The A Priori

> "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, we can find the reason by analysis, resolving the truth into simpler ideas and simpler truths until we reach those that are primary." [Leibniz, *Monadology* 33]

AXIOMS

There are propositions that are necessarily true and such that, once one understands them, one *sees* that they are true. Such propositions have traditionally been called *a priori*. Leibniz remarks, "You will find a hundred places in which the scholastic philosophers have said that these propositions are evident, from their terms, as soon as they are understood."[1]

If we say of an *a priori* proposition, that, "once you understand it then you see that it is true," then we must take the term "understand" in a

[1]G. W. Leibniz, *New Essays Concerning Human Understanding*, translated and edited by Peter Remnant and Jonathan Bennett (New York: Cambridge University Press, 1982), Book IV, Ch. 7. Compare Alice Ambrose and Morris Lazerowitz, *Fundamentals of Symbolic Logic* (New York: Holt, Rinehart and Winston, Inc., 1962), p. 17. "A proposition is said to be true *a priori* if its truth can be ascertained by examination of the proposition alone or if it is deducible from propositions whose truth is so ascertained, and by examination of nothing else. Understanding the words used in expressing these propositions is sufficient for determining that they are true."

somewhat rigid sense. You could not be said to "understand" a proposition, in the sense intended, unless you can grasp *what* it is for that proposition to be true. The properties or attributes that the proposition implies—those that would be instantiated if the proposition were true—must be properties or attributes that you can conceive or grasp. To "understand" a proposition, in the sense intended, it is not enough merely to be able to say what *sentence* in your language happens to express that proposition. The proposition must be one that you have contemplated and reflected upon.

One cannot *accept* a proposition, in the sense in which we have been using the word "accept," unless one also *understands* that proposition. We might say, therefore, that an *a priori* proposition is one such that, if you accept it, then it becomes certain for you. (For, if you accept it, then you understand it, and, as soon as you understand it, it becomes certain for you.) This account of the *a priori*, however, would be at once too broad and too narrow. It would be too broad in that it also applies to what is self-presenting, and what is self-presenting is not necessarily true. It would be too narrow in that it does not hold of all *a priori* propositions. We know some *a priori* propositions on the basis of others, and these propositions are not themselves such that, once they are understood, then they are certain.

Let us begin by trying to characterize more precisely those *a priori* propositions that are not known on the basis of any other *a priori* propositions. Leibniz said that these propositions are "the first illuminations." He wrote, "The immediate awareness of our existence and of our thoughts furnishes us with the first *a posteriori* truths, or truths of fact, i.e., *the first experiences*, while identical propositions embody the first *a priori* truths, or truths of reason, i.e., *the first illuminations*. Neither admits of proof, and each may be called *immediate*."[2]

The traditional term for those *a priori* propositions which are "incapable of proof" is *axiom*. Thus Frege wrote, "Since the time of antiquity an axiom has been taken to be a thought whose truth is known without being susceptible by a logical chain of reasoning."[3] In *one* sense, of course, every true proposition h is capable of proof, for there will always be other true propositions from which we can derive h by means of some principle of logic. What did Leibniz and Frege mean, then, when they said that an axiom is "incapable of proof"?

The answer is suggested by Aristotle. An axiom, or "basic truth," he said, is a proposition "which has no other proposition prior to it"; there is no proposition which is "better known" than it is.[4] And what does "better known" mean? Perhaps this: of two propositions both of which are known by a subject S, one is better known than the other provided only that S is

[2]*New Essays Concerning Human Understanding*, Book IV, Ch. 9.

[3]Gottlob Frege, *Kleine Schriften* (Hildesheim: Georg Olms (Verlagsbuchhandlung, 1967), p. 262.

[4]*Posterior Analytics*, Book I, Ch. 2.

more justified in accepting the one than in accepting the other. Hence, if an axiomatic proposition is one such that no other proposition is better known than it is, then it is one that is certain. (It will be recalled that we characterized *certainty* by saying this: a proposition *h* is *certain* for a person S, provided that *h* is evident for S and provided that, for every proposition *i*, believing *h* is at least as justified for S as believing *i*.) Hence Aristotle said that an axiom is a "primary premise." Its ground does not lie in the fact that it is seen to follow from *other* propositions. Therefore we cannot prove such a proposition by making use of any premises that are "better known" than it is. (By "a proof," then, Aristotle, Leibniz, and Frege meant more than "a valid derivation from premises that are true.")

Let us now try to say what it is for a proposition to be an *axiom*:

D1 h is an axiom = Df h is necessarily such (i) it is true and (ii) for every S, if S accepts h, then h is certain for S

The following propositions among countless others may be said to be *axioms* in our present sense of the term:

If some men are Greeks, then some Greeks are men.
If Jones is ill and Smith is away, then Jones is ill.
The sum of 5 and 3 is 8.
The product of 4 and 2 is 8.
All squares are rectangles.

These propositions are axiomatic in the following sense for those people who *do* consider them:

D2 h is *axiomatic* for S = Df (i) h is an axiom and (ii) S accepts h.

We have assumed that any conjunction of axioms is itself an axiom. But it does not follow from this assumption that any conjunction of propositions which are axiomatic *for* a subject S is itself axiomatic for S. If two propositions are axiomatic for S and if S does not accept their conjunction, then the conjunction is not axiomatic for S. (Failure to accept their conjunction need not be a sign that S is unreasonable. It may be a sign merely that the conjunction is too complex an object for S to grasp.)

Our knowledge of what is axiomatic is a subspecies of our *a priori* knowledge, that is to say, some of the things we know *a priori* are *not* axiomatic in the present sense. They are *a priori* but they are not what Aristotle called "primary premises."

What would be an example of a proposition that is *a priori* for S but not axiomatic for S? Consider the last two axioms on our list above, i.e.,

The sum of 5 and 3 is 8.
The product of 4 and 2 is 8.

Let us suppose that their conjunction is also an axiom and that S accepts this conjunction; therefore the conjunction is axiomatic for S. Let us suppose further that the following proposition is axiomatic for S:

> If the sum of 5 and 3 is 8 and the product of 4 and 2 is 8, then the sum of 5 and 3 is the product of 4 and 2.

We will say that, if, in such a case, S accepts the proposition that the sum of 5 and 3 is the product of 4 and 2, then that proposition is *a priori* for S. Yet the proposition may not be one which is such that it is certain for anyone who accepts it. It may be that one can consider *that* proposition without thereby seeing that it is true.

There are various ways in which we might now attempt to characterize this broader concept of the *a priori*. We might say, for example, "You know a proposition *a priori* provided you accept it and provided it is implied by propositions that are axiomatic for you." But this would imply that *any* necessary proposition that you happen to accept is one that you know *a priori* to be true. (Any necessary proposition *h* is implied by any axiomatic proposition *e*. Indeed, any necessary proposition *h* is implied by *any*-proposition *e*—whether or not *e* is axiomatic and whether or not *e* is true or false. For if *h* is necessary, then it is necessarily true that, for any proposition *e*, either *e* is false or *h* is true. And to say, "*e* implies *h*," is to say it is necessarily true that either *e* is false or *h* is true.) *Some* of the necessary propositions that we accept may *not* be propositions that we know *a priori*. They may be such that, if we know them, we know them *a posteriori*—on the basis of authority. Or they may be such that we cannot be said to know them at all.

To capture the broader concept of the *a priori*, we might say that a proposition is known *a priori* provided it is axiomatic that the proposition follows from something that is axiomatic. Let us put the matter this way:

D3 *h* is known *a priori* by S = Df There is an *e* such that (i) *e* is axiomatic for S, (ii) the proposition, *e* implies *h*, is axiomatic for S, and (iii) S accepts *h*

We may add that a person knows a proposition *a posteriori* if he knows the proposition but does not know it *a priori*.

We may assume that what is thus known *a priori* is evident. But the *a priori*, unlike the axiomatic, need not be certain. This accords with St. Thomas's observation that "those who have knowledge of the principles [i.e., the axioms] have a more certain knowledge than the knowledge which is through demonstration."[5]

Is this account too restrictive? What if S derives a proposition from a set

[5]Thomas Aquinas, *Exposition of the Posterior Analytics of Aristotle*, tr. Pierre Conway (Quebec: M. Doyon, 1952), Book II, Lecture 20, No. 4, (pp. 427–428).

of axioms, not by means of one or two simple steps, but as a result of a complex proof, involving a series of interrelated steps? If the proof is formally valid, then shouldn't we say that S knows the proposition *a priori*?

I think that the answer is no. Complex proofs or demonstrations, as John Locke pointed out, have a certain limitation. They take time. The result is that the "evident lustre" of the early steps may be lost by the time we reach the conclusion: "In long deductions, and the use of many proofs, the memory does not always so readily retain." Therefore, he said, demonstrative knowledge "is more imperfect than intuitive knowledge."[6]

Descartes also noted that memory is essential to demonstrative knowledge. He remarks in *Rules for the Direction of the Mind* that, if we can *remember* having deduced a certain conclusion step by step from a set of premises that are "known by intuition," then, even though we may not now recall each of the particular steps, we are justified in saying that the conclusion is "known by deduction."[7] But if, in the course of a demonstration, we must rely upon memory at various stages, thus using as premises contingent propositions about what we happen to remember, then, although we might be said to have "demonstrative knowledge" of our conclusion, in a somewhat broad sense of the expression "demonstrative knowledge," we cannot be said to have an *a priori* demonstration of the conclusion.

Of course, we may make mistakes in attempting to carry out a proof just as we may make mistakes in doing simple arithmetic. And one might well ask, How can this be, if the propositions we are concerned with are known *a priori*? Sometimes, as the quotation from Locke suggests, there has been a slip of memory. Perhaps we are mistaken about just *what* the propositions are that we proved at an earlier step—just as, in doing arithmetic, we may mistakenly think we have carried the 2 or we may pass over some figure having thought that we included it or we may inadvertently include something twice. And there are also occasions when we may just seem to get the *a priori* proposition wrong. In my haste I say to myself, "9 and 6 are 13," and then the result will come out wrong. But when I do this, I am not really considering the proposition that 9 and 6 are 13. I may just be considering the formula, "9 and 6 are 13," which sounds right at the time and not considering at all the proposition that that formula is used to express.

We have said what it is for a proposition to be known *a priori* by a given subject. But we should note, finally, that propositions are sometimes said to be *a priori* even though they may not be known by anyone at all. Thus Kant held that "mathematical propositions, strictly so called, are always judg-

[6]*Essay Concerning Human Understanding*, Book IV, Chap. 2, Sec. 7.

[7]See *The Philosophical Works of Descartes*, ed. E. S. Haldane and G. R. T. Ross, I (London: Cambridge University Press, 1934), p. 8. Some version of Descartes' principle should be an essential part of any theory of evidence. Compare Norman Malcolm's suggestion: "If a man previously had grounds for being sure that *p*, and now remembers that *p*, but does not remember what his grounds were," then he "*has* the same grounds he previously had." *Knowledge and Certainty* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1963), p. 230.

ments *a priori*."[8] In saying this, he did not mean to be saying merely that mathematical propositions are necessarily true; he was saying something about their epistemic status and something about the way in which they could be known. Yet he could not have been saying that all mathematical propositions are known or even believed, by someone or other, to be true for there are propositions of mathematics that no one knows to be true and there are propositions of mathematics that no one has ever even considered. What would it be, then, to say that a proposition might be *a priori* even though it has not been considered by anyone? I think the answer can only be that the proposition is one that *could* be known *a priori*. In other words:

D4 *h* is *a priori* = Df It is possible that there is someone for whom *h* is known *a priori*

This definition allows us to say that a proposition may be "objectively *a priori*"— "objectively" in that it is *a priori* whether or not anyone knows it *a priori*.

Our definitions are in the spirit of several familiar dicta concerning the *a priori*. Thus, we may say, as Kant did, that necessity is a mark of the *a priori*—provided we mean by this that, if a proposition is *a priori*, then it is necessary.[9] For our definitions assure us that whatever is *a priori* is necessarily true.

The definitions also enable us to say, as St. Thomas did, that these propositions are "manifest through themselves."[10] For an axiomatic proposition is one such that, once it is reflected upon or considered, then it is certain. What a given person knows *a priori* may not *itself* be such that, once it is considered, it is certain. But our definition enables us to say that, if a proposition is one that is *a priori* for you, then you can see that it follows from a proposition that is axiomatic.

Kant said that our *a priori* knowledge, like all other knowledge, "begins with experience" but that, unlike our *a posteriori* knowledge, it does not "arise out of experience."[11] *A priori* knowledge may be said to "begin with experience" in the following sense: there is no *a priori* knowledge until some proposition is in fact contemplated and understood. Moreover the acceptance of a proposition that is axiomatic is sufficient to make that proposition an axiom for whoever accepts it. But *a priori* knowledge does not "arise out of experience." For, if a proposition is axiomatic or *a priori*

[8]Immanuel Kant, *Critique of Pure Reason*, Norman Kemp Smith, trans. (London: Macmillan and Co., Ltd., 1933), p. 52.

[9]Compare *Critique of Pure Reason*, B4 (Kemp Smith edition, p. 44). But we should not assume that if a proposition is necessary and known to be true, then it is *a priori*.

[10]*Exposition of the Posterior Analytics of Aristotle* Book II, Lecture 20, No. 4 (pp. 427–428): Pierre Conway; Part I, Lecture 4, No. 10 (p. 26).

[11]*Critique of Pure Reason*, B1 (Kemp Smith edition, p. 41).

for us, then we have all the evidence we need to see that it is true. Understanding is enough; it is not necessary to make any further inquiry.

What Leibniz called "first truths *a posteriori*" coincide with what we have called "the self-presenting." And his "first truths *a priori*" coincide with what we have called "the *axiomatic*."[12]

ANALYSING THE PREDICATE OUT OF THE SUBJECT

The terms "analytic" and "synthetic" were introduced by Kant in order to contrast two types of *a priori* proposition. But Kant used the word "judgment" where we have been using "proposition."

An analytic judgment, according to Kant, is a judgment in which "the predicate adds nothing to the concept of the subject." If I judge that all squares are rectangles, then, in Kant's terminology, the concept of the subject of my judgment is the property of being square, and the concept of the predicate is the property of being rectangular. Kant uses the term "analytic," since, he says, the concept of the predicate helps to "break up the concept of the subject into those constituent concepts that have all along been thought in it."[13] Being square is the conjunctive property of being equilateral and rectangular; therefore the predicate of the judgment expressed by, "All squares are rectangular," may be said to "analyse out" what is contained in the subject. An analytic judgment, then, may be expressed in the form of an explicit redundancy, e.g., "Everything is such that if it is both equilateral and rectangular then it is rectangular." To deny such an explicit redundancy would be to affirm a *contradictio in adjecto*, for it would be to judge that there are things which both have and do not have a certain property—in the present instance, that there is something that both is and is not rectangular. Hence, Kant said that "the common principle of all analytic judgments is the law of contradiction."[14]

What did Kant mean when he said that, in an analytic judgment, the predicate may be "analysed out" of the subject?

Consider the sentence:

(1) All squares are rectangles.

What this sentence expresses may also be put as:

(2) Everything that is an equilateral thing and a rectangle is a rectangle.

[12] Compare Franz Brentano, *The True and the Evident* (London: Routledge & Kegan Paul, 1966), p. 130ff.

[13] *Critique of Pure Reason*, A7; Norman Kemp Smith translation, p. 48.

[14] *Prolegomena to Any Future Metaphysics*, (La Salle, IN: The Open Court Publishing Company, 1933), Sec. 2 (p. 15).

Sentence(2) expresses a paradigm case of a proposition in which the predicate-concept (expressed by "a rectangle") may be said to be analysed out of the subject-concept (expressed by "an equilateral thing and a rectangle"). The subject-concept is broken up into two constituent concepts, one of which is the same as the predicate concept.

The following sentence, which is logically equivalent to (2), does not express a proposition in which the predicate-concept may be said to be "analysed out" of the subject concept:

(3) Everything that is a square and a rectangle is a rectangle

In this case, the subject-concept (expressed by "a square and a rectangle") is not broken up into two "constituent concepts." The concept expressed by "square" includes that expressed by "rectangle." But in the earlier proposition(2), the concept expressed by "equilateral thing" does not include that expressed by "rectangle."

Let us now try to say precisely what Kant meant by saying that the predicate-concept of an analytic judgment may be "analysed out" of the subject-concept.

DEFINITION OF ANALYTIC PROPOSITION

Kant's term "judgment" is ambiguous, for it may be taken to refer either (a) to the *act* of judging or (b) to that proposition which may be said to be the *object* of judging. Let us take the term in the second sense.

What, then, is an analytic proposition—in that sense of "analytic" that was singled out by Kant? To answer the question, let us recall our concept of *entailment*:

D5 The property of being F entails the property of being G = Df Believing something to be F includes believing something to be G

Property entailment may thus be distinguished from property implication:

D6 The property of being F implies the property of being G = Df The property of being F is necessarily such that if something exemplifies it then something exemplifies the property of being G

We have said that a property P *includes* a property Q provided only that P is necessarily such that whatever has it also has Q. We may now introduce an abbreviation:

D7 P is conceptually equivalent to Q = Df Whoever conceives P conceives Q, and conversely

And now we may say what an analytic proposition is:

D8 The proposition that all F's are G's is analytic = Df The property of being F is conceptually equivalent to a conjunction of two properties, P and Q, such that: (i) P does not imply Q, (ii) Q does not imply P, and (iii) the property of being G is conceptually equivalent to Q

The definiens may be said to tell us the sense in which, as Kant put it, the predicate of an analytic proposition may be "analyzed out" of the subject.

The following gives us the sense in which Kant understood "*synthetic proposition*":

D9 The proposition that all F's are G's is synthetic = Df The proposition that all F's are G's is not analytic

THE SYNTHETIC A PRIORI

Kant raised the question: Is there a synthetic *a priori*? In other words, are there synthetic propositions that can be known *a priori* to be true?

Unfortunately many contemporary philosophers who have discussed this question have taken "synthetic *a priori*" much more broadly than Kant took it and therefore much more broadly than the sense we have given above. They have taken "analytic proposition" to mean the same as "proposition that is not synthetic." In their use, such propositions as, "Either it is raining or it is not raining," and, "If all men are mortal and if Socrates is a man, then Socrates is mortal," are called "analytic." But in considering Kant's question, we will understand "analytic proposition" and "synthetic proposition" in the ways in which he understood these expressions.

The philosophical importance of the question is this: if a proposition can be shown to be analytic, to be such that the predicate can be analysed out of the subject, then it is a kind of redundancy; it is relatively trivial and one may feel that it does not have any significant content. But this is not so of synthetic propositions. Hence, if there are synthetic propositions that can be known *a priori* to be true, then the kind of cognition that can be attributed to reason alone may be considerably more significant.

Let us consider, then, certain possible types of example of "the synthetic *a priori*," so conceived.

(1) One important candidate for the synthetic *a priori* is the knowledge that might be expressed either by saying, "Being square includes having a shape," or by saying, "Necessarily, everything that is square is a thing that has a shape." The sentence, "Everything that is square is a thing that has a shape," recalls our paradigmatic, "Everything that is square is a rectangle." In the case of the latter sentence, we were able to "analyze the predicate out of the subject": we replaced the subject term "square" with a conjunctive

term, "equilateral thing and a rectangle," and were thus able to express our proposition in the form:

> Everything that is an S and a P is a P

where the predicate may be said to be "analysed out of" the subject.

The problem is to fill the blank in:

> Everything that is a ——— and a thing that has a shape is a thing that has a shape

in the appropriate way. But given our account of what it is to "analyse the predicate out of the subject," can we do this? I believe it is accurate to say that no one has ever *shown* how we can do this.

We might try filling the blank by, "either a square or a thing that does not have a shape," thus obtaining:

> Everything that is (a) either a square or a thing that does not have a shape and (b) a thing that has a shape is a thing that has a shape.

But the property of being square is not conceptually equivalent to the property expressed by, "either a square or a thing that does not have a shape." One could believe something to have the former property without believing it to have the latter. Therefore the proposed way of filling in the blank does not yield a proposition in which the predicate term may be said to be "analysed out" of the subject.

Other possible ways of filling the blank seem to have the same result.

The proposition, "Everything that is square has a shape," expresses what can be known *a priori* to be true. If we cannot find a way of showing that it is analytic (and, so far at least, we have not succeeded), then, it would seem, there is some presumption in favor of saying that it is synthetic *a priori*.

There are indefinitely many other sentences presenting essentially the same difficulties as, "Everything that is square has a shape." Examples are, "Everything red is colored"; "Everyone who hears something in C-sharp minor hears a sound." The sentences express what is known *a priori*, but no one has been able to show that they are analytic.[15]

(2) What Leibniz called the "disparates" furnish us with a second candidate for the synthetic *a priori*. These are closely related to the example just considered, but they involve problems that are essentially different. An example of a sentence concerned with disparates would be our earlier, "Being red excludes being blue," or, alternatively put, "Nothing that is red

[15]Compare C. H. Langford, "A Proof that Synthetic A Priori Propositions Exist," *Journal of Philosophy*, Vol. XLVI (1949), pp. 20–24.

is blue."[16] Philosophers have devoted considerable ingenuity to trying to show that, "Nothing that is red is blue," can be expressed as a sentence that is analytic, but so far as I have been able to determine, all of these attempts have been unsuccessful. Again, it is recommended that the reader try to reexpress, "Nothing that is red is blue," in such a way that the predicate may be "analysed out" of the subject in the sense we have described above.

(3) It has also been held, not without plausibility, that certain ethical sentences express what is synthetic *a priori*. Thus, Leibniz, writing on what he called the "supersensible element" in knowledge, said: "But to return to *necessary truths*, it is generally true that we know them only by this natural light, and not at all by the experience of the senses. For the senses can very well make known, in some sort, what is, but they cannot make known what *ought to be* or what could not be otherwise."[17] Or consider the sentence, "All pleasures, as such are intrinsically good, or good in themselves, whenever and wherever they may occur." If this sentence expresses something that is known to be true, then what it expresses must be synthetic *a priori*. To avoid this conclusion, some philosophers deny that sentences about what is intrinsically good, or good in itself, *can* be known to be true.[18] An examination of this view would involve us, once again, in the problem of the criterion.

(4) Kant held that the propositions of arithmetic are synthetic and *a priori*. In evaluating his view, we must, of course, understand "analytic" in the sense in which he intended it.

Does "2 + 1 = 3" express what Kant called an analytic proposition? If it does, the proposition is expressible in a way that satisfies D7, our definition of what it is for a proposition to be such that its predicate may be "analysed out of" its subject.

Perhaps the most natural way of putting "2 + 1 = 3" in the form of "All S are P" (or of "For every x, if x is S, then x is P") is this:

> For every x, if x is a set of 2 sets which are such that (a) they have no members in common, (b) one of them has exactly 2 members, and (c) the other has exactly 1, then x has exactly 3 members

This statement is of the proper form, but it does not satisfy D8, our definition of the Kantian sense of "analytic proposition." The predicate-concept—expressed by "having exactly 3 members"—is not conceptually equivalent to any of the conjuncts of the subject-concept. Therefore this way of reading the *a priori* truth expressed by "2 + 1 = 3," is not analytic in

[16]Compare John Locke, *Essay Concerning Human Understanding*, Book IV, Chap. 1, Sec. 7; Franz Brentano, *Versuch über die Erkenntnis* (Leipzig: Felix Meiner, 1970), pp. 9–10.

[17]Quoted from G. M. Duncan, ed., *The Philosophical Works of Leibnitz* (New Haven, CT: The Tuttle, Morehouse & Taylor Company, 1908, p. 162.

[18]Compare the discussion of this question in Chapters 5 and 6 in William Frankena, *Ethics*, Second Edition, Foundations of Philosophy Series (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1973).

Kant's sense of "analytic." Other ways of putting the proposition into the form of "All S are P" are equally unsatisfactory. There is reason to believe, therefore, that Kant is right in saying that such truths are synthetic *a priori*.

"LINGUISTICISM"

It has been suggested that the sentences giving rise to the problem of the synthetic *a priori* are really "postulates about the meanings of words" and, therefore, that they do not express what is synthetic *a priori*. But if the suggestion is intended literally, then it would seem to betray the confusion between use and mention that we encountered earlier. A *postulate* about the meaning of the word "red," for example, or a sentence expressing such a postulate, would presumably mention the word "red." It might read, "The word 'red' may be taken to refer to a certain color," or perhaps, "Let the word 'red' be taken to refer to a certain color." But, "Everything that is red is colored," although it uses the words "red" and "colored," does not mention them at all. It is not the case, therefore, that, "Red is a color," refers only to words and the ways in which they are used.

A popular conception of the truths of reason is the view according to which they are essentially "linguistic." Many have said, for example, that the sentences formulating the truths of logic are "true in virtue of the rules of language" and, hence, that they are "true in virtue of the way in which we use words."[19] What could this possibly mean?

The two English *sentences*, "Being round includes being square," and, "Being rational and animal includes being animal," plausibly could be said to "owe their truth," in part, to the way in which we use words. If we used "being square" to refer to the property of being heavy and not to that of being square, then the first sentence (provided the other words in it had their present use) would be false instead of true. And if we used the word "and" to express the relation of disjunction instead of conjunction, then the second sentence (again, provided that the other words in it had their present use) would also be false instead of true. But as W. V. Quine has reminded us, "even so factual a sentence as 'Brutus killed Caesar' owes its truth not only to the killing but equally to our using the component words as we do."[20] Had "killed," for example, been given the use that "was survived by" happens to have, then, other things being the same, "Brutus killed Caesar" would be false instead of true.

It might be suggested, therefore, that the truths of logic and other truths of reason stand in this peculiar relationship to language: they are true

[19] See Anthony Quinton, "The *A Priori* and the Analytic," in Robert Sleigh, ed., *Necessary Truth* (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1972), pp. 89–109.

[20] W. V. Quine, "Carnap and Logical Truth," *The Philosophy of Rudolf Carnap*, P. A. Schilpp, ed., (La Salle, IL: Open Court Publishing Co., 1963), p. 386.

"*solely* in virtue of the rules of our language" or *solely* in virtue of the ways in which we use words." But if we take the phrase "solely in virtue of" in the way in which it would naturally be taken, then the suggestion is obviously false.

To say of a sentence that it is true *solely* in virtue of the ways in which we use words or that it is true *solely* in virtue of the rules of our language, would be to say that the only condition that needs to obtain in order for the sentence to be true is that we use words in certain ways or that there be certain rules pertaining to the way in which words are to be used. But let us consider what conditions must obtain if the English sentence, "Being round excludes being square," is to be true. One such condition is indicated by the following sentence which we may call "T":

> The English sentence, "Being square excludes being round," is true, if and only if, being square excludes being round.

Clearly, the final part of T, the part following the second "if," formulates a necessary condition for the truth of the English sentence, "Being round excludes being square," but it refers to a relationship among properties and not to rules of language or ways in which we use words. Hence we cannot say that the *only* conditions that need to obtain in order for, "Being round excludes being square," to be true is that we use words in certain ways or that there be certain rules pertaining to the ways in which words are to be used; and therefore, the sentence cannot be said to be true solely in virtue of the ways in which we use words.

There would seem to be no clear sense, therefore, in which the *a priori* truths of reason can be said to be primarily "linguistic."[21]

[21]For further discussions of this question, see the selections in Paul K. Moser, ed., *A Priori Knowledge* (Oxford: Oxford University Press, 1987).