld* remained unpublished until the middle of the XIXth century. My account of the Predicate-in-Notion Principle will be derived from those two closely interrelated sources.

FORMULATIONS OF THE PRINCIPLE. Leibniz formulates the Principle in several slightly different ways. I think it is difficult to be certain as to which is the Principle itself and which of them he would have regarded as immediate inferences from it or obvious applications of it. I think we may take the following as the Principle itself: — In every true affirmative proposition, whether it be necessary or contingent, universal or singular, the notion of the predicate is contained either explicitly or implicitly in that of the object. If it is contained explicitly the proposition is analytic; if only implicitly, it is synthetic. Leibniz says that this seems to him to be self-evident when he considers what is meant by a proposition being true.

We must notice also, however, the following two assertions which occur in close connection with the one I have just quoted. (i) Every substance has a notion so complete that anyone who fully understood it could infer from it all the predicates, down to the minutest detail, which will ever belong to that substance. I think that Leibniz regarded this as an immediate consequence of applying the Predicate-in-Notion Principle to the special case of true affirmative propositions about *individuals*. We might call this the Principle of *Pre-determinate Individual History*. (ii) For every contingent fact there is a reason why the fact is just so and not otherwise, but such reasons incline without necessitating. This is what Leibniz calls the *Principle of Sufficient Reason*. He says that it is equivalent to the principle that there is a proof *à priori*, even in the case of *contingent* true propositions, which would show that the connection between subject and predicate is founded upon the natures of those terms.

ALLEGED CONSEQUENCES OF THE PRINCIPLE. I will now state Leibniz's opinions about the logical relations of the Principle to certain other propositions. These may be divided into negative and positive. 1. He held, and he argued strongly against Arnauld, that the Principle does *not* entail that all facts are logically necessary, and does *not* exclude free-will. As we know, Leibniz held that there are contingent facts, and he held that human voluntary decisions are in some sense free. 2. In Section 9 of the *Discourse* he explicitly states that the following propositions follow from the Principle. (i) That no two substances are exactly alike in all their predicates. (ii) That a substance cannot begin except by being created, nor cease except by being annihilated by God. (iii) That a substance cannot be divided into two, and that two or more substances cannot be compounded into one. (iv) That each substance is like a complete world, and mirrors the whole universe from its own point of view. In Section 14 he adds the following further consequences. (v) Each substance is independent of everything else except God, and no created substance acts upon or is acted upon by any other. (vi)

If a person were able to cognize distinctly all that is happening in or appearing to him at the present moment, he could foresee all that will happen in him or appear to him for ever. He reiterates many of these statements in his letters to Arnauld.

COMMENTS AND CRITICISMS. I hope that I have now said enough to give a rough general idea of what Leibniz meant by the Predicate-in-Notion Principle and what he believed to be its logical relations to certain other important propositions. I shall devote the rest of the lecture to comments and criticisms.

1. *The complete notion of a species.*

Leibniz says that it is important to distinguish between the complete notion of a species, e. g. the circle, and the complete notion of an individual, e. g. Adam. We will begin with species. The first example that I will take is the circle. There is an unlimited number of geometrical properties which belong to all circles and to nothing but circles. I think that Leibniz would say that the complete notion of the circle consists of all these properties. Now one and only one of these would commonly be said to be what the word 'circle' *means*, viz. the property of being a plane curve all of whose points are equidistant from a certain fixed point. I think that Leibniz would call this property 'the essence of the circle' and would say that it constitutes 'the real definition', as opposed to various possible 'nominal definitions' of the word 'circle'.

Now, in the case of the circle, I think that he would say that all the other properties in the complete notion follow necessarily from the real definition. Consider now any true statement of the form: 'The circle has the property P'. Here 'P' must stand either for the defining property or for one of the other properties in the complete notion. On the first alternative I think that Leibniz would say that the predicate is *explicitly* contained in the notion of the subject; on the second alternative that it is contained *implicitly*. But, in either case, he would say, the proposition is

neccessary and independent of God's free decrees, whether actual or possible.

All this looks plausible enough at first sight. But the following comments must be made: — (i) Suppose we had taken as our example the *ellipse* instead of the circle. There is an infinitely numerous set of geometrical properties which belong to all ellipses and to nothing but ellipses. But is there any property which can plausibly be said to be what the word 'ellipse' *means*? The property most nearly analogous to the real definition of the circle is the following, viz. that an ellipse is a plane curve such that the sum of the distances from any point on it to a certain pair of fixed points is constant. But it would be fantastic to suggest that this is what is meant by the word 'ellipse'. And the same would be true of any other property which might be proposed as the real definition. Thus the fact is that the ellipse has a complete notion; and that all the rest of the properties in it follow from any one property in it; but none of them can be singled out as the 'essence' or 'real definition'.

This makes one suspect that it is a very contingent fact that there is a real definition in the case of the circle. It seems to depend on the fact that here there is one and only one very simple and striking property which almost 'hits one in the eye'. So the distinction between predicates which are contained explicitly, and those which are contained only implicitly, in the notion of a certain kind of geometrical figure turns out to be mainly relative. It depends upon which of them you take as the defining property, and there seems to be no objective ground for taking one rather than another. (ii) It is not strictly true, even in the case of the circle, to say that the rest of the properties in the complete notion follow neccessarily from the defining property. The possession of the other properties follows from the possession of the defining property *together with* the axioms of Euclidean geometry. Leibniz would no doubt have said that the notion of any kind of geometrical figure contains *inter alia* the axioms of Euclid. And he would doubtless have

held that these axioms are necessary propositions, holding in all possible worlds and therefore independent of God's free decrees. Suppose we take the same property as defining the circle and combine it in one case with the axioms of Euclid and in the other with those of Lobatchefski. Some of the properties entailed would be the same, but others would be different. Thus, whilst the real definition of the circle would be the same, the complete notion of the circle would be different. Leibniz would have to talk of different possible kinds of circle, just as he talks of alternative possible Adams. And he would have to say that the notion of each alternative possible kind of circle contains the notion of certain possible free decrees of God, which fix the geometry of a certain possible world. And similar remarks would apply to any other kind of geometrical figure.

If we want an example of a specific notion in which all the predicates are *necessarily* interconnected, we must leave geometry and go to pure arithmetic. Take e. g. the notion of a *prime number*. The accepted definition of this is an integer which is not exactly divisible by any other integer except itself and unity. The complete notion of a prime number would consist of all these properties which belong to all such integers and only to such integers. E. g. one property which is contained in the notion of a prime number is that the immediate successor of the product of all the integers below it is divisible by it. (*Wilson's Theorem*) This property is not contained *explicitly* in the notion of prime number, i. e., it is not identical with or a conjunct in its defining property. But it is contained *implicitly*, in so far as it follows from the defining property together with premises which are all propositions of logic or pure arithmetic and are necessary and independent of God's volitions.

I think that these examples probably illustrate what Leibniz had in mind in the distinction which he draws in the *Letters to Arnauld* between *absolutely* and *conditionally* necessary propositions. Suppose we take a certain property P as the defining property of a certain subject S. Let Q be another property which belongs to S. (i) It might be that S is Q follows from S is P

alone, as e. g. *negroes are black* follows from *negroes are black men*. (ii) Failing this it might be that *S is Q* follows from the combination of *S is P* with premises all of which are *necessary*. In these two cases Leibniz would say I think that *S is Q* is *absolutely necessary*. In case (i) he would say that the predicate is *explicitly* contained in the notion of the subject, and in case (ii) that it is contained *implicitly*. (iii) Next suppose that *S is Q* follows from a combination of *S is P* with certain general premises which are true in the actual world but are not all necessary. Then I think that Leibniz would call *S is Q* *hypothetically necessary*.

I shall now leave mathematical examples of species and consider those which Mill calls 'natural kinds'. An example would be the species of matter called 'iron', or the species of animal called 'horse'.

It is a fact about the actual world that there are certain small groups of properties, about which the following propositions are true: — (i) Any two things which have all the properties in such a group have also innumerable other properties in common, and differ only in minor respects. (ii) If *X* has all the properties in such a group and *Y* lacks any of them, then *X* and *Y* will differ in a great many major respects. Take e. g. the two properties of melting at 1062° C and having a density of 19.26 gms per cc. Any two bits of matter which have both these properties agree also in having the chemical and physical characteristics of gold. Any bit of matter which lacks either of them differs also in many other important properties from any bit of matter which has them both. I call any such small group of properties a 'sufficient description of a natural kind'.

The complete notion of a natural kind will consist of a sufficient description of it, together with all the other properties common and peculiar to all substances which answer to that description. Suppose that the omission or the appreciable modification of any property in a sufficient description of a natural kind would make it *insufficient*. Then we may call it a '*minimal sufficient description*'. The same natural kind may have several

minimal sufficient descriptions. E. g. 'rational animal' and 'animal with two legs and no feathers' are two such descriptions of the natural kind *man*.

It is only because of these contingent facts about the actual world that it is practicable and useful to have specific names like 'gold', 'man', 'horse' etc. And it is only because of such facts that we can talk of 'definitions' of such names.

Speaking in Leibnition terms we could say that the notion of a natural kind contains *inter alia* the notion of a free decree of God to associate together a certain set of characteristics in a certain possible world, in the way described. In one of the alternative possible worlds, e. g., the property of being rational would be associated, not with those which are here characteristic of men but with those which are here characteristic of horses.

Now there is *prima facie* the following important difference between a species of geometrical figure and a natural kind. Suppose you take any minimal sufficient description of the circle. Then all the other properties in the complete notion of the circle follow from this together with the axioms of geometry in the world under consideration. Now these axioms are not specially concerned with *circles*; they are extremely general propositions about spatial order and interconnexion. *Prima facie* there is nothing to correspond to this in the connexion between a minimal sufficient description of a natural kind and the rest of the properties in its complete notion. Thus, to speak in Leibnition terms, the notion of any one natural kind seems to involve a number of very special divine decrees peculiar to it. But the notion of any one species of geometrical figure seems to involve no special divine decrees peculiar to it, but only very general divine decrees about the spatial aspect of a certain possible world.

2. *The complete notion of an individual.*

We are now in a better position to consider what can be meant by the 'complete notion' of an *individual*, e. g. of Adam. A very important new feature which enters here is that we must

now take account of *singular* propositions, which involve determinate dates and may involve determinate places; e. g. *Queen Elizabeth sneezed at 5 p. m. on Xmas Day 1597.*

The next point is this. The notion of an individual is the notion of something which persists for a time, however short, and which is in a perfectly determinate state at every moment of its history. Whether an individual changes or remains qualitatively unchanged between two given moments, the notion of it includes an infinite number of singular propositions specifying its state at each of the continuous series of intermediate moments. It is therefore plain that Leibniz is right when he says that no human being could have an adequate and distinct idea of the complete notion of any individual, actual or possible.

We may next note the following fact. The various propositions which are true of an individual substance are of two different kinds, viz. *non-dispositional* and *dispositional*. It is a non-dispositional proposition about a certain bit of gold that it is at a certain temperature at a certain moment. It is a dispositional proposition about it that, if at any time its temperature should be at or above 1062° C, it would then be in a liquid state.

The dispositional propositions which are true of an individual are of various orders of generality. Some are equally true of all bits of matter, e. g. the law of inertia. Some are true only of all bits of matter of the kind to which this individual belongs, e. g. that it has such and such a melting-point. We must also admit the possibility that some are *peculiar* to the individual. Thus, e. g. it might well be the case that there are certain psychological dispositional propositions about a person, which are not entailed by the general laws of human psychology together with the non-dispositional facts about that person.

From the fact that there are dispositional propositions about an individual it follows that not all the propositions which are true of an individual are logically independent of each other. E. g. the proposition: *This bit of gold was liquid at 12 o'clock*

today follows logically from the propositions: *This bit of gold was at a temperature above 1062° C at 12 o'clock today* and *the melting point of gold is 1062° C*. We can therefore conceive a sub-class of propositions to be selected, on the following principles, out of the sum total of the propositions which are true of an individual. (i) No proposition in such a sub-class is to be logically entailed by any combination of the other propositions in it. (ii) Every true proposition about the individual, which is not contained in a given sub-set of this kind, is to be entailed by some combination of the propositions which *are* contained in it. I will call any such sub-class a '*nuclear* sub-class' for that individual. There might be many alternative nuclear sub-classes for the same individual.

The next point to note is this. Any nuclear sub-class would suffice to distinguish the individual concerned, not only from every other *actual* individual, but also from every other *possible* individual. And nothing less than a nuclear sub-class would suffice to distinguish it from every other possible individual. This is because a nuclear sub-class entails *all* the other propositions which are true of the individual. A selection of propositions which is non-nuclear may suffice to distinguish an *actual* individual from all other *actual* individuals. It may also suffice to distinguish a *merely possible* individual from all other *possible* individuals which belong to the *same possible world*. Thus, e. g. the property of being a man without human parents suffices to distinguish the actual Adam from all other actual individuals. But the presence of that predicate does not entail that of all the other predicates which belong to the actual Adam. So the class of which this proposition is the only member is not a nuclear sub-class. Again, this proposition does not suffice to distinguish the actual Adam from all other *possible* individuals; since it might be supplemented in innumerable different ways. Speaking in Leibnitian terms, we might say, I think, that every proposition in a nuclear sub-class is the expression of a free decree of God in regard to the universe of which that individual is a member. If the individual actually exists, those free decrees are actual; if

he is only a possible individual in an alternative possible world, they are merely possible.

Before summing up about the complete notion of an individual it will be useful to define for the present purpose two terms, viz. 'characteristic' and 'predicate'. Suppose that a certain bit of gold was liquid at several different moments t_1 , t_2 — etc. Then I shall say that liquidity is a characteristic which this bit of gold had on various occasions; and I shall say that 'being liquid at t_1 ', 'being liquid at t_2 ' etc. are so many different predicates of this bit of gold. We might call the kind of predicate which is expressed by the formula 'having the characteristic Q at the moment t' an '*instantaneous* predicate'. There are also various kinds of temporally generalized predicates, e. g. 'having the characteristic Q sometimes', 'having the characteristic Q at all moments between t_1 and t_2 ' and so on. And the characteristic involved in a predicate may be dispositional, e. g. 'magnetic' 'melting at 1062° C' and so on.

I will now summarize the position as follows. I take it that 'the complete notion of an individual' means the collection of every predicate of it which refers to any moment in its history. This collection will always contain predicates of two fundamentally different kinds viz. non-dispositional and dispositional. The dispositional predicates will be of various orders of generality, and it may be that some of them are peculiar to the individual. Within the complete notion of an individual there will be one or more nuclear sub-classes of predicates. The predicates in a nuclear sub-class suffice to distinguish an individual from all others, *actual or possible*. But an actual individual may be distinguished from all other *actual* individuals, though not from all other *possible* individuals, by a selection of predicates which do not constitute a nuclear sub-class.

3. *Is the complete notion of the individual a genuine entity?*

This question reduces to the following: — Does the phrase 'every predicate of an individual which refers to any moment in its history' denote a genuine collection, which is, in some intel-

ligible sense, complete at every moment, including the moments (if such there be) before this individual began to exist? Leibniz evidently thought that it does.

I think that the case for an affirmative answer might be put most plausibly as follows. Suppose that it is a fact that Queen Elizabeth sneezed at 5 p. m. on Xmas Day 1597. Then anyone who, at any moment *before* then, had said: 'Queen Elizabeth *will* sneeze at 5 p. m. on Xmas Day 1597' would have been speaking truly. Anyone who had said *at that very moment*: 'Queen Elizabeth *is sneezing* at 5 p. m. on Xmas Day 1597' would have been speaking truly. And anyone who, at any moment *after* then, had said: 'Queen Elizabeth *did* sneeze at 5 p. m. on Xmas Day 1597' would have been speaking truly.

If we consider these sentences and the beliefs which they correctly express, we find that we can distinguish a *common content* and a *difference of tense*. We can also distinguish between what we might call the '*time of occurrence*' and the '*time of reference*'. The common content refers to an individual (Queen Elizabeth), a characteristic (sneezing), and a date. This date is the date of *reference*. The difference of tense is expressed by the difference between the copulas 'will', 'is now', and 'did'. The date of occurrence is the date at which someone has the belief or utters the sentence which expresses it.

Now it seems plausible to suggest that the common content is a fact about Queen Elizabeth and sneezing and the date of reference; and to say that, although this fact *contains* that date as a constituent, it *has* itself no date of occurrence. Such a fact might be expressed by the formula: 'S is tenselessly characterized by Q at t'. The various beliefs, with their various dates of occurrence, are made true by corresponding to this tenseless fact about an individual, a characteristic, and a date of reference. The differences in tense correspond to differences in the temporal relation between the date of occurrence of the belief and the date of reference, which is a constituent in the tenseless fact to which the belief refers. Thus e. g. the total fact which corresponds to a true belief, occurring at t_1 , that S *will be* charac-

terized by Q at t_2 , consists of the two following facts, viz., (i) the fact that S is tenselessly characterized by Q at t_2 , and (ii) the fact that t_1 is tenselessly earlier than t_2 .

There are two and only two kinds of change which can happen to a fact of tenseless characterization. One is that the date of reference, which is a constituent in it, alters continuously in respect of the purely temporal property of pastness, presentness and futurity. It becomes less and less remotely future, then present, and then more and more remotely past. But the fact itself, being dateless, undergoes no such change. The other kind of change is that, whilst such a fact cannot be an object of *non-inferential knowledge* to any human being at any date earlier than the date of reference in it, it may become the object of such knowledge from time to time at any date which is not earlier than the date of reference in it.

I suppose that Leibniz may have had some such considerations as these in his mind when he assumed that the phrase 'every predicate of an individual which refers to any moment in its history' denotes a genuine collection which is complete at every moment. It may be noted that this line of thought, for what it may be worth, is quite independent of theological considerations. But Leibniz would no doubt have also argued as follows. God knew at every moment before 5 p. m. on Xmas Day 1597 that Queen Elizabeth would then sneeze. Therefore, he would say, there must always have been this fact or true proposition to be the object of God's acts of knowing at each of these earlier moments.

4. *Does the Principle really have any ontological consequences?*

As we have seen, Leibniz thought that the Predicate-in-notion Principle has many ontological consequences. It is not easy to believe that important ontological principles could be entailed by such an extremely abstract logical principle alone. One is inclined to suspect that other premises must have been surreptitiously combined with it.

I suspect that the reasoning at the back of Leibniz's mind may

be illustrated by the following line of argument. Since it was already true when Queen Elizabeth was first created that she will sneeze at 5 p. m. on Xmas Day 1597, she must have been created with a certain modification corresponding to this fact about her. Since it is true at every moment of her history up to the date of reference in this fact that she *will* then sneeze, this modification must have persisted until then. And, since it is true at every moment after then that she *did* then sneeze, the same modification must persist in her after then for as long as she continues to exist.

The persistent modification in the substance itself is, so to speak, the *ontological correlate* of the fact of tenseless characterization in the complete notion of the substance. Now all that happens or can happen to the fact of tenseless characterization is that the date of reference, which is a constituent in it, becomes less and less remotely future, then present, and then more and more remotely past. Similarly, all that happens or can happen to the correlated modification of the substance is its emergence from quiescence into activity at a certain moment and its subsequent reversion to quiescence. Corresponding to every non-dispositional fact of tenseless characterization in the notion of a substance there would be a special modification of the substance itself, which persists throughout the whole of its history, explodes into activity at the moment when the date of reference in the fact becomes present, and then reverts for ever to quiescence.

Now this kind of theory or picture is quite familiar in regard to dispositional facts. The conditional fact: 'If a bit of gold were at any time raised in temperature above 1062° C it would then melt' is commonly held to correspond to a certain persistent structural peculiarity present in every bit of gold at every moment of its history. Again, the power of remembering a past experience is commonly thought to correspond to a modification, originally produced in the mind or the brain by the experience, which persists indefinitely thereafter. The difference in these cases from the case of a modification which corresponds to an

instantaneous predicate, is that here the same modification may burst into activity on many occasions instead of only once.

It seems to me pretty plain that Leibniz thinks of every substance as coming into existence with a stock of innate modifications. These correspond (i) to every non-dispositional fact of tenseless characterization which refers to any moment in its history, and (ii) to every dispositional fact about it. This seems to be the suppressed premise which has to be combined with the Predicate-in-Notion Principle if one is to derive from it any positive ontological conclusions. It may have been suggested to Leibniz by the Predicate-in-Notion Principle, and he may have seen no other way in which the complete notion of an individual could be embodied in that individual. But I do not think that one can admit that it is logically entailed by the Principle.

Whether, even with this additional premise, one can legitimately deduce the various ontological principles which Leibniz alleges to follow from the Predicate-in-Notion Principle, is a question of detail into which I shall not here enter.

5. *Is the Principle compatible with contingency?*

In discussing this question it will be best to begin by considering certain typical sentences. We may call the sentence 'The protestant daughter of Henry VIII was a protestant' *explicitly analytic*. The two sentences 'The unmarried daughter of Henry VIII was a protestant' and 'Queen Elizabeth was a protestant' are not explicitly analytic. But this is also true of the sentence: 'The sun rises in the east'. If we consider the last sentence more carefully, we can raise the following question. What do we understand by 'east'? Does it mean just 'the quarter in which the sun rises'? If we substitute this *definiens* for the word 'east', the sentence does become explicitly analytic. But suppose we take the word 'east' to be defined by reference to the way in which a suspended magnet sets itself. Then the substitution of the *definiens* does not make the sentence explicitly analytic.

Suppose now that a sentence, which is not explicitly analytic, contains a word or phrase which has a generally accepted de-

definition or description. Suppose that, when this is substituted for the word or phrase, the sentence becomes explicitly analytic. Then we may call the original sentence *implicitly analytic*. Thus, if the commonly accepted definition or description of the 'east' is 'the quarter in which the sun rises', the sentence 'The sun rises in the east' is implicitly analytic. If a sentence is neither implicitly nor explicitly analytic, we will call it synthetic.

Now a sentence like 'Queen Elizabeth was a protestant' or 'The unmarried daughter of Henry VIII was a protestant' is certainly not *explicitly* analytic. But it is also not *implicitly* analytic. No doubt it is true that the proper name 'Queen Elizabeth' and the definite description 'The unmarried daughter of Henry VIII', both apply to the same individual as the definite description 'The protestant daughter of Henry VIII'. And no doubt the sentence 'The protestant daughter of Henry VIII was a protestant' is explicitly analytic. But those two facts do not make the sentences 'Queen Elizabeth was a protestant' and 'The unmarried daughter of Henry VIII was a protestant' implicitly analytic. The essential point here is the following. A grammatical proper name, such as Queen Elisabeth, has no commonly accepted definition. Therefore the sentence 'Queen Elizabeth was a protestant' cannot be made explicitly analytic by any substitution of *definiens* for *definiendum* in it. Again, no substitution of generally accepted definitions or descriptions for the word 'protestant' and the phrase 'unmarried daughter' will render the sentence 'The unmarried daughter of Henry VIII was a protestant' explicitly analytic. So these two sentences are synthetic. The same is true of any sentence whose grammatical subject is a grammatical proper name, such as 'Queen Elizabeth' or 'Winston Churchill'. And it is true of most sentences in which the grammatical subject is a phrase which uniquely describes an actual individual.

The following fact should, however, be noted here. When a person refers to an historical individual by a grammatical proper name, such as 'Queen Elizabeth', he must have at the back of his mind some sort of description of the individual in question,

even if it be only of the form 'The monarch who is referred to in books on English history as Queen Elizabeth'; for it is plain that no grammatical proper name, used of an individual whom one has never met, can possibly function as a pure logical proper name, as, e. g., the word 'that' might do if one pointed to a certain visible object and said 'That is a cow'. So, for the present purpose, the sentence 'Queen Elizabeth was a protestant' is really equivalent to a sentence of the form: 'The person who answered to such and such a description was a protestant'.

Now in general one does not know what description is at the back of another person's mind when he utters or understands such a sentence. Often that person himself would be hard put to it to say exactly what it is. Perhaps the most that can be said is that a certain complex mental disposition, which he has acquired in the course of his reading, is active at the time; and that this checks him and gives him a certain feeling of intellectual discomfort if he uses the name himself or hears it used by others outside a certain limited range of contexts. The description which is attached to such a name will almost certainly vary from person to person, and from one occasion to another in the same person. Now it might happen for a certain person on a certain occasion to include the property of being protestant. He might e. g. be thinking of Queen Elizabeth as the first protestant Queen of England in her own right. If so, we might say that the sentence would be 'implicitly analytic' in a certain sense *for* that person *on* that occasion, in spite of the fact that the name 'Queen Elizabeth' has no commonly accepted definition or description.

Subject to the above qualifications, we may sum up the matter as follows. If a proposition about a term is to be necessary, the following conditions must be fulfilled. (i) The term must have a commonly accepted definition or description. (ii) The proposition in question must be entailed, either by this definition or description alone, or by this together with premises all of which are necessary. Now it is plain that these conditions are not fulfilled in the case of most propositions about indi-

viduals. The grammatical proper names of individuals do not have definitions, and there is no generally accepted description for any individual. And, even if the first condition were fulfilled, the second would break down as regards most propositions about individuals.

Now the Predicate-in-Notion Principle, as I have understood it, makes the following assertions. (i) That there is, for every individual, a complete collection of facts of the form 'S is tenselessly characterized by Q at t', covering the whole history of that individual. (ii) That each such fact, though it contains a date of reference as a constituent, has itself no date of occurrence, but subsists timelessly. I think it is plain that this does not entail that all or any of such facts are expressible by sentences which are either explicitly or implicitly analytic. It does not entail that an individual has a generally accepted definition or description. And it does not entail that, if an individual had such a definition or description, every true proposition about it would follow either directly from this or from this together with premises all of which is necessary. So it appears to me that, if Leibniz meant what I suggest that he meant, he was right in holding that the Predicate-in-notion Principle is compatible with there being contingent facts.
