AN ANALYSIS OF FACTUAL KNOWLEDGE*

I INTEND to provide an analysis of human factual knowledge, in other words, an analysis of what it is for a man to know that something is the case. I try to capture the conception of human factual knowledge that ordinary knowledgeable humans do in fact employ in making commonsensical judgments about the presence or absence of such knowledge. My analysis will depart most radically from all previously offered analyses and will, I think, be all the better for this departure.

I. THE PRESENCE OF KNOWLEDGE AND THE ABSENCE OF ACCIDENT

In a recent critical paper,[1] after arguing to refute the idea that knowledge of most contingent matters must be based on experience, I put forward the following (there numbered 12.1, page 172) as providing a logically necessary condition of when a man's belief is an instance of knowledge:

(0) For any sentential value of p, a man's belief that p is an instance of knowledge only if it is not an accident that the man's belief is true.

Speaking of a man's belief as being an instance of knowledge may be too unnatural; at any rate it is not a very ordinary sort of thing to do. And, in the end, we are not so interested in when a man's belief might be an instance of knowledge, as we are in when a man might know that something is so. Thus, motivated by a consideration of (0), I now assert as a unified and univocal analysis of human factual knowledge:

(1) For any sentential value of p, (at a time t) a man knows that p if and
    only if (at t) it is not at all accidental that the man is right about its
    being the case that p.

To speak most clearly and correctly, a reference to specific times
should be an explicit part of any adequate analysis of human knowl-
edge. At one time it may be at least somewhat accidental that a man is
right about a certain matter, although at another time it is not at all
accidental that he is right. Thus, a man may believe that there is a
rosebush on his vast estate simply because a servant told him so and
convinced him of that. The servant did not know of the existence of
any rosebush and only convinced the man for amusement, thinking,
indeed, that he had got his employer to believe something false. How-
ever, unbeknownst to the servant there was a rosebush in a far corner
of the estate. One day the man may ride into that corner of the estate.
We may suppose that he sees the rosebush. Before he sees the bush, it
is entirely accidental that the estate owner has been right about there
being a rosebush on his estate; when he sees the bush, it first becomes
the case that it is not at all accidental that he is right about the matter.
This is when the man first knows that his estate is so blessed. Again,
and in contrast, a man who holds no opinion on the matter may see a
rosebush and so first come to know and to be right that it is in a
certain place. While he still has some but no very strong memory of
the matter, he may believe that the rosebush is there and may have this
belief as a result of his remembering that it is there. While he has this
belief, a friend who has no knowledge of the rosebush, who simply
wants to convince the man that there is a rosebush in the aforemen-
tioned place, may tell the man in most convincing and memorable
terms that he, the friend, saw the rosebush there. When he hears the
friend's story the man holds his belief about the rosebush both be-
cause he has seen it and remembers that it is there, and also because
of the friend's story; either then being sufficient to ensure his then
holding that belief. At this time the man does know; for, because he
originally saw the bush, it is then not at all accidental that he is right
about the location of the bush. Still later, the man may still believe
that the rosebush is in the proper location but only because his friend
so convincingly told him so. His originally seeing the bush will then
be not at all responsible for his holding the (correct) belief. At this
point, the man no longer knows; for at the time in question it is false
that it is not at all accidental that the man is right about the matter.
Indeed, at this time it is very much an accident that he is right about
its being the case that the rosebush is in the place in question, and thus
it is clear that at the time in question the man does not know the
location of the bush.

It is essential, then, that we think of a man as knowing something *at a certain time* and say that *at that time* it is not at all accidental that he is right. With this understanding firmly in mind, we need not always refer to times in our subsequent discussion, and, to make matters easier, we often will not do so.

II. IRRELEVANT ACCIDENTS

What we properly regard as an accident, or as accidental, does appear to depend upon our various interests, as well as upon other things. Thus, even in the most physically deterministic universe imaginable, automobile accidents may occur, and it may be largely accidental that one man, rather than another, is successful in his competitive business enterprise. To provide an analysis of when something is an accident, or somewhat accidental, is more than I am (now) capable of doing. Nor can I show in any helpful detail how our notion of an accident, or of something's being accidental, may be used to express or reflect the various interests we might have. Thus, I will rely on a shared intuitive understanding of these notions.

In my analysis of human factual knowledge, a complete absence of the accidental is claimed, not regarding the occurrence or existence of the fact known nor regarding the existence or abilities of the man who knows, but only as regards a certain relation concerning the man and the fact. Thus, it may be accidental that p and a man may know that p, for it may nevertheless be that it is not at all accidental that the man is right about its being the case that p. In other words, a man may know about an auto accident: when the car accidentally crashes into the truck, a bystander who observes what is going on may well know that the car crashed into the truck and accidentally did so. He will know just in case it is not at all accidental that he is right about its being the case that the car crashed into the truck and accidentally did so. Nor do I claim that there must be nothing accidental in the way that a man comes to know that p. Thus, a man may overhear his employer say that he will be fired and he may do so quite by accident, not intending to be near his employer's office or to gain any information from his employer. Though it may be an accident that the man came to know that he will be fired, and it may be somewhat accidental that he knows this to be so, nevertheless, from the time that he hears and onward, it may well be not at all accidental that the man is right about its being the case that he will be fired. Thus, he may know, whether by accident or not.

Of all the things that a man knows, none is more certainly known by him than the fact of his own existence. Thus, it must be most obvious that a man who, at a certain time, exists or is alive only as a matters of fact; he may, for instance, most certainly know that he

matter of some accident may, even at that time, know about various exists. Though it may be largely accidental that he exists or is alive, it may be not at all accidental that he is right about various matters of fact; (indeed, necessarily, should he sincerely hold that he then existed, it would be not at all accidental that he was right about that matter). These points can perhaps be made more clear by our considering the following simple story: Suppose that a man is looking at a turtle and even seeing that the turtle is crawling on the ground. This man may know that the turtle is crawling on the ground (and will in that he sees that it is); for because he is using his eyes (and because of other things as well), it may be that at that time it is not at all accidental that the man is right about its being the case that the turtle is crawling on the ground. However, suppose further that just at this time, or immediately before it, a heavy rock would have fallen on the man and would have killed him then and there, smashing him to smithereens, but for the occurrence of an accidental happening which prevents the rock from falling and allows him to remain alive. Say, all of three terrible people who were pushing the rock that was to fall were themselves, coincidently and simultaneously, hit on the head by three independently falling bricks and were killed upon impact. Each of the bricks, quite independently of the others, just happened to fall loose from an ancient wall of which they all were a part. Thus, quite by accident, all three of the terrible rock pushers were killed, and the turtle watcher's life was spared, perhaps only until some later time. On these suppositions, it is indeed quite an accident that the turtle watcher is alive at the time he sees the turtle crawling on the ground before him. Yet, at that time, it is not at all accidental that he is right about its being the case that there is a turtle on the ground. And at that time, as we have supposed, the turtle watcher knows that there is a turtle crawling there upon the ground. These are the judgments that common sense and good sense would make about our case. Thus, it may be not at all accidental that a man is right about a certain matter, even though it is very much an accident that he then exists or is alive. Once we are clear about this, we can more fully appreciate the ability of my analysis to explain the cogency of Cartesian examples. Though it be accidental that a certain man exist, yet necessarily if he thinks that he exists, it is not at all accidental that he is right about the matter. An unwanted and accidental child, pursued by hapless rock pushers all his life, may grow up to know more than any of his brothers or sisters. He may do so even on my analysis of human factual knowledge, whether he fancy himself a Cartesian skeptic or whether he be entirely unconcerned with such philosophical profundities.

III. ACCIDENTS AND PHENOMENA OF CHANCE

The condition of my analysis is stronger than the necessary condition most naturally suggested by my earlier statement (0) and explicitly given by the following:

(2) For any sentential value of p, a man knows that p if and only if it is not an accident that the man is right about its being the case that p.

That such strength is required, that the weaker condition of (2) is not sufficient, can be most readily seen by considering our thought about phenomena of chance. Such a consideration will show, I think, how only our stronger condition, and none such as that of (2), adequately reflects tensions that often exist in the application of the concept of knowledge.

Let us, then, suppose a standard and simple sort of example: a man knows that a deck of cards contains ninety-nine white cards, one black card, and no others. He also knows that the cards have just been well shuffled and fairly so. On the basis of this knowledge, he concludes, as is his custom, that it is likely that the top card is white. Thus he may come to believe that the top card is white, and we may suppose him to do so. Let us further suppose that the top card is white: we are sup-posing that the man's belief is correct, that he is right about its being the case that the top card is white. The only reason that he has this (correct) belief is that he has reasoned in a certain way on the basis of the knowledge that we have supposed him to have. Now once we have made all these suppositions, we have supposed, not only that the man is right, but also, and with equal clarity, that it is not an accident that he is right about the matter. But, in contrast, it is *not* entirely clear that it is not at all accidental that the man is right. But, equally, it is *not* clear that it is *false* that it is not at all accidental that he is. In other words, there is a tension in the application of our analytic condition to the probabilistic case presented. This same ten-sion is also in evidence when we consider the application of our concept of factual knowledge. For in the simple case presented, it is *neither* clear that the man does know *nor* clear that he does not. The suppositions neither allow nor yield any decisive answer as to whether the man knows the color of the top card.

The magnitude of the numbers involved may help to further our willingness to say that the man knows, to apply our concept of knowl-edge. But sheer consideration of number will not remove the tension entirely. Thus, were there a billion white cards, and only one of another color, we are more ready to say that the man who bets that the top card is white knows full well that he will win (assuming of course that he will win). Still, we may also find ourselves saying that

he cannot really know that he has won until the color of the card is actually revealed. Similarily, such an increase in the chances furthers our readiness to apply our analytic condition, to say that it is not at all accidental that the man is right (assuming of course that he is right). But again, and equally I think, our willingness here is not so complete as it might be. Perhaps it is not really true, after all, that it is not at all accidental that he is right, even when such large numbers are involved. Thus, a consideration of our thought about such simple probabilistic cases gives some further support to the claim that our analytic condition mirrors well our concept of factual knowledge.

We may gain yet further support, I think, by considering the way in which our thought about more highly structured cases compares with what we think about such unstructured cases of the most simple probabilistic kind. In contrast to the first case of the card deck, let us consider the following, more structured sort of case, where considerations of probability enter rather less directly: a man is performing a hundred problems in addition and checking his answers by an independent arithmetic method. These problems each involve his adding three different numbers, each between 10 and 100. There is nothing mysterious here: the man uses the normal paper-and-pencil methods for both adding and checking. He always expresses the numbers in the decimal system, in the familiar arabic notation. Suppose the man, like most other men, characteristically to make only one mistake unspotted, and eventually to add and check correctly in ninety-nine of the hundred cases. And suppose him in *each* case to think the answer correct (though we may allow that he may not think he has been correct in *all* cases). Then, with respect to each problem that he worked and checked correctly, our common-sense judgment would be that he knew what the answer was. Having worked the problem correctly, he would know, for example, that 134 is the sum of 32 and 49 and 53. And equally, the common-sense attitude still prevailing, there is no doubt but that we should say that it is not at all accidental that the man is right about the sum. Such tension as was present in the purely probabilitistic case of the card deck, is now absent from our judgment—both as regards our concept of knowledge and as regards our analytic condition. Exactly why cases like that involving fallible addition should differ so markedly from cases of pure probability is a deep question that cries out for further analysis and greater understanding. But though our understanding of these matters is presently quite limited, we may recognize that there are between the two sorts of cases just considered, notable differences in our willingness to apply our concept of factual knowledge. Even here,

where my analysis leads us to no very important increase in our understanding of the relevant matters, we may say that the analysis has received some notable support.[2]

IV. JUSTIFICATION, EVIDENCE, AND KNOWLEDGE

My analysis of human factual knowledge differs markedly from those analyses in which an attempt is made to consider such knowledge as some sort of justified true belief. Indeed, according to my analysis a man may know something without his being in any way justified in believing that it is so. And my analysis does not require, as does that of A. J. Ayer,[3] that

(3) For any sentential value of p, a man knows that p only if the man has the right to be sure that p.

It also disagrees with Roderick Chisholm's claim [4] that

(4) For any sentential value of p, a man knows that p only if the man has adequate evidence that p.

Let us consider a straightforward example which upsets these claims most decisively, and shows that no sort of justification is ever a necessary condition for knowledge. Thus, we may better understand my analysis by seeing how it conflicts with this other, more traditional view.

The example, which I first adduced in my aforementioned essay against empiricism, concerns a certain gypsy, one who, we must conclude, knows things of which others are ignorant. Our gypsy has been brought up to accept the messages of a certain crystal ball that he inherited from his family. Owing to forces in nature which no one understands, the ball always gives a correct report on any matter on which it provides a message. And, because of certain loyalties and beliefs instilled by his upbringing, the gypsy never checks up on the ball in any way whatever. We shall, indeed, suppose the gypsy to believe, what he inferred from what he learned later in life, that the ball will almost never give a correct report. But though the gypsy has this (false) general belief, which we may suppose him to be justified in having, when it comes to any particular matter, he cannot help but believe the message of the ball. Moreover, these acquired beliefs he holds most insistently though he is unable to provide any reason-

[2] I have been much influenced on these matters and others that I have been writing about, by discussions with Robert Nozick and Michael Anthony Slote.

[3] *The Problem of Knowledge* (London: Macmillan, 1956), ch. I, "Philosophy and Knowledge," pp. 31–35, esp. p. 35.

[4] *Perceiving: A Philosophical Study* (Ithaca, N.Y.: Cornell, 1957), ch. I, "Epistemic Terms," esp. p. 16.

able defense of these beliefs when challenged and is even wholly unconcerned with whether he is reasonable or not in holding them. We may even suppose that, despite his unreasonable attitudes and the lack of adequate evidence for his beliefs, the gypsy is entirely confident about the truth of each report despite his knowledge of its source and his belief about the general unreliability of the source. Where the fact that p is reported by the ball, on these suppositions, the gypsy does not have adequate evidence that p, and especially so when we further suppose him to have a wealth of evidence for thinking it false that p. Does the gypsy then have the right to be sure that p? Plainly not, unless everyone has the right to be sure of anything that is true. Such are the effects of the gypsy's early upbringing and certain later happenings.

But it does appear that, in the present case, the effects are not wholly and simply unfortunate ones. Owing to the gypsy's early upbringing and the operation of the crystal ball, the gypsy does have knowledge of those matters on which the ball delivers a report. This fact may be made especially clear by supposing that the gypsy's parents knew, by observational check or by some other means, that the ball gave only correct reports. On this basis they raised their gypsy child to accept unquestioningly the reports of the ball, whether these be of a pictorial sort or whether expressed in some sort of unusual writing. Thus, this gypsy, though he is only unreasonable in believing that p, knows that p, where the report that p is a report of the ball that the gypsy accepts. Though our gypsy does not satisfy the conditions of (3) or (4), he does have factual knowledge. For it is, after all, not at all accidental that he is right about the relevant matters. Thus we can see how my analysis conflicts with the fundamental claims of leading contemporary analysts, and how only my analysis survives this conflict intact.

As my analysis dictates, we must give up the idea that factual knowledge is any sort of justified true belief, or anything of the like. But even so, we may obtain both a better understanding of and further support for the analysis by examining another idea, one that derives from the attempt to understand our knowledge in this traditional way. This derivative idea is that a belief that represents knowledge on someone's part cannot be based on grounds that are entirely false. This derivative idea comes from a consideration of the standard sort of argument to show that epistemically justified true belief is not logically *sufficient* for factual knowledge. According to this standard argument, a man justifiedly deduces from justified beliefs of his that are entirely false, a true conclusion which he accepts on the basis of

the deduction. Thus, by believing the conclusion, the man has an epistemically justified belief which, though true, represents no knowledge on his part.[5] It may be thought, then, that this justified true belief fails to be knowledge simply because it is based on grounds that are false. We might then require of a belief that some of its grounds be true, if the belief represent knowledge.

But such a requirement would be too strong. There are various examples in terms of which this may be seen. I should most like to adduce the main example of my aforementioned essay. In this example, knowledgeable scientists successfully duplicate a person who the scientists know to have a lot of important factual knowledge. They do this in order that there be more people who have this knowledge. The duplicate knows various things, say, various facts of physics. And we can now better say why he does: he knows because it is not at all accidental that the duplicate is right about these physical matters. But the beliefs that represent this knowledge on the part of the duplicate, all have as grounds beliefs that are entirely false. The duplicate, just like a normal scientist, bases his beliefs about the physical world on beliefs about his own personal history and experience: about what he has seen and read, about the experiments he has performed and heard about, and so on. But the duplicate has not done any of these things. Thus, these constructed duplicates, which satisfy the condition of my analysis, show that a belief may represent knowledge though it be based on grounds that are themselves entirely false.

Why, then, is there a lack of knowledge on the part of the man whose justified true belief is, in a simple and straightforward way, deduced from and based on grounds that are entirely false? The answer is, I think, that given by my analysis. Generally, with such a man, it is entirely accidental that he is right about the matter in question, whereas, for him to know, it must be quite the opposite. It must be not at all accidental that he is right about the matter.

In connection with our simple answer, we may note that there are other ways of seeing that justified true belief need not ensure factual knowledge. With such ways, no false belief is attributed to the man in question, and thus his failure to know is most clearly unrelated to his having any false grounds. One such way, it is interesting to note, is suggested by the card-deck examples we examined in the previous section. There, we noted that, with a very high proportion of white

[5] This standard argument is most influentially stated by Edmund L. Gettier in his "Is Justified True Belief Knowledge?," *Analysis*, XXIII.6, n.s. 96 (June 1963): 121–123, and it is earlier suggested by Bertrand Russell in *The Problems of Philosophy* (New York: Oxford, 1912), ch. XIII, "Knowledge, Error, and Probable Opinion," esp. p. 131 ff.

cards to black, it is not easy to tell or decide whether the man knows
the top card to be white. But where we have, say, eighty-five white
cards and fifteen black ones, it is *clear* that the man who reasons to
the belief that the top card is white does not know the card to be
white. On the other hand, it is also clear that the man is epistemically
justified in believing the card to be white. Thus, though this man has
no relevant false beliefs and though he reasons in no faulty manner,
his epistemically justified true belief fails to represent knowledge.
Again, the result is explained by my analysis: this man does not know
because it is false that it is not at all accidental that he is right. So it
is of interest that, in yet another way, a consideration of purely
probabilistic cases lends support to my analysis while rendering it still
more implausible that factual knowledge be some sort of justified
true belief or, for that matter, anything of the like.

V. THE IMPRECISION OF THE CONCEPT OF KNOWLEDGE

No doubt, any attempted analysis of factual knowledge will fail to
take account of every imaginable case and example as nicely as one
might wish. But, then, our concept of knowledge is itself not so
exact with every imaginable case as one might wish it to be. Primarily
in connection with certain matters peculiar to his own account of
factual knowledge, Bertrand Russell warns against our having un-
realistic expectations:

> But in fact 'knowledge' is not a precise conception: . . . A very precise
> definition, therefore, should not be sought, since any such definition
> must be more or less misleading (*op. cit.*, 134).

Thus, though various examples may be brought to refute a putatively
adequate analysis, whether such examples show the analysis to be
inadequate is not always a very easy matter to decide.

Having expressed these thoughts, I will now put forward what has
occurred to me as the example most likely to incline someone to reject
the analysis that I offer. As might be expected, the example apparently
could be used to show that the condition of my analysis is too weak,
to show, that is, that at a certain time it might be not at all accidental
that a man is right about its being the case that *p* and, even so, at that
time he may not know that *p*. But I think that when this example
is judged with impartiality and care, it is seen not to present any
problem for my analysis of human factual knowledge. Indeed, such
careful scrutiny, if anything, reveals that, when most clearly under-
stood, the apparently damaging example actually may lend support
to my analysis.

The example that I offer involves what might be called the fulfill-

ment of a man's expectation about the future being brought about as a result of the man's having that expectation. Such happenings can, of course, occur in various ways, but rather than attempt to consider the entire variety, let us turn directly to the most bizarre sort of example, which is apparently most troublesome. Let us think, then, of a man who has a dream, and dreams that a certain horse will win a certain race. The man that I imagine generally believes only some of the things that he dreams will happen, and those that he believes simply as a result of a dream, he mumbles audibly upon awakening. Upon awakening from his dream about the horse race, the man mumbled that Schimmelpenninck, one of the horses to run in the 1965 Kentucky Derby, would be the winner of that race. Now, whenever our man awakes, he is wakened by his friend, who sees to it that the man has time to do his morning exercises. The friend knows that whatever the man mumbles upon awakening is what he has just dreamed about the future and thus believes will happen. The friend thus knows each of the man's beliefs that come to him simply as a result of dreaming, and he knows of each of these that it is the product of a dream. Hence, in particular, the friend knows that the man believes that Schimmelpenninck will win the 1965 Kentucky Derby, and he knows that the man acquired this belief simply as a result of his having an appropriate dream about that horse race. The friend, that morning, immediately decides to ensure the truth (or correctness) of his friend's belief; he resolves that the dreamer's belief be true. Now, the friend is an eminent veterinarian with access to all racing stables, and so he drugs all of Schimmelpenninck's competitors, endeavoring to fulfill the resolution that he made. I suppose that in this way the friend ensures that Schimmelpenninck is the winner of the 1965 Kentucky Derby; among other things, I here assume that Schimmelpenninck does finish first and that the veterinarian's activites are not detected. We may even suppose that once the veterinarian had made up his mind, it was no longer a matter of any chance which horse would win the race. In short, we may even suppose that the veterinarian knows that Schimmelpenninck will win. It is not very important here whether we suppose that without the doctor's intervention the horse would have not won, or whether we suppose the opposite, that the horse would have won anyway. In either case, the veterinarian knows the winner of the race. But the dreamer has no knowledge of the winner, for he always believes that Schimmelpenninck will win simply because he has a dream, a dream relevantly unconnected with the race to be run, and he never does in any way gain any relevant information.

It is clear that, on our suppositions, the dreamer does not know at any time. Yet, it may appear that, after the veterinarian makes his resolve or after he drugs the horse's competitors, it is not at all accidental that the dreamer is right about its being the case that Schimmelpenninck is the winner. But such appearances, I fear, would be most deceptive. Were it truly the case that at the relevant times it is not at all accidental that the dreamer is right, then we should have to make much stronger suppositions about our case than those we have made. Indeed, we should then have to make just such suppositions as render the case one most plausibly described as one in which the dreamer does know. To see that all of this is so, let us ask some questions of the presented case, questions which make it most dubious to suppose that the case is one which is correctly described by saying that it is not at all accidental that the dreamer is right about the outcome of the race.

The essential accidentality will not be fully brought out by asking what we should say were the veterinarian to make his resolve, not after his learning of the dreamer's acquisition of belief, but in advance of such information. To see this clearly, we may suppose the contrasting situation, that the doctor does make his resolve in advance, even long before the dreamer has the appropriate dream, and that he resolves that should his friend ever dream that a certain horse would win a certain running of the Kentucky Derby, he, the veterinarian, would ensure that his friend's belief be true. For even with such a supposition, the circumstances of which are unknown to the dreamer, we may ask: First, why did the veterinarian make just that particular resolve, which is still a rather specific one, and not some other one, or, better, some very general resolve whose fulfillment would entail the fulfillment of many particular resolves he might well make? And second, would the doctor be able to ensure the truth of other sorts of dream-produced beliefs that his friend might have, beliefs about future fluctuations of the stock market, future moon-rocket launchings, earthquakes, elections, and eclipses? These questions do, I think, bring out the large amount of accidentality that remains concerning the relevant matter, even after we have supposed that the veterinarian made his resolve long in advance of the particular dream or in advance of information of it. But, in contrast to the case so far considered, we may make suppositions that are quite extreme, and so rule out rather clearly any accidentality about the dreamer's being right about the subject of his opinion: We will imagine that the earth and all the life upon it were originally created by an extremely powerful and knowledgeable being. This being's chief fas-

cination was with ensuring that a man's beliefs be true in case he acquired those beliefs simply as a result of a dream. In line with his most important desires, the being so created everyone that no man would ever have a dream-produced belief that conflicted with that of any other man; thus the being ensured that it be possible that he ensure the truth of every man's dream-produced belief about the future, for he also saw to it that no man would come to have any inconsistent beliefs simply as the result of a dream. Further, as the being well knew, it was well within his power to ensure the truth of any such belief that would ever actually be held. And the being, acting reasonably with respect to his chief fascination, proceeded to do what he knew to be well within his power. Now, though some philosophers might think otherwise, it strikes me as rather clear that a fair employment of our shared conception of factual knowledge dictates that, in such a world as this, the being has ensured that a man's dreams are a source of knowledge for the man (just in case the man believes that what he dreams about the future is the way that things will be). We have, then, presented a rather clear case of knowledge of the future which is of the relevant kind, enabling us to give an answer to what appeared to be the gravest problem that would befall my analysis of human factual knowledge. Happily, this example is quite in accord with that analysis, for it is on such extreme suppositions as those we have just made that it is most clear that, at the relevant time, it is not at all accidental that the man is right about the subject of his opinion.

Complete satisfaction with our extreme case allows us better to understand cases that are not so extreme, and thus not so clear. For example, we can now better understand and appreciate the following sort of case, one that lies somewhere between the last two we have considered: We suppose that a powerful and knowledgeable man makes a longstanding resolve that all of his dreaming friend's appropriate beliefs about the outcomes of all sporting events would be correct, and that the man succeeds in fulfilling this resolve, just as he knew that he would. About such a situation, we should not be so very disinclined to judge that the powerful man ensured that his friend's dreams were a source of knowledge for that man (just when he believes that what he dreams about the future is the way that things will be). Just so, about such a situation, we should be equally and not so very disinclined to judge that the powerful man ensured that at the relevant times it was not at all accidental that the dreamer was right about the subjects of his dream-produced beliefs.

Our putative counterexample, about the dreamer and his friend

the veterinarian, has been shown to present problems that are only apparent. Indeed, by pursuing further these merely apparent difficulties, we have encountered relevantly similar cases that lend support to my analysis of human factual knowledge. Now, in all such cases of knowledge, as we suppose that the knower is wholly unaware both of the agent who makes it happen that he knows and of any happenings that help explain his knowledge, we may say that he does not know why he knows various things about the future, or at least that he knows almost nothing about why he knows. But still, should the man in such an example believe that he knows, this belief having as its source the same process of dreaming as does the belief that is supposed to represent knowledge on the part of the man, then, so far as I can see, there is no good reason for denying that the man knows *that* he knows, though he may lack completely knowledge of why he knows. Of course, we do know why the man knows; we know that a powerful agent makes it happen that at the relevant time it is not at all accidental that the man is right.

Apparent problems now appear to be resolved entirely, this resolution affording further support for my analysis of human factual knowledge.

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COMMENTS AND CRITICISM

HOW DECISIONS ARE CAUSED (BUT NOT PREDICTED)

O'CONNOR is of course right.* The set of causal principles I proposed † for the causation of decisions would permit a person to predict his own decision, given certain exceptional circumstances.

As O'Connor points out, from the principles [1]

(1) $C \supset \cdot D1 \lor AC$
(2) $C \cdot AC \cdot \supset \cdot D2 \lor A(1)$
(3) $C \cdot AC \cdot A(1) \cdot \supset \cdot D3 \lor A(2)$
$\cdots$

it is possible to infer that the decider will make decision 3, given that circumstances C obtain, and that the decider is aware of C, (1), and

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* This JOURNAL, LXIV, 13 (July 6, 1967): 429–430.
† This JOURNAL, LXIV, 5 (March 16, 1967): 147–151.
[1] Read 'C' as 'a set of circumstances (obtains)', 'AC' as 'the decider is aware of C', 'D1' as 'the decider makes decision 1', '(1)' as 'the first causal principle', 'A(1)' as 'the decider is aware of (1)'.