

# I

## What is Knowledge?

ONLY man knows what is true or false, or so he says. Some men have denied that we know what is true or what is false, and they have remained sceptics. Scepticism must have a hearing, but we shall begin our study with the opposite assumption: we assume that men have knowledge. But what is knowledge?

### *Three Senses of 'Know'*

We may begin to answer the preceding question by noticing the ambiguity of the word 'know'. Consider the following sentences:

I know the way to Lugano

I know the expansion of  $\pi$  to six decimal places

I know how to play the guitar

I know the city

I know John

I know about Alphonso and Elicia

I know that the neutrino has a rest mass of 0

I know that what you say is true

I know the sentence number (3) on page 29 is true

I know the sentence 'Some mushrooms are poisonous' is true.

These are but a small sample of different uses of the word 'know'. We can easily see that the meaning of the word differs in some of these sentences. If we are interested in finding out what a man has when he has knowledge, we must first sort out the different senses of the word 'know'. Then we may ask our question again, once it has been disambiguated.

In one sense, 'to know' means to have some special form of competence. Thus, to know the guitar or to know the multiplication tables up to ten is to be competent to play the guitar or to recall certain products of any two numbers not exceeding ten. If a man is said to know *how* to do something, it is this

competence sense of 'know' that is usually involved. If I say I know the way to Lugano I mean that I have attained the special kind of competence needed either to get to Lugano or to direct someone there. If I say that I know the expansion of  $\pi$  to six decimal places, I mean that I have the special competence required to recall or to recite the number  $\pi$  expanded to six decimal places.<sup>1</sup>

Another sense of 'know' is that in which the word means to be acquainted with. When I say that I know John, I mean I am acquainted with John. The sentence 'I know the city' is more difficult to disambiguate. It might mean simply that I am acquainted with the city, and hence have the acquaintance sense of 'know', or it might mean that I have the special form of competence needed to find my way around the city, geographically and/or socially. If I say that I know the city, I might mean that I know it in both the competence and acquaintance senses of 'know'. This example illustrates the important fact that the senses of 'know' we are distinguishing are not exclusive; thus, the term 'know' may be used in more than one of these senses in a single utterance.<sup>2</sup>

The third sense of 'know' is that in which 'to know' means to apprehend that something is information. If I know that the neutrino has a rest mass of 0, then I apprehend that something is information, namely, that the neutrino has a rest mass of 0. The last three sentences on the list all involve this *information* sense of the word 'know'. It is often affirmed that to know something in the other senses of 'know' entails knowledge in the information sense of 'know'. I must have some information about Lugano if I know the way to Lugano; about the expansion of  $\pi$  if I know the expansion of  $\pi$  to six decimal places; about the city if I know the city; about the guitar if I know how to play the guitar, and so forth. Thus, the information

<sup>1</sup> See John Hartland-Swann, *An Analysis of Knowing* (Allen and Unwin, London, 1958), chapter 4, 'Knowing How and Knowing That', 56-66; and Gilbert Ryle, 'Knowing How and Knowing That', *Proceedings of the Aristotelian Society*, xlvii, (1945-6), 1-16.

<sup>2</sup> Russell used the expression 'knowledge by acquaintance', but in a somewhat more technical sense. See his 'Knowledge by Acquaintance and Knowledge by Description', *Proc. Aris. Soc.* xi (1910-11), 108-28, and reprinted with some alterations as chapter 5 in *The Problems of Philosophy* (Oxford University Press, London, 1959), 46-59.

sense of the word 'know' is often implicated in the other senses of the word.

In our study, we shall be concerned with knowledge in the information sense. It is precisely this sense that is fundamental to human cognition and required both for theoretical speculation and practical investigation. Some philosophers have denied the existence of such knowledge and also that such knowledge is essential to both theory and practice.<sup>3</sup> We shall consider this viewpoint when we turn to our investigation of scepticism. We may assume, however, that such knowledge has played a fundamental role in both theory and practice even if, with some subtle sceptical strategies, this could be avoided.

### *Analysis and Meaning*

The foregoing discussion was designed to isolate that sense of the word 'know' used to characterize the kind of knowledge that is to be the subject of our study. However, to indicate the information sense of the word 'know' as being the one in question, and to say what that sense is, is quite different from giving an analysis of the kind of knowledge we have picked out. To isolate a sense of a word and to communicate that sense to others, it is only necessary to select some other words having roughly the same meaning as the word in question which will serve to distinguish and communicate that sense of the word. If I tell a person that 'muzhik' means 'Russian peasant', I can communicate the same information by saying that 'muzhik' means the same as 'Russian peasant'. Here we supply a synonym, or an approximately synonymous term, to say what a term means, but to do this is not to analyse anything.

Many philosophers have identified the task of analysing what a word means with that of analysing what it denotes.<sup>4</sup> Thus, for example, some philosophers have supposed that to analyse the meaning of the word 'good' would be to analyse the

<sup>3</sup> For recent defences of such scepticism see Keith Lehrer, 'Why Not Scepticism?' *Philosophical Forum*, ii (1971), 283-98, and Peter Unger, 'A Defense of Scepticism', *Philosophical Review*, lxxx (1971), 198-219. For a history of scepticism, see Richard Popkin's *A History of Scepticism from Erasmus to Descartes* (Van Gorcum, Assen, Netherlands, 1960).

<sup>4</sup> The most illustrious is G. E. Moore in *Principia Ethica* (Cambridge University Press, London, 1903). See chapter 1, sections 6-8.

kind of goodness denoted by the term used in that sense. Much of this is confusing, and much of the confusion is generated by the term 'analysis' itself.

### *On Analysis*

The first matter to be clarified concerns the question of what constitutes an analysis of something. An analysis is always relative to some objective. It does not make any sense simply to demand the analysis of goodness, knowledge, beauty, or truth, without some indication of what purpose such an analysis is supposed to achieve. To demand the analysis of knowledge without specifying further what you hope to accomplish with it is like demanding blueprints without saying what you hope to build. Thus, before asking for an analysis of either knowledge or of the meaning of the word 'know', one must be able to explain what goals one hopes to achieve with such an analysis, or else one cannot sensibly expect an answer.

Usually, the objectives that guide an analysis are not made explicit in philosophy, and this is most unfortunate. Much of the dialogues between Socrates and his students reveals very clearly that those who replied did not understand what Socrates was after when he asked such questions as, 'What is justice?' Only when Socrates stopped to explain what sort of answer he was seeking did he obtain the sort of answers that were relevant. There is no better lesson in the importance of clearly formulating one's objectives before asking 'What is . . . ?', than the misunderstanding that occurs in some of the dialogues of Socrates.

With these remarks in mind, let us consider the distinction between analysing the meaning of the term 'know' in the information sense of that term and analysing the kind of knowledge denoted. A man who is seeking an analysis of the meaning of that term may have some theory of meaning in which part of a complete theory would involve a theoretical explication of the meaning of that term. For example, one might have a theory of meaning designed to assign semantic interpretations to strings of words in order to explain how a speaker communicates with a listener, how a listener understands what is uttered by a speaker, and how a speaker understands his own words. An

analysis of the meaning intended to fulfil the objectives of such a theory belongs to a theory of semantics.<sup>5</sup>

### *Semantics and Philosophical Analysis*

Many philosophers have been interested in the task of analysing the meaning of the word 'know' and some have argued that such a project should supplant the job of analysing knowledge.<sup>6</sup> Indeed, many would argue that there is no need for philosophical analysis remaining once we have a satisfactory analysis of the meaning of the term 'know'. This restrictive conception of philosophical analysis is sustained by a dilemma. Either a theory of knowledge is a theory about the meaning of the word 'know' and semantically related epistemic terms, or it is a theory about how people come to know what they do. The latter is not part of philosophy at all, but rather that part of psychology called learning theory. It follows that if a theory of knowledge is part of philosophy, then it is theory of knowledge about the meaning of the word 'know'. That is the argument, and it is one that would reduce the theory of knowledge to a theory of semantics.

It is not difficult to slip between the horns of the dilemma. A theory of knowledge need not be a theory about the meaning of epistemic words any more than it need be a theory about how people come to know what they do. Instead, it may be one explaining what conditions must be satisfied and how they may be satisfied in order for a person to know something. When we specify those conditions and explain how they are satisfied, then we shall have a theory of knowledge. An analogy should be helpful at this point. Suppose a man says that there are only two kinds of theories about physical mass. Either a theory of

<sup>5</sup> Recent treatises of importance on semantics include L. Jonathan Cohen's *The Diversity of Meaning* (Methuen, London, 1962), Robert Fogelin's *Evidence and Meaning* (Routledge and Kegan Paul, London, 1967), Jerrold Katz's *Semantic Theory* (Harper and Row, New York, 1972), and Paul Ziff's *Semantic Analysis* (Cornell University Press, Ithaca, N. Y., 1960). For an anthology see *Theory of Meaning*, ed. Adrienne and Keith Lehrer (Prentice Hall, Englewood Cliffs, N.J., 1970).

<sup>6</sup> For example, see A. J. Ayer's *The Foundation of Empirical Knowledge* (St Martin's Press, New York, 1955) and *The Problem of Knowledge* (Penguin, Harmondsworth, Middlesex, 1957).

matter is a theory about the meaning of 'mass' and semantically related physical terms, or it is a theory about how something comes to have mass. This dichotomy would be rejected on the grounds that it leaves out the critical question of what mass is, or to put it another way, it leaves out the question of what conditions must be satisfied for something to have a given mass.

A theoretician in physics might be concerned with precisely the question of what conditions are necessary and sufficient for an object to have mass, or more precisely, to have a mass of  $n$ , where ' $n$ ' is a variable that would be replaced by a number. Similarly, a philosopher might be concerned with precisely the question of what conditions are necessary and sufficient for a man to have knowledge, or, more precisely, to know that  $p$  or that  $S$  is true, where ' $p$ ' is a variable that would be replaced by a declarative sentence and ' $S$ ' by the name of a sentence.

Again, philosophers who are the followers of Wittgenstein have objected to the attempt to formulate such conditions on the grounds that the meaning of 'know' and other such terms have certain semantic peculiarities ensuring that no set of conditions is necessary and sufficient for the application of the term.<sup>7</sup> The cases to which the term applies, according to such philosophers, have only a family resemblance to each other, and that is why it is impossible to give an analysis of the desired kind. This argument is defective, however. First, it is extremely difficult to see how, from the fact that the objects to which a term applies have only a family resemblance to each other, it could be thought to follow that there are no necessary and sufficient conditions for the application of the term. Obviously, a necessary and sufficient condition for the application of the expression ' $S$  knows that  $p$ ' is precisely the condition of  $S$  knowing that  $p$ . This could be made less trivial with little difficulty. The objection conceals the confused idea that a set of conditions necessary and sufficient for the application of a term constitutes a kind of recipe for applying terms which would enable us to decide quite mechanically whether the term applies in each instance. However, we may, without taking any position on the question of whether such a recipe can be found for applying the term 'know', state flatly that this is not the purpose of our theory of

<sup>7</sup> For example, see Colin Radford's article, ' "Analysing" 'Know(s) That' ', *Philosophical Quarterly*, xx (1970), 222-9.

knowledge or the analysis of knowledge incorporated therein. Our interests lie elsewhere.

*The Form and Objectives of an Analysis of Knowledge*

We shall then approach the question 'What is Knowledge?' with the objectives of formulating necessary and sufficient conditions for a man having knowledge (in the information sense of the term 'know') and of explaining how those conditions may be satisfied. Our project is contiguous with scientific investigations having analogous objectives. Thus, we contend that the distinction between philosophy and theoretical science is a bogus distinction whether viewed historically or systematically.<sup>8</sup> Historically, it is clear that the special sciences break off from philosophy when some theory emerges that deals with a circumscribed subject in a precise and satisfactory manner. Philosophy remains the residual pot of unsolved intellectual problems. To date, theories of knowledge have remained in the pot. It is not claimed that the current study or other recent research has brought us to the point where the theory of knowledge should be poured out into a special science, but it may be hoped that we are approaching closer to that goal than some suspect and others fear.

A formulation of an analysis of knowledge may be expressed by an equivalence. Again, the analogy with mass is helpful. An analysis of mass may be given in an equivalence of the following form:

$O$  has a mass of  $n$  if and only if . . .

where the blank to the right of the equivalence is filled with a sentence describing a set of necessary and sufficient conditions. Similarly, an analysis of knowledge may be given in an equivalence of one of the following two forms:

$S$  knows that  $p$  if and only if . . .

or

$S$  knows that  $Q$  is true if and only if . . .

<sup>8</sup> The attack on this distinction is, most recently and impressively, due to W. V. O. Quine's discussion in his article, 'Two Dogmas of Empiricism', *Philosophical Review*, lx (1951), 20-43. The theme is further developed in Quine's later works, e.g. in 'Epistemology Naturalized' in *Ontological Relativity and Other Essays* (Columbia University Press, New York, 1969).

where the blank to the right of the equivalence is filled with a sentence describing a set of necessary and sufficient conditions. When considering candidates for such sets of conditions, two qualifications are critical. First, there must be no experiment, of fact or thought, which would falsify the resulting equivalence. To say that there is no experiment of thought to falsify the equivalence means there is no example one can think of that is a logical possibility and is consistent with other postulates of the theory under consideration which would yield the result that one side of the equivalence is satisfied and the other is not. In short, there must be no counterexample.

In our investigation we shall begin without making any assumptions concerning the postulates of our theory of knowledge and thus consider any logically possible case as a potential counterexample. This procedure could have the result of making our analysis more restrictive than it needs to be because certain cases that are logically possible might be ruled out by postulates that are formulated subsequently in the development of our theory of knowledge. In our exposition we shall omit the consideration of examples which could be ruled out by principles to be introduced subsequently.

In addition to being immune from counterexamples, such an equivalence will only be a suitable analysis if it facilitates reaching our epistemic objectives. Thus, though some analyses are definitely mistaken because we can find acceptable counterexamples, there are other equivalences which fail to constitute satisfactory analyses because they are unenlightening. The equivalence we would obtain, by writing the same thing in the blank space to the right that is already written to the left of the 'if and only if', though immune from counterexamples, would completely fail to explain or inform. We are beginning with the analysis of knowledge rather than with a discussion of how the conditions of knowledge are satisfied. The explanatory role of our analysis will be illustrated throughout the remainder of our study.

Some initial clarification of the projected role of such an analysis may, however, provide at least basic guidance. We shall be concerned with an analysis that will be useful for explaining how knowledge claims may be justified. Thus, if a man claims to know that  $p$ , he may be asked either how he knows or

why he thinks that  $p$ . For example, if I claim to know that all the Perch in the Genesee River will be killed by a pollutant that raises the temperature of the water two degrees, someone might ask me how I know that or why I think it is true. Such questions and the answers provided are the basis for critical discussion and confrontation in cognitive inquiry. The replies to such queries show us whether or not the conditions for knowledge have been satisfied. Consequently, an analysis of knowledge intended to facilitate explanation of how the conditions of knowledge are satisfied will be most fruitful if the conditions contained in the analysis enable us to explicate the way in which knowledge claims may be justified.

### *The Analysis of Knowledge*

With these preliminary remarks to guide us, we shall now offer an analysis of knowledge. Each condition proposed will be the subject of a subsequent chapter. Moreover, in the case of some controversial conditions, we shall not undertake a detailed defence in the present chapter. Our intention here is only to provide the analysis with some intuitive justification which will subsequently be developed and defended.

### *A Truth Condition*

The first condition of knowledge is that of truth. When a man is asked to justify his claim to knowledge, he must explain why he thinks what he says is true. Thus, if I claim to know that the next man to be elected President of the United States will have assets of at least one-half of a million dollars, and I am asked to justify that claim, I must offer my reasons for thinking that this claim is true. Moreover, if my claim is false, that is, if the next man to be elected President of the United States does, in fact, have assets of less than half of a million dollars, then my knowledge claim was incorrect. I did not know what I said I did. Thus, we shall accept the following conditionals:

(iT) If  $S$  knows that  $p$ , then it is true that  $p$

and

(iiT) If  $S$  knows that the sentence  $Q$  is true, then  $Q$  is true.

It is essential to clarify these two conditionals each of which expresses a necessary condition of knowledge. Both say that if a man knows something then it is true, but what a man is said to know in the conditional is different in each case.

Consider the difference between my saying that I know that Andorra is a small nation in the Pyrenees, and my saying that I know that the sentence 'Andorra is a small nation in the Pyrenees' is true. At first these two sentences might seem to be the same, but it is well to note some simple differences. First, when I say that I know that Andorra is in the Pyrenees, though I utter the words 'Andorra is in the Pyrenees', I need not have uttered those words, or any English words, to say that I know that Andorra is in the Pyrenees. I might have made the same claim in French or some other language. The crucial fact is that, though I utter the sentence 'Andorra is in the Pyrenees' in claiming to know that Andorra is in the Pyrenees, I say nothing whatever about that sentence. I do not even say that the sentence exists. I merely use the sentence to say that I know that Andorra is in the Pyrenees. Thus, it is consistent with what I claim that there should be no such sentence at all, though, in fact, my speech shows that there obviously is such a sentence. In sentences having the form of the antecedent of (iT), nothing is said about any sentence. It is not claimed that any sentence is true or even that any exists.

The most perplexing feature of the foregoing remarks is the contention that if I say I know that Andorra is in the Pyrenees, I have not said any sentence is true. It might be objected that according to (iT) I have said that it is true that Andorra is in the Pyrenees. Though I have used the sentence 'Andorra is in the Pyrenees' to say that it is true that Andorra is in the Pyrenees, I have said nothing about that sentence. An analogy involving names is helpful in this instance. If I use a man's name to say something about a man, for example, if I say that Alphonso is a homosexual, I have not said anything about the name 'Alphonso'. I have, instead, used that name to say something about the person. On the other hand, when I say that I know that the sentence 'Andorra is in the Pyrenees' is true, I have obviously said something about that sentence, for example, that there is such a sentence and that the sentence is true. Thus, when we consider the consequent of (iiT), we see that when I

say I know that the sentence 'Andorra is in the Pyrenees' is true, a necessary condition of my knowing what I say I know is the truth of the sentence 'Andorra is in the Pyrenees'. In this case, then, unlike the first, I have said that a sentence is true. This contrasts with the first case where I do not say that any sentence is true but rather use a sentence to state what is true.

These distinctions, which will be elaborated further in the next chapter, have led philosophers to distinguish between what they call the *absolute conception of truth* embedded in a sentence of the form

It is true that the snow is white

and the *semantic conception of truth* embedded in sentences of the form

The sentence 'the snow is white' is true.<sup>9</sup>

The first is called the absolute conception because there is no reference to a language, or to any part of language, and, thus, this conception of truth is not in any way relative to a language or to the meaning of any terms in a language. As Arthur Pap has stressed, it is true that the snow is white even if there is no language anywhere to describe that fact.<sup>10</sup> The colour of the snow and the snow itself are what they are quite independently of any description anyone might care to give of the snow and its colour. On the other hand, the semantic conception is so called because the truth of a sentence depends not only upon the facts but upon what the sentence means, upon the semantics of the sentence. Whether the sentence 'Snow is white' is true depends not only upon the snow and its colour but upon the meaning of the sentence and the words contained therein. Though much more sophisticated semantic interpretations of the sentence might be offered, the truth of the sentence depends most simply on the sentence meaning that snow is white.

<sup>9</sup> See Alfred Tarski's 'The Semantic Conception of Truth' in *Readings in Philosophical Analysis*, ed. Herbert Feigl and Wilfrid Sellars (Appleton-Century-Crofts, New York, 1949).

<sup>10</sup> See Arthur Pap's article, 'Note on the "Semantic" and the "Absolute" Concept of Truth', in *New Readings in Philosophical Analysis*, ed. Herbert Feigl, Wilfrid Sellars, and Keith Lehrer (Appleton-Century-Crofts, New York, 1972), 208-14. Hereafter, this anthology is referred to simply as *New Readings*.

One final point may be anticipated before proceeding to consideration of the second condition of knowledge. We shall in the next chapter argue that the condition (iiT) may be reduced to a condition that is equivalent to (iT). Hence, we shall in the remaining discussion concern ourselves only with the problem of formulating conditions of *S* knowing that *p*. Thus, we shall drop the semantic conception of truth from our discussion at this point and justify this deletion later.

### *A Belief Condition*

The second condition of knowledge is belief. If I deceitfully claim to know that Jan married Jay on 31 December, 1969, when I do not believe it, then I do not know Jan married Jay on that date even if, contrary to what I believe, they were married then. Indeed, it matters little what other conditions are satisfied. If I do not believe that *p*, then I do not know that *p*. Thus, the following conditional expresses a condition of knowledge:

(iB) If *S* knows that *p*, then *S* believes that *p*.

There are problems concerning the implications of this condition, because the term 'believe', like 'know', has more than one sense. The fundamental ambiguity of the term which affects our analysis concerns the strength of conviction implied by saying that a person believes something. Some philosophers have insisted that a man may know something is true even though he lacks conviction of its truth, while others, in diametric opposition, have contended that a man only knows something is true when he is sure, or certain, of the truth of what he believes. Thus, certain philosophers have denied condition (iB) on the grounds that a man may know something to be true that he does not believe at all,<sup>11</sup> and others have maintained that for a man to know something to be true he must believe it to be true with considerable certainty.<sup>12</sup>

Our position is that conviction is required: a man must be

<sup>11</sup> Colin Radford, 'Knowledge—By Examples', *Analysis*, xxvii (1966), 1-11.

<sup>12</sup> See G. E. Moore's *Philosophical Papers* (Allen and Unwin, London, 1959), 'Certainty', 226-51; and A. J. Ayer's *The Problem of Knowledge*, chapter 1, section (iii), pp. 14-26.

convinced if he knows something to be true. On the other hand, we see no reason to require that the conviction approach certainty. So long as the man believes that  $p$  is true in the sense of being genuinely convinced of the truth of  $p$ , he may be said to know that  $p$ , provided the other conditions of knowledge are met. This question will be examined in more detail in a later chapter where the opposing arguments will be examined.

### *A Justification Condition*

The third condition affirms the need for justification, and thus requires explication of the manner in which our claims to knowledge are justified. Moreover, while we allowed that a man need not be completely certain of  $p$  in order to know that  $p$ , we shall insist that a man must be completely justified in his belief that  $p$  in order to be said to know that  $p$ . Our condition may be formulated as follows:

- (iJ) If  $S$  knows that  $p$ , then  $S$  is completely justified in believing that  $p$ .<sup>13</sup>

The locution ' $S$  is completely justified in believing that  $p$ ' will be used in a somewhat technical way, and so we offer some clarification of what is meant.

In colloquial usage, a speaker may say that another is completely justified in believing that  $p$  because the speaker has strong evidence that  $p$ . There may be no implication that the other has such evidence. For example, if someone says 'Alexander believes his wife is unfaithful', and I reply 'He is completely justified', I may be implying only that I have evidence of her infidelity, never mind how I acquired it, without any implication that Alexander has such evidence. Thus, I could expand the previous utterance and say instead, 'He is completely justified as it happens, but really has no evidence of her infidelity—she is too clever.' This use of the expression 'completely justified' is not acceptable in (iJ). When we say that  $S$  is completely justified, we shall mean that if his belief is based on

<sup>13</sup> Ayer in *The Problem of Knowledge*, 31–5, formulates the condition as the right to be sure. Chisholm formulates it as having adequate evidence in *Perceiving: A Philosophical Study* (Cornell University Press, Ithaca, N.Y., 1957), 5 and 17, and as something being evident for a man in *Theory of Knowledge* (Prentice Hall, Englewood Cliffs, N.J., 1966), 18–23.

evidence, then he is completely justified by the evidence he has in believing that  $p$ . Thus, that I am completely justified in believing that  $p$ , by the evidence I have, does not by itself warrant my saying another is completely justified in his belief that  $p$ . He too must have evidence which completely justifies his belief before he is, in the required sense, completely justified in believing that  $p$ .

The moral of the preceding remarks is that our answer to the question of when a belief is completely justified will not be enslaved to ordinary thought and speech. For the sake of theoretical advantage, we shall delete unwanted implications and allow expedient expansion within the theory of justification we articulate below.

### *Justification and Basic Beliefs*

There are, however, two possible ways in which a man may be completely justified in believing something. First, he may be completely justified in believing that  $p$  because he has some evidence which completely justifies him in believing that  $p$ . This is perhaps the most familiar way in which a man may be completely justified in his belief. The concept of being justified by the evidence requires further elaboration, but, before turning to this matter, we must notice one other possibility. Some philosophers, Thomas Reid for example, have maintained that a man may be completely justified in believing something without need of evidence or other justificatory support for the belief.<sup>14</sup>

The beliefs alleged to be so justified are of a special kind, for example, fundamental beliefs of common sense concerning memory or perception. They are considered to be the *basic* beliefs constituting the evidence in terms of which all other beliefs are justified. It is, however, altogether controversial whether there are or need to be any basic beliefs. On the whole, empiricist philosophers affirm the existence of some such beliefs by maintaining all justification would be impossible without them. They aver that unless there are some basic beliefs to

<sup>14</sup> Thomas Reid, *Essays on the Intellectual Powers of the Mind*, from *The Philosophical Works of Thomas Reid*, ed. Sir William Hamilton (James Thin, London, 1895), particularly Essay VI, 'Of Judgment', sections 4-6.

which we may appeal in justification, we shall lack a necessary starting-point for justification. In the absence of basic beliefs the whole edifice of justification would collapse for want of a foundation.

Other philosophers, who defend coherence theories of justification, have argued that there need not be any basic beliefs, that all beliefs may be justified by their relation to others, and that there is nothing untoward in such mutual support.<sup>15</sup> Justification is like a house of cards: the edifice of justification stands because of the way in which the parts fit and support each other. We shall not attempt to adjudicate between such theories at this point, for it is a matter that will require extensive examination, but it is important to leave open the possibility of basic beliefs.

Some philosophers hold basic beliefs to be essential to an analysis of knowledge containing condition (iJ).<sup>16</sup> Their reasoning is that unless there are such basic beliefs, condition (iJ) will lead either to a circularity or to a regress. If non-basic beliefs are completely justified by evidence, then, it is argued, they must be justified by some knowledge; and nothing counts as evidence unless it is known to be true. Hence, if we agree that a condition of a man knowing that  $p$  is his being completely justified by his evidence, then we are requiring that he be completely justified by something that he knows. If his evidence for  $p$  is  $q$ , then he must know that  $q$ . It follows that, in the absence of basic beliefs completely justified without evidence, we should, in the attempt to justify a claim to knowledge, always appeal to other knowledge claims which in turn must be justified by appeal to still others, and so forth. This means that such justification must either never end and hence lead to a pernicious regress, or it must run in a circle and hence force us to assume the very claim we seek to justify.

Such arguments are more directly concerned with theories

<sup>15</sup> Gilbert Harman defends such a theory. See his article, 'Knowledge, Inference, and Explanation' in *New Readings*, 357-68.

<sup>16</sup> Most recently, Anthony Quinton holds this position in his book, *The Nature of Things* (Routledge and Kegan Paul, Boston, 1973), 119. See also Arthur C. Danto's *An Analytical Theory of Knowledge* (Cambridge University Press, London, 1968), 27-8, and C. I. Lewis's *An Analysis of Knowledge and Valuation* (Open Court, LaSalle, Ill., 1946), 186. However, philosophers too numerous to cite have held this position which was clearly formulated both by Plato and Aristotle.

of justification than with the analysis of knowledge, and we shall reconsider them when we discuss those theories. Nevertheless, it is important to refute the foregoing argument in order to show that condition (iJ) does not commit us to the doctrine of basic beliefs. Let us undertake the refutation. First, justification need not proceed until all claims to knowledge employed in the justification are themselves justified. If we consider justification in a social context, the justification of knowledge claims need proceed only as long as some claim to knowledge is disputed. Thus, if we suppose that justification is a response to a query or demand, then there is no reason to suppose that the argument need proceed beyond the point at which agreement is reached. Hence, even if all completely justified beliefs are justified by evidence, not all claims to knowledge, employed to defend some other such claims, need themselves be justified. They only need to be justified when they engender disputation.

There is yet a more decisive refutation than the preceding. It undermines the attempt to produce a regress or circularity by repudiating the initial assumption of the argument, to wit, that for something to be evidence it must be known to be true. Why need we know that  $p$  is true before we may appeal to it as evidence? In practice we surely appeal to anything as evidence that we are completely justified in believing, and such appeals are deemed legitimate. Let us only require a man to be completely justified in believing that  $q$  before he may justify his belief that  $p$  by appeal to the evidence that  $q$ . Then any semblance of circularity in the analysis of knowledge vanishes. Moreover, any attempt to obtain a regress of justification could be met by arguing that some beliefs are completely justified because of the way they cohere with a system of beliefs rather than by appeal to evidence or other forms of argumentation.

It follows, then, that if we agree that it is logically consistent with condition (iJ) to deny the existence of basic beliefs, just as it is logically consistent with it to affirm the existence of basic beliefs, we may conclude that an analysis of knowledge containing condition (iJ) neither precludes nor entails the existence of such beliefs. Thus, we leave the problem of basic beliefs to be resolved by a theory of justification. Such theories are of fundamental importance; indeed, they are of greater importance than the analysis of knowledge itself. These theories ex-

plain what completely justifies a belief and hence when we are justified in claiming to know. It is, therefore, entirely appropriate that our analysis of knowledge should leave the question of basic beliefs to be answered by a theory of justification.

We shall argue that complete justification is a matter of coherence within a system of beliefs. Most philosophers have thought that knowledge claims, when completely justified, were justified on the basis of some objective method of assessing such claims. Some thought the test was that of experience, others of reason, and there have been mixed methodologies as well. All have assumed that beliefs must be checked in some objective manner. They have repudiated with epistemic horror the idea that belief itself could be the last court of evidence. That a man believes something is considered far too subjective a datum to serve as a solid basis for justification. Even those philosophers who argue that some beliefs are self-justified sought some principle by means of which we can determine which beliefs are self-justified and which not. They too have held that we must somehow transcend the subjectivity of belief in order to demarcate the area of justified belief. This conception has become so ingrained philosophically as to impose itself on common sense. However, the assumption that there is some objective method, for distinguishing the honest coin of justified belief from the counterfeit of the unwarranted, shall not go unexamined. We shall study in some detail those theories that rest on this assumption, but, to warn the reader fairly, in advance, no such theory shall prevail once we have exhibited our mint for epistemic approval.

The theory of justification we shall ultimately defend may strike some as closely aligned with scepticism. We shall examine this charge, but even here it should be noted that our sympathies with the writings of the philosophical sceptics of the past are strong. Too often contemporary writers seek the most effective method for liquidating the sceptic without asking whether his teaching may not be of more importance than his mode of burial. Since the most brilliant philosophers of past and present have been sceptics of one form or another, it would behove those who study scepticism to consider whether these sceptics have some truth in their grasp. We claim they do. There is no exit from the circle of ones own beliefs from which one can

sally forth to find some exquisite tool to measure the merits of what lies within the circle of subjectivity. Nor is there such a tool, as we shall show. But subjectivity when directed toward truth and away from error can provide the basis of demonstrably reasonable justification.

### *A Counterexample*

Some philosophers have suggested that the conditions which are individually necessary for knowledge as formulated in (iT), (iB), and (iJ) are jointly sufficient for knowledge as well.<sup>17</sup> This would amount to affirming the following equivalence as an analysis of knowledge:

*S* knows that *p* if and only if it is true that *p*, *S* believes that *p*, and *S* is completely justified in believing that *p*.

In short, knowledge is completely justified true belief. Nevertheless, this analysis has been disputed by Gettier and requires amendment.<sup>18</sup>

Gettier argues that a man might be completely justified in believing that *F* by his evidence, where *F* is some false statement, and deduce *T* from *F*, where *T* is some true statement. Having deduced *T* from *F*, which he was completely justified in believing, the man would then be completely justified in believing that *T*. Assuming that he believes that *T*, it would follow from the analysis considered that the man knows that *T*. He might, however, not know this at all, especially if *T* is a disjunction of two statements, the statement *F* and a true statement *Q*, and the man in question has no reason whatever for thinking that *Q* is true. In such a case, the belief that *T* will be true, but the only reason the man has for believing *T* to be true is the inference of *T* from *F*. Since *F* is false, it is a matter of luck that the man is correct in his belief that *T*.<sup>19</sup>

An example should help to illustrate the point. Suppose a teacher wonders whether any member of his class owns a Ferrari and, moreover, suppose that he has very strong evidence

<sup>17</sup> Ayer and Chisholm defend similar analyses in works cited above.

<sup>18</sup> Edmund Gettier, Jr., 'Is Justified True Belief Knowledge?', *Analysis*, xxiii (1963), 121-3. Bertrand Russell made a similar observation in *The Problems of Philosophy*, 132.

<sup>19</sup> Gettier, *op. cit.*

that one student, a Mr. Nogot, owns a Ferrari. Mr. Nogot says he does, drives one, has papers stating he does, and so forth. The teacher has no other evidence that anyone else in his class owns a Ferrari. From the premiss that Mr. Nogot owns a Ferrari, he draws the conclusion that at least one person in his class owns a Ferrari. The man might thus be as completely justified in believing this conclusion as he was in believing Mr. Nogot owns a Ferrari. Now imagine that, in fact, Mr. Nogot, evidence to the contrary notwithstanding, simply does not own the Ferrari. He was out to deceive his teacher and friends to improve his social status. However, another student in the class, a Mr. Havit, does own a Ferrari, though the teacher has no evidence or inkling of this. In that case, the teacher would be quite correct in his belief that at least one person in his class owns a Ferrari, only it would not be Mr. Nogot who he thinks owns one, but Mr. Havit instead. In this case, the teacher would have a completely justified true belief when he believes that at least one person in his class owns a Ferrari, but he could not be said to know that this is true because it is more due to good fortune than good justification that he is correct.<sup>20</sup>

Two philosophers, Irving Thalberg and Charles Pailthorp, have attempted to show that such examples as this are not counterexamples to the analysis of knowledge in question by arguing that a belief cannot be completely justified by being deduced from a false statement.<sup>21</sup> This line of argument fails for a number of reasons. First, the teacher in our example might infer that at least one person in his class owns a Ferrari directly from true statements about Mr. Nogot concerning the car he drives, and so forth, without accepting the false statement that Mr. Nogot owns a Ferrari. If the teacher is a clever man and is only interested in the question of whether there is at least one Ferrari owner among his students, he might reason that,

<sup>20</sup> This example and related ones are taken from Keith Lehrer, 'Knowledge, Truth, and Evidence', *Analysis*, xxv (1965), 168-75. This article and others on the same topic are included in *Knowing*, ed. Michael Roth and Leon Galis (Random House, New York, 1970).

<sup>21</sup> See the article by Charles Pailthorp, 'Knowledge as Justified True Belief', *Review of Metaphysics*, xxiii (1969), 25-47, and the reply by Keith Lehrer, 'The Fourth Condition of Knowledge: A Defense', *ibid.* xxiv (1970), 122-8. Also see Irving Thalberg's 'In Defense of Justified True Belief', *Journal of Philosophy*, xvi (1969), 794-803, and David Coder's reply in the same journal, lxvii (1970), 424-5.

though his only evidence of a Ferrari owner among his students is what he knows about Mr. Nogot and a certain car, there is at least the possibility that someone else owns one, and, hence, it is safer to accept the more general statement that at least one person in his class owns a Ferrari than the quite specific claim that Mr. Nogot owns one. Hence, without concluding that Mr. Nogot owns a Ferrari, the teacher in question concludes that at least one person in his class owns a Ferrari. This conclusion is derived from a set of perfectly true statements about Mr. Nogot and the consideration that someone else in class may, for all he knows, own a Ferrari. But even this clever reasoner does not know that there is a single Ferrari owner among his students. Thus, the counterexamples to the analysis do not essentially depend upon inference from a false statement.

There is, however, a second reason for rejecting the idea that such counterexamples may be met by arguing that inference from a false statement can never yield complete justification. Similar examples may be found that do not seem to involve any inference. An example taken from R. M. Chisolm illustrates this. Suppose a man looks into a field and spots what he takes to be sheep.<sup>22</sup> The object is not too distant and the man is one who knows a sheep when he sees one. In such a case it would be natural to regard the man as being completely justified in believing he sees a sheep in the field without any reasoning at all. Now imagine that the object he takes to be a sheep is not a sheep but a dog. Thus, he does not know that he sees a sheep. Imagine, however, that an object further in the distance which he also sees, but does not think is a sheep, happens in fact to be a sheep. So it is true that the man sees a sheep, and, moreover, he believes and is completely justified in believing that he sees a sheep. Of course, he still does not know that he sees a sheep because what he takes to be a sheep is not, and the sheep that he sees he does not take to be a sheep.

#### *A Fourth Condition: Justification without Falsity*

In two of the cases we have described, a man has completely justified true belief but lacks knowledge and does not infer what he thus believes from any false statement. There is some merit,

<sup>22</sup> R. M. Chisolm, *Theory of Knowledge*, 23, footnote 22.

however, in the idea that the falsity of some statement accounts for the lack of knowledge. Somehow it is the falsity of the two statements that Mr. Nogot owns a Ferrari and that what the man takes for a sheep is one which accounts for the problem. We may say that in the first case the justification that the teacher has for his belief that at least one person in his class owns a Ferrari depends on the false statement that Mr. Nogot owns a Ferrari even though that statement is not a premiss in any inference the man actually makes. We shall explore the kind of dependence involved subsequently, but here we may notice that the clever teacher would be unable to justify completely his belief that there is a Ferrari owner among his students were he to concede the falsity of the statement that Mr. Nogot owns a Ferrari. Similar remarks apply in the case of the sheep.

To render our analysis impervious to such counterexamples, we must add the condition that the complete justification that a man has for what he believes must not *depend* on any false statement—whether or not it is a premiss in inference. We may thus add the following condition to our analysis:

- (iD) If  $S$  knows that  $p$ , then  $S$  is completely justified in believing that  $p$  in some way that does not depend on any false statement.<sup>23</sup>

### *A Final Analysis of Knowledge*

The preceding condition enables us to complete our analysis of knowledge. We shall adopt the following as an analysis of knowledge:

- (AK)  $S$  knows that  $p$  if and only if (i) it is true that  $p$ , (ii)  $S$  believes that  $p$ , (iii)  $S$  is completely justified in believing that  $p$ , and (iv)  $S$  is completely justified in believing that  $p$  in some way that does not depend on any false statement.

It is apparent that on one very natural interpretation of these conditions they are logically interdependent. Thus, for example,

<sup>23</sup> This proposal is similar to one made in the articles by Keith Lehrer cited above, and by others as well in the series of articles elicited by the Gettier article. See especially Gilbert Harman, 'The Inference to the Best Explanation', *Philosophical Review*, lxxiv (1965), 88–95.

it is natural to interpret condition (iii) in such a way as logically to entail condition (ii), that is, if a man is completely justified in believing that  $p$ , then this entails that he believes that  $p$ . Similarly, one might interpret (iv) in such a way as to entail (iii), that is, if a man is completely justified in believing that  $p$  in some way that does not entail any false statement, then this entails that he is completely justified in believing that  $p$ . Given these entailments, the analysis would be subject to reduction by the elimination of conditions (ii) and (iii), because condition (iv) would entail those two conditions. We would thereby reduce the analysis to conditions (i) and (iv).

The reduction of the analysis to conditions (i) and (iv) would simplify the analysis in terms of the number of conditions contained therein, but it would leave us with a very complicated condition (iv) having various logical consequences each of which would require separate treatment in an adequate theory of knowledge. Thus it will be useful to replace conditions (ii), (iii), and (iv) with logically independent conditions. We can do this quite easily. All that is required is that we make use of the logicians notion of a material implication. Logicians say that  $p$  materially implies  $q$  if and only if it is not the case that  $p$  is true and  $q$  is false. It is clear that this is a much weaker condition than entailment, for  $p$  entails  $q$  if and only if it is logically impossible that  $p$  is true and  $q$  is false.

We can make conditions (iii) logically independent of (ii) by turning it into a material conditional. Instead of (iii), we would have (iii') as follows:

(iii') If  $S$  believes that  $p$ , then  $S$  is completely justified in believing that  $p$ .

It is clear that (iii') does not logically entail condition (ii), that is,  $S$  believes that  $p$ , because (iii') is logically consistent with the denial (ii), that is, it is not the case that  $S$  believes that  $p$ . To make it clear that (iii') does not require that ' $S$  believes that  $p$ ' entails ' $S$  is completely justified in believing that  $p$ ', we may rewrite (iii') making the material implication explicit as follows:

(iii') If  $S$  believes that  $p$ , then this materially implies that  $S$  is completely justified in believing that  $p$ .

We may then reformulate (iv) so that it entails neither (ii) nor (iii) in a similar way as follows:

- (iv') If  $S$  believes that  $p$  and  $S$  is completely justified in believing that  $p$ , then this materially implies that  $S$  is completely justified in believing that  $p$  in some way that does not depend on any false statement.

If we then substitute (iii') for (iii) and (iv') for (iv) in the analysis of knowledge (AK), the fourth condition will clearly not entail either the second or third, and the third condition will clearly not entail the second. Thus, the earlier mentioned logical interdependencies will be eliminated. It is such an analysis of knowledge that we shall assume. Our next task is to examine each of these conditions of knowledge in order to formulate a theory of knowledge explaining how and why claims to knowledge are justified.