

SESSION FIVE

GETTIER CASES AND THE CONCEPT OF KNOWLEDGE

Introduction

As we have seen, the traditional view of propositional knowledge held that knowledge is constituted by beliefs that are both true and justified. This view was challenged in 1963 by Edmund L. Gettier in his paper 'Is Justified True Belief Knowledge?' What has become known as 'The Gettier Problem' — the problem of trying to find the correct analysis of the concept of knowledge — set the stage for epistemology in the second half of the twentieth century. In this lecture we will examine this problem through a close reading of Gettier's paper. Such a reading should not only enable you to understand the forcefulness of Gettier's challenge to the traditional view of knowledge, but should also enable you to supplement your understanding of the different ways in which arguments can be formulated. In the last two lectures, you were introduced to some of the principles of correct reasoning and to two types of argument (specifically, inductive and deductive argument). In this lecture, through elucidating the logic underlying the various inferences made in Gettier's paper, you will be introduced to the use of disjunctions in arguments, as well as various forms of logical reasoning, such as *modus ponens*. As you read through the lecture, you will see boxed text; this indicates where the discussion is directed towards a discussion of logic.

The Gettier problem

We have seen that a plausible analysis of the concept of knowledge is that knowledge is justified true belief. But Gettier gives persuasive counter-examples which show that one can have *justified true belief that p* without *knowing that p*. The Gettier problem is that of finding an adequate additional clause to the analysis. Let us first remind ourselves of the traditional account of knowledge, first put forward by Plato. It can be outlined in the following form:

(A) S knows that p if and only if...

- (i) p is true**
- (ii) S believes that p, and**
- (iii) S is justified in believing that p.**

Gettier argues that this analysis of knowledge is inadequate, since the conditions stated do not constitute sufficient conditions for knowledge (though, of course, they

may be necessary conditions). As he says, ‘the conditions do not constitute a sufficient condition for the truth of the proposition that S knows that P’.

He presents us with two cases in which justified true beliefs are not instances of knowledge, but, before he does so, he notes that two assumptions are required:

- (1) **‘It is possible for a person, S, to believe in a false proposition’.**
- (2) **‘For any proposition P, if S is justified in believing P, and P entails Q, and S deduces Q from P and accepts Q as result of this deduction, then S is justified in believing Q’ (Gettier, 2009 [1963], p.61).**

Let us now turn to the cases Gettier presents.

Case 1

Smith and Jones have applied for a job. Smith has strong evidence that Jones will get the job (let us assume that the president of the company told him so). He also has evidence that Jones has 10 coins in his pocket (let us assume that Smith has counted the coins in Jones’ pocket).

So he has strong evidence for the following proposition:

(a) Jones is the man who will get the job, and Jones has 10 coins in his pocket.

This proposition entails proposition (b), which is as follows:

(b) The man who will get the job has 10 coins in his pocket.

Smith sees that (a) entails (b), and accepts (b) on the grounds of (a), for which he has strong evidence. It seems then that Smith is justified in believing that (b) is true.

Let us now suppose that actually, and unknown to Smith, Jones will not get the job. In fact, Smith himself will get it. (We could easily imagine that the president of the company has changed his mind on the basis of the job interviews.) Also imagine that, unknown to Smith, he himself has 10 coins in his pocket too. Proposition (a) — from which (b) is inferred — is then false, but (b) is still true.

In this case, we can correctly state all the following:

- (i) **(b) is true**
- (ii) **Smith believes that (b) is true, and**
- (iii) **Smith is justified in believing that (b) is true.**

Note that these propositions state the conditions for knowledge as stated in (A). However, Smith does not know that (b) is true, for it is true by virtue of the number of coins in Smith’s pocket, and by virtue of Smith getting the job, but Smith does not know how many coins are in his pocket and falsely believes that Jones will get the job. So even though the *supposed* conditions for knowledge of (b) are fulfilled, Smith does not have knowledge of (b). In other words, although (b) is true, Smith believes

that (b) is true and appears justified in his belief, it appears he does not *know* (b). Having a justified true belief then, in this case, is not sufficient for knowledge.

We have said that Smith infers ‘The man who will get the job has ten coins in his pocket’ from ‘Jones is the man who will get the job, and Jones has ten coins in his pocket’. We have also said that Smith sees this entailment and accepts the conclusion on the grounds of the first proposition (for which he has strong evidence). There is an underlying argument to his acceptance of this conclusion. We can set out the argument in the following form:

If Jones is the man who will get the job, & Jones has 10 coins in his pocket *then* the man who will get the job has 10 coins in his pocket.

Jones is the man who will get the job, & Jones has 10 coins in his pocket

Therefore, the man who will the job has 10 coins in his pocket.

By replacing ‘Jones is the man who will get the job, and Jones has 10 coins his is pocket’ with ‘P’, and replacing ‘the man who will get the job has 10 coins his pocket’ with ‘Q’, we can set out the argument in the following form:

If P then Q.

P.

Therefore Q.

If two statements are joined to form an ‘if... then...’ statement, the resulting compound statement is a conditional statement. In such conditional statements, the statement between the ‘if’ and the ‘then’ is termed the *antecedent*. The statement that follows ‘then’ is termed the *consequent*. Conditional statements do not assert that the antecedent or consequent is true; they claim only that if the antecedent is true, then the consequent is true; and that the consequent is true if the antecedent is true. Replacing statements by letters can help us see that, in the argument above, the conclusion follows from the truth of the premises. The term ‘affirming the antecedent’, or *modus ponens*, is sometimes used to describe this form of argument.

(Copi, 1968, p. 202; Shaw, 1997, p.27)

The valid form of *modus ponens* is not to be confused with invalid arguments that look similar, but which are in fact very different and make the fallacy of affirming the consequent. Consider, for example, the following argument:

**If Jones wrote *The Heart of Darkness* then Jones is an excellent writer.
Jones is an excellent writer.
Therefore, Jones wrote *The Heart of Darkness*.**

Here, instead of the antecedent being affirmed, as in the case of *modus ponens*, the consequent is affirmed, and the argument is invalid. (For more on validity and invalidity, see lecture 5.)

(Copi, 1968, p. 202)

Case 2

Let us now turn to the second case, as presented by Gettier, and let us assume that Smith has evidence for the following proposition:

(c) Jones own a Ford.

Smith has seen Jones drive a Ford, has been offered a lift in his car, etc. Smith has a friend, Brown. He does not know where Brown is. Smith then constructs the following propositions:

(d) Either Jones owns a Ford, or Brown is in Boston.

(e) Either Jones owns a Ford, or Brown is in Barcelona.

(f) Either Jones owns a Ford, or Brown is in Brest-Litovsk.

Smith sees that (d), (e) and (f) are all entailed by (c), and he goes on to accept (d), (e) and (f) on the basis that they are inferred from (c). Smith then is justified in believing all of these three propositions.

Let us now imagine that, in spite of Smith's belief, Jones in fact does not own a Ford — he has merely rented a Ford or borrowed one. And further imagine that by coincidence Brown just happens to be in Boston. Proposition (c), from which (d) is inferred, is then false, but (d) is true.

So, as in Case 1, the following are all correct (note again that the supposed conditions for knowledge are all fulfilled):

- (i) **(d) is true**
- (ii) **Smith believes that (d) is true, and**
- (iii) **Smith is justified in believing that (d) is true.**

However, Smith does not *know* that (d) is true. His belief in (d) is based on his false belief that Jones owns a Ford. Thus even though the *supposed* conditions for

knowledge of (d) are fulfilled, Smith does not have knowledge of (d). As such, this is another case in which having a justified true belief does not appear to be sufficient for knowledge.

We have said that the three propositions are *inferred* from (c); and in doing so, we have suggested that there is an argument that has taken place. Take proposition (d): either Jones owns a Ford, or Brown is in Boston. This is a conclusion that is entailed from (c) by the rule of disjunction introduction. Such a disjunction is the logical principle that if P is true, then it is true that either P or Q is true. It is a valid, simple argument form in logic. Formally, it can be presented as follows:

P.
Therefore, P or Q.

In our case, the argument can be constructed as follows:

P (Jones own a Ford).
Therefore, P (Jones own a Ford) or Q (Brown is in Boston).

The argument form has one premise, P, and an unrelated proposition, Q. From the premise it can be logically concluded that either P or Q is true, or both are true. Here is another example of such an argument:

Socrates is a man.
Therefore, Socrates is a man, or pigs are flying over the English Channel (either or both are true, but in this case only one is true).

Such a disjunction is true whenever *one or more* of its operands are true. In other words, 'P or Q' is true if P, Q, or both P and Q are true. Such a disjunction is false if both P and Q are false. (It is sometimes known as inclusive disjunction.) Consider one of Smith's conclusions: (d) either Jones owns a Ford, or Brown is in Boston. Since a disjunction is true if at least one of the terms is true, and we know that one of the terms is true (that Jones owns a Ford), the second term is irrelevant for determining the truth-value of the disjunction (the second term in this case would be that Brown is in Boston).

Note that in ordinary language, the term 'or' sometimes has the meaning of exclusive disjunction. This is a type of logical disjunction that results in a value of true if and only if exactly one of the operands has a value of true. A simple way to put this is 'one or the other, but not both'. So, in ordinary speech, 'either... or...' can mean 'either... or... but not both'; in this sense it excludes both being true. This use of 'or' is sometimes called 'the exclusive use'. But in logic it can mean 'and / or'. This latter use is the inclusive use of 'or'.

We have seen then that there is an underlying logic that can be elucidated with respect to Smith's inference of (d) from (c). But we have also said that Smith sees this entailment and accepts the conclusion, (d), on the grounds of the first proposition, (c) (for which he has strong evidence). As in Case 1, there is an underlying argument to his acceptance of the conclusion. Again, we can set out the argument in the following form:

**If Jones owns a Ford then Jones owns a Ford, or Brown is in Boston.
Jones owns a Ford.
Therefore, Jones owns a Ford, or Brown is in Boston.**

By replacing 'Jones owns a Ford' with 'P', and replacing 'Jones owns a Ford, or Brown is in Boston' with 'Q', we can set out the logic in the following form:

**If P then Q.
P.
Therefore Q.**

In other words,

**If P (Jones owns a Ford) then Q (Jones owns a Ford, or Brown is in Boston).
P (Jones owns a Ford).
Therefore Q (Jones owns a Ford, or Brown is in Boston).**

Note again that conditional statements assert that if the antecedent is true, then the consequent also true. In this argument, the antecedent is affirmed, and therefore the consequent is accepted as true.

Bibliography

Irving M. Copi, *Introduction to Logic*, third edn. (London: The Macmillan Company, 1968).

E. Gettier, 'Is Justified True Belief Knowledge', *Analysis*, Vol.23, 1963, pp.121-23, in J. Cottingham, *Western Philosophy: An Anthology* (Oxford: Blackwell, 2009).

Patrick Shaw, *Logic and its Limits*, second edn. (Oxford and New York: Oxford University Press, 1997).