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## On Lehrer's Solution to the Gettier Problem<sup>1</sup>

*by Jacob Rosenthal*

The classical analysis of the concept of knowledge is as follows. Let  $S$  be an epistemic subject and  $p$  a proposition.  $S$  knows that  $p$  if and only if

- (1)  $p$  is true,
- (2)  $S$  believes that  $p$ , and
- (3)  $S$  is justified in believing that  $p$ .

It seems clear that the conditions (1) – (3) are indeed necessary for knowledge. But as some well-known examples (by Edmund Gettier, among others) show, the stated conditions are not sufficient. The problem is that  $S$ 's justification for his belief that  $p$  may involve a false belief in an essential way. In such cases we typically do not speak of knowledge, although the stated conditions are fulfilled. So the task is to discover a fourth condition such that (1) – (4) together are necessary and sufficient for knowledge.

The following is Keith Lehrer's solution of the problem.<sup>2</sup> Take the set of all beliefs of  $S$ . This is called the *acceptance system* of  $S$ . Condition (3) can be read as stating that the belief that  $p$  is justified relative to this system, or, as Lehrer says, on the basis of this system. Now, what Lehrer demands in addition to justification relative to the acceptance system is justification relative to certain modifications of it. Namely, if the acceptance system contains false beliefs, and some of them are deleted from the system or even replaced by the corresponding true belief to the contrary, the belief that  $p$  must still be justified relative to this new system to count as knowledge.

More exactly: Suppose the acceptance system of  $S$  contains  $n$  false beliefs. Now you decide for each of them independently if it is to be (a) deleted from the system, (b) replaced by the corresponding true belief, or (c) left untouched. In this way you can obviously get  $3^n$  modifications of the acceptance system (one of which is the acceptance system itself).  $S$ 's belief that  $p$  is knowledge if and only if it is justified relative to each of these  $3^n$  belief systems.

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<sup>1</sup> These considerations were first presented on a workshop on Keith Lehrer's epistemology and related topics, held at the University of Constance on June 16<sup>th</sup>, 2000. I am grateful to Keith Lehrer for a discussion of these topics, to Wolfgang Spohn for several valuable remarks, and to Christopher von Bülow for improving my English.

<sup>2</sup> The presentation follows Lehrer's *Theory of Knowledge*, Boulder 1990. His account has remained essentially the same since the middle of the 80s and can be said to be the most prominent internalistic proposal to solve the Gettier problem. (Compare also his book *Self-Trust*, Oxford 1997.) But recently Lehrer has changed his mind, as can be seen in the second edition of *Theory of Knowledge*, Boulder 2000. His new proposal is similar to proposal (a), discussed below, which is also unsatisfactory.

The idea behind this is that, to count as knowledge,  $S$ 's belief that  $p$  must survive corrections in the system of all beliefs of  $S$ . Make any corrections you want, either weak (delete a false belief) or strong (replace a false belief by the corresponding true one) – you always get a system relative to which the belief that  $p$  is still justified. Then, and only then,  $S$ 's belief that  $p$  is knowledge.

This proposal for solving the Gettier problem has great aesthetic appeal, which is, however, somewhat diminished by a complication introduced by Lehrer I didn't mention in order to keep things simple. Namely, the deletion or replacement of false beliefs in the acceptance system is not entirely unconstrained. If  $q$  and  $r$  are false propositions, and both are believed by  $S$ , and  $q$  logically entails  $r$ , then, if you delete the belief that  $q$  from the acceptance system, you must also delete the belief that  $r$ , and if you replace the belief that  $q$  by the belief that not- $q$ , you must also replace the belief that  $r$  by the belief that not- $r$ . So, your decisions what to do with the false beliefs are not totally free and independent from each other. You have to respect relations of logical entailment in the indicated way. But this constraint is the only one and, having mentioned it, the presentation of Lehrer's account of knowledge is complete.<sup>3</sup>

I think that Lehrer's conception of knowledge is too demanding. Take the following example: A reliable person has told me that the senate of my university has elected Cohen for rector, which is indeed the case. So I know that Cohen is rector. Most of what we know we get to know in more or less this way. Now I remember a clause in the constitution of the university to the effect that the rector is also the chairman of the Research Committee. I conclude that Cohen is chairman of the Research Committee. But this is, in fact, wrong. The senate of the university has, on the very same meeting, changed the constitution and separated the positions. Cohen was only prepared to become rector if he need not also be chairman of the Research Committee. My source of information has told me nothing about this (nor should he have). This has the effect that if I got to know that Cohen was definitely *not* the chairman of the committee, I would also doubt his being rector and no longer believe it. There are two false beliefs in my acceptance system: first, the belief that the constitution of the university still contains the rule that the rector is also the chairman of the Research Committee, and second, the belief that Cohen is chairman of this committee. If the second belief is replaced by the corresponding true belief, while the first false belief is left unchanged, the belief that Cohen is rector is no longer justified, i.e., not justified on the basis of this modification of the acceptance system. (At least you can construe the case in this way.) So Lehrer's criterion is not fulfilled, and my opinion that Cohen is rector would not count as knowledge. This is clearly counterintuitive. I *know* that Cohen is rector. All I have done is to draw from this true

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<sup>3</sup> Actually, I have some difficulties with this constraint. I would expect it to be the other way round. If  $q$  logically entails  $r$ , and you delete the belief that  $r$  from the acceptance system, you should also delete the belief that  $q$ , because otherwise the belief that  $r$  remains in the system in an implicit way. After all,  $r$  is logically entailed by  $q$ . The same holds for the case of replacement. So the constraint should be that in case you delete or replace the belief that  $r$  you must do the same with the belief that  $q$ . But that is not important here, because the constraint, whatever it is, will play no role in what follows. A constraint of this type is a half-hearted step into the direction of the AGM-theory of belief revision (see Peter Gärdenfors: *Knowledge in Flux*, Cambridge (Mass.) 1988), and therefore unsatisfactory anyway. Either you should accept the whole AGM-apparatus (or something similar), or you should try to make do without any proviso of this form.

proposition as one premiss and a false proposition as second premiss a false conclusion. Normally such an act should not destroy the knowledge status of the true belief. But Lehrer's condition is such that this is regularly the case.

I think that Lehrer's idea to consider modifications of the acceptance system of  $S$  in order to decide whether  $S$ 's belief that  $p$  is knowledge is the right idea, but his condition is too strong. It is sufficient, but not necessary for knowledge. The problem in the example arises because in modifying the acceptance system, you are allowed to correct just some of the false beliefs, while leaving others untouched. In my opinion, Lehrer should have said the following: the modifications of the acceptance system of  $S$  relative to which the belief that  $p$  must be justified must not contain any false beliefs any longer. So, if there are  $n$  false beliefs in the acceptance system, you have to decide for each of them whether it is deleted from the system or replaced by its true counterpart. There are  $2^n$  possibilities to do so. A true belief of  $S$  is knowledge if and only if it is justified relative to the acceptance system of  $S$  and relative to these  $2^n$  corrections of it. I think this is a better proposal for solving the Gettier problem. (And the above-mentioned constraint is now in any case superfluous, because the modified systems contain only true beliefs.)

Is it really necessary to take into account so many different belief systems? I don't really know, but with criteria of the Lehrer type it is definitely not enough to consider just one modification of the acceptance system of  $S$ . It would be much easier, of course, if you could say that  $S$ 's true belief was knowledge iff it was justified, first, relative to  $S$ 's acceptance system, and second, relative to a certain correction of it. But conditions of this type turn out too weak. I consider the two most natural proposals along this line.

(a)  $S$ 's true belief that  $p$  is knowledge if and only if it is justified relative to the acceptance system of  $S$  and relative to the system that results from deleting all false beliefs from the acceptance system.

That this condition is not sufficient for knowledge is shown by an example that comes from Bertrand Russell.<sup>4</sup> A pedestrian is walking down the street wondering what time it is. He looks at a clock on a church tower which shows ten minutes past three, from which fact he concludes that it is ten minutes past three. And indeed this is true. What the pedestrian does not realize is that the hands of the clock do not move. The clock has stopped a long time ago and the pedestrian just happens to be looking at it at a moment when it shows the right time. So, intuitively, the pedestrian does not know that it is ten minutes past three, but has just happened to acquire a true belief to this effect. This belief is justified on the basis of the pedestrian's acceptance system. The acceptance system contains the false belief that the clock is moving and working in the usual reliable manner. But this false belief is no indispensable part of a justification for the pedestrian's opinion about the time, and therefore his opinion is still justified if the false belief is deleted from the acceptance system. A justification might run as follows: "This is a clock. It shows ten minutes past three. Most clocks work properly

most of the time and therefore show the right time most of the time. So I conclude that this clock shows the right time right now and believe that it is ten minutes past three.” The false belief that this clock works properly is not involved in this reasoning, and so this reasoning is not blocked by merely deleting the false belief from the acceptance system. Therefore the stated criterion is fulfilled and gives the false result that the pedestrian’s belief about the time is knowledge.

The remedy seems obvious. If you not only delete the false belief that this clock works properly from the acceptance system, but replace it with the true belief that this clock does not work properly, then the justification just sketched is blocked or, as Lehrer says, defeated. So, what about the following condition?

(b)  $S$ ’s true belief that  $p$  is knowledge if and only if it is justified relative to the acceptance system of  $S$  and relative to the system that results from replacing in the acceptance system all false beliefs by their true counterparts.

That this condition also fails can be shown by an example invented by Roderick Chisholm.<sup>5</sup> A wanderer reaches a meadow on which there are two animals. The first one looks like a sheep, but in fact it is not: it is a Bedlington Terrier. Dogs of that race are easily confused with sheep. The wanderer does not know about this and considers the first animal to be a sheep. He therefore comes to the conviction that there is a sheep on the meadow. And this is true, because the second animal is a sheep, although it does not look like one at all. Now, the wanderer has the true belief that there is a sheep on the meadow. This belief is justified by the fact that there is an animal looking like a sheep, namely, the first one. There are two false beliefs in the wanderer’s acceptance system: that the first animal is a sheep, and that the second animal is not. If both false beliefs are replaced by their true counterparts the belief that there is a sheep on the meadow is still justified. So the wanderer’s conviction would count as knowledge, which is clearly counterintuitive.

Let’s look at this example more closely. Why does the proposed criterion fail? The problem is that the wanderer’s belief is justified before *and* after the false beliefs in his acceptance system are replaced by their respective true counterparts. But how can that be? Isn’t the wanderer’s justification for his true belief, namely, that the first animal is (or looks like) a sheep, defeated by the correction of his acceptance system? Indeed it is, but the correction gives the wanderer *another* way to justify his belief, namely, that the second animal is a sheep, although it does not look like one. So the conviction that there is a sheep on the meadow is justified before and after the correction of the wanderer’s acceptance system. But it is justified in two different ways.

Now we have hit on the reason why the original and the modified Lehrer criterion have to take into account so many different modifications of the acceptance system of the subject  $S$ . If you consider just one or a few of these modifications, one can always dream up examples

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<sup>4</sup> Bertrand Russell: *Human Knowledge. Its Scope and Limits*, London 1948, p. 170.

<sup>5</sup> Roderick Chisholm: *Theory of Knowledge*, New Jersey 1966, <sup>2</sup>1977, p. 105.

where  $S$ 's original justification for his true belief is defeated, but where the defeating modifications open up other ways to justify the belief that  $p$ . In such cases we typically do not count  $S$ 's belief as knowledge. It is merely a lucky coincidence that the subject, although his original justification is defeated, has now other, new ways to justify the true belief in question. In order to make such examples impossible, one has to put up criteria which refer to a multitude of corrections of the acceptance system, in a sense, to all possible corrections of it.

But obviously there is another possibility to deal with the problem such examples pose. You just have to demand that the subject's original justification is preserved when the acceptance system is corrected.<sup>6</sup> Instead of demanding that  $S$ 's belief that  $p$  be justified relative to very many different belief systems, you demand that the belief is justified relative to just a few, but always in the same way. I propose the following condition as a solution to the Gettier problem along the indicated lines:

$S$ 's true belief that  $p$  is knowledge if and only if among the reasons  $S$  has for his belief that  $p$  there are reasons  $r_1, r_2, \dots, r_m$  with the following properties:

- a)  $r_1, r_2, \dots, r_m$  are true,
- b) together they are sufficient to justify the belief that  $p$  relative to  $S$ 's acceptance system,
- c) together they are sufficient to justify the belief that  $p$  relative to the system that results when in  $S$ 's acceptance system all false beliefs are replaced with their true counterparts.

In short, a true belief of a subject is knowledge iff the subject has a justification for the belief that remains a justification when in the subject's acceptance system all false beliefs are replaced with the corresponding true ones. It is not required that *every* justification of the subject has this property – a belief may be justified in many different ways, and it is no harm when some of them are faulty. But at least one possible justification, a justification that the subject *could* use if asked, must be able to survive the mentioned strong correction of the acceptance system. Then, and only then, is the true belief knowledge. In comparison with Lehrer-type proposals, this proposal for solving the Gettier problem has the advantage of involving just two belief systems, whereas the former have the advantage of using merely the concept of a justified belief (relative to a system of beliefs) and not the more demanding concept of (sufficient) reasons for a belief (relative to a system of beliefs).

So we have arrived at two proposals for solving the Gettier problem: first, the modified Lehrer proposal, and second, the one just mentioned. I am not sure whether they are

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<sup>6</sup> As Volker Halbach pointed out to me, John Pollock makes a similar proposal in the Appendix of his book *Contemporary Theories of Knowledge*, Totowa 1986. The difference is that Pollock believes (mistakenly, I think) that there are examples of the Gettier type in which the subject does not believe anything false. So he does not speak of a correction of the subject's acceptance system, but of adding truths to it. (In the clock example the subject *does* believe something false: namely, that the clock is working properly. This false belief is no indispensable part of the subject's justification for his opinion about the time, but it is nevertheless connected with this opinion. That the subject's justification for his belief does not, or need not, include any false beliefs in Gettier problem examples does not mean that there is no false belief involved at all.)

equivalent. But they could both be satisfactory solutions to the Gettier problem and yet not be equivalent, as long as they agree in all clear cases. There are borderline cases of belief in which one does not know whether to call the belief in question knowledge, because the intuitions are unclear or divided. No proposed criterion can be dismissed just because it decides a borderline case in this or that way. As long as it gets the clear cases right, it may count as a solution of the Gettier problem, and so there may be many nonequivalent solutions. But I am afraid that sooner or later a clear example will come up for which the two proposals considered here fail, as was the fate of so many of their predecessors.