KEITH LEHRER AND STEWART COHEN

JUSTIFICATION, TRUTH, AND COHERENCE

ABSTRACT. A central issue in epistemology concerns the connection between truth and justification. The burden of our paper is to explain this connection. Reliabilism, defended by Goldman, assumes that the connection is one of reliability. We argue that this assumption is too strong. We argue that foundational theories, such as those articulated by Pollock and Chisholm fail to elucidate the connection. We consider the potentiality of coherence theories to explain the truth connection by means of higher level convictions about probabilities, which we call doxastic ascent, and defend such a theory. Our defense appeals to the work of Reid and contemporary cognitive psychology in order to account for the psychological reality of higher level evaluations.

Epistemologists generally agree that two components of knowledge are justification and truth. If S believes that P, then S knows that P only if S is justified in believing that P, and P is true. A central issue in epistemology concerns the connections between justification and truth. One could view them as conceptually distinct components of knowledge. On the other hand, one could hold that justification and truth are conceptually related, that there is an internal connection between a certain belief being justified and being true. This latter view has been endorsed by a variety of philosophers from Descartes to the present. The appeal is rooted in the conviction that knowledge does not arise when a belief merely happens to be true. Justification must be connected with truth in an appropriate way. The burden of such a view is to characterize the nature of this connection which we shall hereafter refer to as the *truth connection*.[1]

Of course, a person is justified in believing P only if the person is justified in believing that P is true. This connection is trivial, because to believe that P is just to believe that P is true. Those who assume that justification and truth are connected affirm something yet stronger, to wit, that the sort of justification required for knowledge aims at obtaining truth and avoiding error. We shall consider the problems that arise for reliabilist, coherence, and foundational theories of justification in order to sustain the truth connection.

The strongest view regarding the truth connection is one affirming that the connection between justification and truth is logical, that is, if

conditions justify a belief for a person, then those conditions logically entail that the belief is true. This position has been attributed, perhaps on dubious exegetical grounds, to Descartes. Another view, perhaps attributable to Dretske and Armstrong, holds that the connection, though not logical, is nomological.[2] The first view is acknowledged to lead to skepticism as the evil demon hypothesis of Descartes showed. The second view appears also to lead to skepticism in that there do not appear to be nomological principles guaranteeing the truth of all those beliefs we wish to countenance as knowledge. The conditions under which we are justified in believing P in the requisite sense fail to guarantee the truth of P, for there is no escape from our basic doxastic fallibility. We are always subject to error, no matter how well justified we may be in thinking that we have avoided it. The logical and nomological possibility of error remains. We must, therefore, settle for a fallibilistic theory of justification, if we wish to avoid being forced to deny that we know at least some of the things we clearly do know.

Reliabilism: A Problem. While fallibilism avoids skepticism, it leaves open the question of how to explicate the truth connection. A group of philosophers, Goldman, Swain and others, have proposed theories that come under the general heading of *reliabilism*.[3] According to Goldman, a justified belief is one produced by a cognitive process that is reliable, that is, by a cognitive process that tends to produce true beliefs. It is clear that reliabilism avoids the skepticism of the Cartesian conception of the truth connection, for the evil demon hypothesis demonstrates only the *possibility* that there are belief forming processes which are not reliable. The latter is consistent with actual reliability, and this obviates any need to embrace skepticism. Skepticism avoided, the evil demon hypothesis, or some contemporary neurophysiological version thereof, reveals a weakness in the reliabilist outlook, nonetheless.

Imagine that, unknown to us, our cognitive processes, those involved in perception, memory and inference, are rendered unreliable by the actions of a powerful demon or malevolent scientist. It would follow on reliabilist views that under such conditions the beliefs generated by those processes would not be justified. This result is unacceptable. The truth of the demon hypothesis also entails that our experiences and our reasonings are just what they would be if our cognitive processes were reliable, and, therefore, that we would be just as well justified in believing what we do if the demon hypothesis were true as if it were false. Contrary to

reliabilism, we aver that under the conditions of the demon hypothesis our beliefs would be justified in an epistemic sense. Justification is a normative concept. It is an evaluation of how well one has pursued one's epistemic goals. Consequently, if we have reason to believe that perception, for example, is a reliable process, then the mere fact that it turns out not to be reliable, because of some improbable contingency, does not obliterate our justification for perceptual belief. This is especially clear when we have good reason to believe that the contingency, which, in fact, makes our cognitive processes unreliable, does not obtain.

A Solution: Coherence and Doxastic Ascent. Epistemic justification is a normative concept that is not connected with reliability in the simple way that reliabilism suggests. We need not conclude from this that justification and probability are unconnected. In fact, the foregoing considerations suggest a connection. A person can reasonably accept that certain conditions make the truth of a proposition probable even if those conditions do not, in fact, make the truth of the proposition probable. This is a simple consequence of fallibilism, to wit, that one can reasonably accept that a proposition is true even if, in fact, it is not. Thus, justification and truth may be connected at a higher doxastic level.

The preceding suggestion is congenial to coherence theories of justification, those of Sellars, Rescher and Lehrer for example, because a characteristic feature of such theories is the idea that justification is a function of the relations beliefs have to other propositions.[5] Lehrer, for example, alleged in his earlier work that justification resides in the coherence of propositions accepted for the purposes of attaining truth and avoiding error.[6] He maintained that a proposition B is justified for S only if S accepts that, given the system of propositions which he accepts in the interest of obtaining truth and avoiding error, B has a higher probability of being true than any proposition with which it competes. Thus, S is justified in believing that B only if S accepts that certain conditions R, namely, those conditions described by S's acceptance system, make it more probable that B is true than that any competitor is true. This entails that S accepts that R makes B more probable than its denial, since B competes with its denial. Moreover, the notion of competition was explicated in terms of negative relevance. Consequently, hypotheses concerning the unreliability of belief are negatively relevant to the belief and compete with it. For example, the belief

that I see something red competes with the hypothesis that my beliefs about the colors I see are unreliable in present circumstances. Therefore, the probability of my belief being reliable must be sufficiently high on my acceptance system so that the probability that I see something red is higher than the probability that this belief is unreliable. Only then is the belief justified. According to Lehrer, then, the connection between justification and truth lies in what one accepts about the probability of both the truth and the reliability of the belief. The truth connection is attained through doxastic ascent.

What are we to say on such an account if the demon hypothesis is, in fact, true? Our perceptual beliefs would turn out to be false. So the result that we lack knowledge is a simple consequence. But do they lack justification? Whether my senses are, in fact, reliable or not, it is probable on my acceptance system that my perceptual beliefs are both true and reliable. They are in one clear sense surely justified beliefs. On the other hand, we note that there is *some* reason for saying that in these situations of deception we are not as well justified as we think we are. If this intuition is accepted, then we may say that there is a kind of justification that depends on our not being deceived in this way.

In later work, Lehrer called this sort of justification *verific* justification, and he contrasted it with *personal* justification.[7] Verific justification presupposes coherence with one's acceptance system when all error is deleted, what Lehrer calls the *verific alternative*, and, thus, does not depend on any false assumption. Hence, if the demon hypothesis were true, the assumption that one is reliable and not being deceived would be false, and one would lack verific justification.

Personal justification, by contrast, depends only on coherence with the acceptance system that one actually has. Hence, a person in the demon example is personally justified in his perceptual belief but is not verifically justified. In this case, one is personally justified because the belief is probable relative to the assumptions one makes about one's reliability under the conditions of perception, but one is not verifically justified because it is not probable relative to the *correct* assumptions about one's reliability under the conditions of perception. The salient point is that, according to this coherence theory of justification, one is personally justified in a belief only if it is probable on one's acceptance system that one is reliable when one believes what one does in conditions of the sort in question. Personal justification thus captures the intuition that one is justified in what one believes though deceived by the demon.

Subsequently, we shall assume the notion of personal justification when speaking of justification, though we note that this notion may not fully capture the normative aspects of justification.

There are at least two objections to this line of thought. First of all, it seems as though the account contains a vicious regress in that it requires justified belief about reliability as a necessary condition for any justified belief. Secondly, it seems as though the account is simply too intellectual an account and hence lacks psychological reality. For example, it would seem as though people could be justified in believing and know that they see objects before them even though they had no general beliefs or higher order beliefs about the probability or the reliability of their beliefs. This objection is derived from Sosa.[8] We shall address these objections, but, before doing so, it is essential to clarify our purpose. It is to sustain the connection between justification and truth at a higher level. Even if it is agreed that one can be justified in believing something when one is in a situation in which one is unreliable, justification requires that it be probable that one is reliable relative to one's acceptance system. In this way, the connection between justification and reliability would be maintained at a higher doxastic level.

A Regress: Probabilities of Probabilities. The first objection is that doxastic ascent leads to a vicious regress. We ask whether a person is justified in believing that *P*, and we are told that he is justified in believing that *P* only if he is justified in believing that *Q*, to wit, that he is reliable about *P*. Therefore, we would expect that he is justified in believing that *Q* only if he is justified in believing that *R*, to wit, that he is reliable about *Q*, and so forth. The solution is to require only that reliability be probable on a person's acceptance system. Since reliability itself involves the notion of probability, however, this proposal raises the problem of higher order probabilities. In earlier work, Lehrer had suggested iteration of probability, the probability of probability, and Goldman had mentioned iteration of reliability as a possible constraint on justified belief.[9] Hume had argued that the notion of probability of probability would lead to the reduction of first level probabilities to zero on the assumption that higher level probabilities were less than one.[10] This argument is known to be defective. It has been undermined by constructive theories of higher order probabilities articulated by Reichenbach, and, more recently, by Skyrms as well as

by Lehrer and Wagner.[11] The crux of the argument is that higher order probabilities, or some normalized version of such probabilities, may be used to average the first order probabilities. The resulting probability has a value between the highest and lowest original first level probabilities. Hence, the use of higher level probabilities may raise as well as lower a first order probability assignment. So Hume's argument that the first order probability will be reduced to zero by the assumption of higher order probabilities is demonstrably false.

Let us illustrate our conception of the probability of reliability with the demon example. If the demon hypothesis were correct, then our perceptual beliefs would be unreliable. Yet, it would be probable on the acceptance system of a person that he was reliable about such matters. Even if, in fact, I am unreliable in believing that I see a table before me at this moment, because the demon insures that such beliefs are almost always erroneous, it is, nevertheless, very improbable that the demon hypothesis should be true. Therefore, it is very improbable that my perceptual belief should be unreliable. On the basis of my information, articulated in my acceptance system, it is probable that my perceptual belief is both true and reliable. The preceding account distinguishes us from reliabilists such as Goldman, who suggest that first level reliability is essential, and, indeed, constitutive of justification.[12] We demur and suggest, instead, it need only be sufficiently probable on the acceptance system of a person that he is reliable at the first level.

We now deal with the second problem mentioned above, to wit, that our account is overly intellectual and lacks psychological reality.[13] The account offered by Lehrer, which we presupposed above, intensifies this problem. Personal justification, according to this account, is relative to the acceptance system of the person and consists of prevailing over competitors. The details of this account need not be recounted to make it apparent that the account makes justification a very intellectual matter. What are we to say of a person who sees some object before him but has no idea of whether it is probable that he is reliable in believing that he sees such an object? It may, of course, be conceded that the person has some information, but he lacks justification and knowledge. We here confront a basic level of intuition, and we do not expect unanimous agreement. One unable to evaluate the reliability of his perceptual beliefs, unable to estimate when they are probably in error and when not, may have many true perceptual beliefs, and if fortune is good to him, he might have very few false ones. Such beliefs may constitute important

information about the world. We only wish to deny that such information is knowledge. We shall now attempt to show how such a distinction between information and knowledge can be imbedded in a theory of psychology that neither begs the question nor is merely verbal.

Epistemology and Cognitive Psychology. The solution to the problem depends on noting a distinction between two different sorts of cognitive mechanisms. The first, called the *Input System* by Fodor, responds automatically to a perceptual situation, to stimulation of the sensory receptors, with a representation.[14] The output of this system is normally a perceptual belief. This belief is, however, subject to critical evaluation as input to another system, what Fodor calls the *Central Processing System.*[15] This appears to be the model of information processing advocated by Thomas Reid in the 18th century as well.[16] The theory articulated by Reid affirms that sensations, for example, visual sensations such as those caused by a sheet of white paper lying before me, cause me to conceive of the object automatically, and, normally, to believe in the existence of it. Reid remarks that such beliefs arise out of our natural constitution. Reason may intervene between the conception and the belief when a person has evidence that the conception has arisen in deceptive circumstances, but otherwise belief and, indeed, irresistible conviction ensues. Thus, according to Reid, there is a faculty of perception that responds to sensory stimulation, automatically producing a representation. There is another faculty, that of reason, that has the function of rational reflection, and this reflection may, in special circumstances, intercede to prevent belief in the existence of what is represented. It is clear, however, that Reid holds that in many circumstances, say those in which one sees some familiar object directly before one, reason is powerless to prevent the belief from arising.

The similarity between Reid and Fodor is striking. The module of the Input System in Fodor corresponds to the faculty of perception in Reid, and the Central Processing System of Fodor corresponds to the faculty of reason in Reid. There are, of course, differences between the theories as well. For our purposes, however, the crucial point of such theories is that the output of an initial processing system, the Input System, is input for a second system, the Central Processing System, that has access to background information the person possesses. The Central Processing System has access to the acceptance system. It is at this stage that deliberation and reflection take place. This is, it is admitted, psy-

chological speculation, but it is, in fact, impossible to avoid presuppositions about psychology when doing epistemology. The theory we have outlined, though not necessary for the defense of our theory, suffices to solve the problem of psychological reality raised above. The automatically acquired representations of the Input System are subject to evaluation, though in many cases, they will be accepted by the Central Processing System. This acceptance, though optional, may appear automatic and thus mimic the Input System in the mode of operation. But the option is genuine.

Lehrer, following DeSousa and Dennett, has proposed that we distinguish between belief, which is automatically acquired in many instances, and acceptance, which is subject to deliberation and choice.[17] A person may choose to accept or not to accept what is represented to him as true by another or by his own senses. Again, this distinction is articulated elsewhere, and here we simply apply the distinction. The highly intellectual account offered in terms of personal justification, coherence, and prevailing over competition, is, we suggest, knowledge at the level of the Central Processing System. Such knowledge involves acceptance in the interest of obtaining truth and avoiding error, acceptance aimed at intellectual goals, and, though habitual, is not automatic and may be influenced by background information. Such acceptance certifies the beliefs of the Input System and converts them to knowledge. This way of conceiving of the matter should help to alleviate conflict with those who think of knowledge as merely belief appropriately caused or nomologically connected with fact. Such belief is, to be sure, information, but conversion to knowledge requires acceptance in the light of background information, a function of the Central Processing System.

We note that the question of the psychological reality of higher order evaluations, such as the probability of reliability, finds an answer within the computational capacity of the Central Processing System. People do not automatically comprehend higher orders of iteration or evaluation. But this does not mean that they are not comprehended. If I see a friend, I believe that I see him. Similarly, I believe that I believe that I see him. That is clear. When it is asked whether I believe that I believe that I believe that I see him, the matter is less clear, and, finally, when it is asked whether I believe that I believe that I believe that I believe that I see him, my immediate intuitive understanding is missing.

The answer as to whether these higher level evaluations, ones beyond

the second level, are psychologically real, depends for an answer on whether one is thinking of understanding that is immediately intuitive, occurring at the level of the Input System, or understanding occuring at a higher level, that of reason or the Central Processing System. The latter is such as to render the comprehension of higher order evaluations and imbedded conceptions possible. In the case of belief, one need only see if one can construct the locution or proposition by adding *I believe that* to what one intuitively understands and then repeating the operation. Of course, it does not follow that by performing this operation one will enhance one's immediate intuitive understanding. It is rather a different kind of understanding, one that might be called *computational*. Given this qualification, we may say that one does have a computational understanding of higher order evaluation, and, provided it is understood in this way, that it is a requisite of justification.

The foregoing model of information processing and knowledge acquisition also enables us to understand the role of expressed justification of knowledge claims. To judge the reliability that is relevant to the question of whether the person knows, we need to decide whether the person can evaluate the reliability of his beliefs and decide what to accept in the interests of truth and the avoidance of error. What he tells us can reveal what information he possesses, his acceptance system, and, therefore, the materials he has available for evaluating the beliefs that are presented to him by others and by his own senses.[18] It is not necessary that he have reflectively applied that information in the first instance, for the information can be the basis for deciding that beliefs are to be accepted without being reflected upon each time it is applied. Our strategy in the quest for truth resembles our strategy in practical matters in this respect. We find it useful to follow simple rules based on the information we possess in a habitual manner until we are forced to reflect by infelicitous experience. Since the cost of deliberation is high, the decision making systems, whether intellectual or practical, mimic the mechanical procedures of automatic operations. The justification we give for knowledge claims if candid, reveals how reliable we are, whether we proceed reflectively or habitually, in processing the beliefs presented to us for acceptance.

There is, moreover, both common sense and scientific evidence that quite young children and adults evaluate their first order beliefs of memory and perception, and even do so reliably.[19] At the common sense level, it is notable that when people claim to perceive or remember

something, we often inquire as to how sure they are about what they have claimed. Now if people were, in fact, unable to evaluate beliefs of these sorts, it would be completely pointless to make such inquiries. Hence, we do assume that adults and even children of a certain age evaluate the reliability of certain of their beliefs.

This point should not be misunderstood. It is clear that in many instances, especially those in which some complex or unusual event has been observed, people cannot evaluate their beliefs very reliably. It is, however, also reasonable to say that, in such cases, whether people are right or wrong in what they report, they lack knowledge. Eyewitness testimony is, for this reason, often regarded as something less than knowledge in a court of law, even when there is no doubt about the sincerity of the witness. In simple cases of perception or memory, however, there is scientific evidence to corroborate our common sense conviction that it is worth asking how sure a person is that his perceptual or memory claim is correct.[20] People reliably evaluate such beliefs. This leaves us with the problem of small children and animals. Here we must, of course, be wary of the sympathetic fallacy. The charm of very small children and animals naturally disposes us to attribute cognitive accomplishments to them of which they are entirely incapable. We prefer to say that such beings have information but lack knowledge. To avoid a verbal impasse, however, one might choose to speak of such beings as having a primitive form of knowledge which lacks the usual justification that is a constituent of a more advanced form of knowledge.

There is an objection that could be based on the computational theory of cognitive psychology we have presupposed. Fodor remarked, "the sorts of data processes (involved in the computational model), though they may well go on in the nervous systems of organisms, are presumably not, in the most direct sense, attributable to the organisms themselves."[21] Fodor suggests that, though this is not a problem for cognitive psychology, it may be a problem for normative enterprises. We think Fodor would be sympathetic to the sort of theory we have articulated but use his remarks to bring forth a doubt that the reader may feel. Our answer is that the processes that go on in the Input System or even the Central Processing System should not be attributed to the person as inferences. Computations that go on within a person are in no obvious sense inferences that the person makes. In this sense, we side with the objection against theories that attribute unconscious inferences to the person to account for knowledge, as does Harman.[22] That the output of

the Input System is normally belief is, we acknowledge, a hypothesis. Moreover, there is no reason in principle why, in fact, people should have access to those processes in the Central Processing System that permit us to reliably evaluate our beliefs. It is simply a fact, we suggest, that people are to some extent able to do this and, in this, to exhibit the reliability they possess as a result of having such mechanisms. In short, there is surely more that goes on within us than we know or that can be attributed to us as persons, but some of what goes on within us is, after a certain age, accessible to us and enables us to justify our knowledge claims by exhibiting the mechanisms that, in fact, make us reliable.

Foundationalism: An Objection. The most basic defense of a theory, however, depends upon the ability of the theory to prevail in competition with other theories. We have already argued that the coherence theory has an advantage over simple reliabilist theories in that coherence theories do not require that reliability at the first level be assumed as a condition of justification. According to the coherence theory, it need only be probable relative to our acceptance systems that we are reliable at the first level. There is, however, another theory, foundationalism, that competes with the coherence theory of justification. This theory appears to ignore any truth connection other than the trivial one, but recent work by Van Cleve argues that this need not be the case.[23] We shall, therefore, examine the claims of foundationalism as our final argument on behalf of the coherence theory.

We shall argue that the epistemic principles which supply the foundation of justified beliefs according to foundationalism do not specify any connection between justification and truth beyond the trivial one. Chisholm once suggested the following principle: for any subject S, if S believes without ground for doubt that he is perceiving something to be F, then it is evident for S that he perceives something to be F.[24] Another foundationalist, Pollock, has proposed the following principle: if S is appeared to redly, then S is *prima facie* justified in believing that there is something red before him.[25] These principles, which are characteristic, postulate that under certain conditions a specified sort of belief is justified. The conditions do not involve either a probability or a doxastic connection to the truth of the belief in question. According to Pollock, epistemic principles are true in virtue of a meaning connection, while Chisholm suggests they are synthetic *a priori* truths.[26] The connection of meaning, according to Pollock, is not, however, between a

statement and its truth conditions. It is, rather, between a statement and its justification conditions.[27]

The problem for such theories can be clarified by considering the details of Pollock's theory, for his articulation is exemplary, and other versions of foundationalsm are subject to the same objection. For Pollock, epistemic principles describe conditions under which beliefs are *prima facie* justified, which is to say that the justification can be defeated. Pollock characterizes two types of defeaters for a proposition *P* being a *prima facie* reason for *S* to believe that *Q*. Type I defeaters are reasons for *S* to believe that *Q* is false. Type II defeaters are reasons for believing that the truth of *P* is not an indication of the truth of *Q*, though not necessarily reasons for believing that *Q* is false.[28]

Now consider Pollock's instance of his epistemic principle: if *S* is appeared to redly, then *S* is *prima facie* justified in believing that there is something red (before him), that is, "being appeared to redly" is a *prima facie* reason to believe that "there is something red".[29] The proposition "*S* is in a room with no red objects" is a type I defeater. On the other hand, "*S* is in a room with a red light turned on" is a type II defeater, because, though it not a reason to believe "There is something red" is false, it is a reason to believe that the truth of "*S* is appeared to redly" is not an indication of the truth of "There is something red (before *S*)".

It is clear that any fallibilistic theory must allow for type II defeaters, and it is a virtue of Pollock's theory to have called attention to this as a special form of defeater of justification. The difficulty is that there seems to be no way for a foundation theory like Pollock's to explain the important fact he has discovered, that type II defeaters do, indeed, defeat justification. Type II defeaters undermine the connection between *P* and *Q*, but Pollock's theory does not require that there be any connection between the truth of *P* and the truth of *Q* for the former to yield *prima facie* justification for the latter. According to foundationalist theories, like Chisholm's and Pollock's, the justification articulated in epistemic principles is just a brute epistemic fact. It is just a brute epistemic fact, postulated in the principles cited above, that under certain conditions of appearing or believing a person is justified in believing a specified proposition. When such justification is defeated, it is again a brute epistemic fact that the justification is defeated. If such a theory does not require that a *prima facie* reason for believing something even makes it probable that the belief is true, or even that one accept that such beliefs are probable, then the existence of type II defeaters is an utter mystery.

On the contrary, it is perfectly clear that the existence of type II defeaters show that any adequate theory of justification must account for the truth connection, because such defeaters are ones that depend entirely upon the fact that, under certain conditions, the connection between the truth of the *prima facie* reason and the truth of the belief in question is undermined.

It is interesting to notice that Chisholm has offered some defense of his principles in terms of the objectives of obtaining truth and avoiding error. As a defense of a principle that would enable one to avoid skepticism, he quotes James to the effect that the objective of obtaining truth should be respected as well as the objective of avoiding error.[30] With regard to the connection between justification and truth he remarks, ". . . if I want to believe what is true and not to believe what is false, then the most reasonable thing for me to do is to believe what is justified and not to believe what is not justified."[31] Here he is obviously assuming that it is reasonable to assume that justified beliefs are true and not to assume this with respect to beliefs that are not justified. Hence, in effect, Chisholm assumes that his principles of justification are a reasonable guide to accepting what is true and avoiding accepting what is false. If this assumption were articulated as a principle of his epistemology, then his theory would become a coherence theory, and it would establish, in this way, the requisite truth connection. The epistemic principles formulated by Chisholm are ones he accepts as reasonable guides to obtaining truth and avoiding error. This explains why he accepts the principles.

Recently, Van Cleve has attempted to prove, in an exceptionally lucid manner, that a foundationalist can account for the truth connection.[32] Crudely formulated, his argument is that it is possible that the epistemic principles that a foundationalist defends could suffice to yield justification and, hence, knowledge concerning matters of a specified sort, for example, perception. On the basis of such knowledge, one could determine how frequently perceptual beliefs of a specified sort turn out to be true. One could then note that perceptual beliefs of the sort in question are ones that are justified in terms of the basic foundational principles, and if they are also usually true, the principle would itself be justified as a guide to obtaining truth and avoiding error. In this way, we would infer the truth of the epistemic principle from some set of foundational beliefs. As Van Cleve notes, the application of principle in such a manner is not circular.[33] If the epistemic principles are, in fact,

true, then they yield justified beliefs. The justification results simply because certain beliefs fall under the epistemic principles without those principles being used as premises to *conclude* that the beliefs are justified.

The problem with such epistemic principles is that they fail to explain why the specific sort of beliefs that fall under such principles are justified in the first place. If the principles are true, it may be possible, after the fact, to conclude that the beliefs that fall under such principles are more frequently true than false. It may also be the case that such principles are themselves justified. But such principles in no way *explain* why the specific sort of beliefs that fall under them, perceptual beliefs for example, are justified. Moreover, the explanation is not difficult to find. It is simply the high probability that such beliefs are reliable guides to truth.

The preceding argument requires some elucidation. We admit that any theory of justification presupposes some general principle specifying the conditions under which beliefs are justified, and we are not immune from such a requirement. What separates us from foundationalism is that the general principle we defend does not postulate beliefs of a specific sort, perceptual beliefs for example, as justified without explanation. We think that a desideratum of a satisfactory theory is that it explain as much as possible and leave as little unexplained as one must. The problem with the foundation theory is that it leaves unexplained why beliefs of a specific sort are justified when it is perfectly possible to explain why such beliefs are justified, to wit, in terms of the truth connection. Such explanation appears to presuppose a coherence theory of justification, however.

It is perhaps worth noting that the difference in approach between the foundation theory and the coherence theory may rest, ultimately, on a difference in methodology. The defender of foundationalism may proceed according to the precept of providing a theory of knowledge that presupposes as little as possible, while, as we have noted, a defender of the coherence theory proceeds according to the precept to leave as little unexplained as possible. To explain, one may need to presuppose a good deal, and, therefore, the methodology of the coherence theory may conflict with that of foundationalism. It is clear that they might otherwise reach agreement concerning which beliefs are, in fact, justified.

In short, Van Cleve has acutely demonstrated the logical possibility of deriving the truth connection in a noncircular way starting from the epistemic principles of foundationalism. We concede this important and

rather surprising result. Our claim is that such derivation fails to explain why the beliefs that fall under the principles are justified in the first instance. Our objection is similar to that of Socrates when he objects to someone describing cases of just acts rather than telling us what justice is so that we could explain why the cases are instances of justice. Of course, such a foundationalist as Chisholm is a master of philosophical analysis the likes of which would have greatly cheered Socrates. However, the description of various kinds of beliefs as justified in terms of epistemic principles fails to explain why those beliefs are justified in the same way that descriptions of various kinds of actions as just would fail to explain why actions of those kinds are just. As we noted, Chisholm does, in fact, offer some explanation, but, in so doing, we suggest that he departs from his foundationalism and supplies his justification by means of doxastic ascent.

Summary and Conclusion. We have defended a coherence theory of justification that establishes the connection between justification and truth through doxastic ascent. We have rejected reliablism as being overly restrictive in that beliefs could be justified in a clear normative sense even though they were not the output of reliable cognitive processes. We contend that the appropriate employment of reliability is at the level of acceptance, namely, that it is probable relative to our acceptance system that the beliefs in question are true and that we are reliable in such matters. We noted, finally, that foundationalism, while presupposing the truth connection, is inadequate to establish that connection in a way that explains why beliefs or propositions specified in the epistemic principles of such a system are justified in the first instance.

   After a dialectical foray against other views, we note how much we are indebted to them. The appeal to aims of obtaining truth and avoiding error is a form of cognitive pragmatism. In this, we are indebted to James, Levi, Sellars and others.[34] We acknowledge that some beliefs are noninferentially justified, they are those that we accept as reliable quides to attaining the objectives just mentioned. In this we are indebted to Reid, Chisholm, Sosa, Pastin and other foundationalists.[35] Finally, we insist on the importance of probability and reliability for the purposes of establishing the truth connection. In this, we are indebted to Reichenbach, Skyrms, Swain and Goldman.[36] There is here also an obvious connection with Armstrong and Dretske.[37] It turns out, in fact, that each of the theories contained a component of the truth which

we gratefully acknowledge. We share with Sellars, Rescher and Harman, however, the commitment to systemic considerations, more specifically to coherence, as epistemically central.[38]

University of Arizona

NOTES

* The authors wish to thank Keith Quillen and John Pollock for helpful comments and criticism. They note that Cohen is responsible for the criticisms of reliabilism, the coherence theory and foundationalism, and Lehrer is responsible for the articulation and defense of the coherence theory.

[1] Cf. Keith Lehrer, 'Knowledge, Truth and Ontology', forthcoming in the proceedings of the Sixth Annual Wittgenstein Symposium, to be published by Reidel.

[2] D. M. Armstrong, *Belief, Truth, and Knowledge* (London: 1973), and Fred I. Dretske, *Knowledge and the Flow of Information*, (Oxford, 1981).

[3] Alvin I. Goldman, 'What is Justified Belief?,' in George S. Pappas (ed.), *Justification and Knowledge* (Dordrecht, 1979), Marshall Swain, *Reasons and Knowledge*, (Ithaca, 1981) and Keith Lehrer, 'A Self Profile: 5. Knowledge,' in Radu J. Bogdan (ed.), *Keith Lehrer* (Dordrecht: Reidel, 1980).

[4] *Ibid.*

[5] Keith Lehrer, *Knowledge*; Nicholas Rescher, *The Coherence Theory of Truth* (Oxford, 1973); Gilbert Harman, *Thought* (Princeton, 1973); and Wilfrid Sellars, 'Givenness and Explanatory Coherence', *Journal of Philosophy* **70** (1973), 612–624.

[6] Lehrer, *Knowledge*.

[7] Lehrer, in Bogdan (ed.), *Keith Lehrer*, pp. 79–91. In this work, Lehrer defines competition in terms of reasonableness rather than probability, but he notes that probability is a component of reasonableness. It is probability that is germane to the present discussion, and so the other components are here ignored to simplify exposition.

[8] Ernest Sosa, 'The Raft and the Pyramid', in *Midwest Studies in Philosophy V*, French, Uehling and Wettstein, eds. (Minneapolis, 1980), pp. 3–26.

[9] Keith Lehrer, 'The Evaluation of Method: A Hierarchy of Probabilities among Probabilities', forthcoming in *Grazer Philosophische Studien*, and Goldman, 'What is Justified Belief?'

[10] David Hume, *The Treatise of Human Nature* (London, 1739), Book 1, Part IV, Section I.

[11] Hans Reichenbach, *The Theory of Probability* (Berkeley and Los Angeles, 1949), Bryan Skyrms, *Causal Necessity* (New Haven, 1980), and Keith Lehrer and Carl Wagner, *Rational Consensus in Science and Society* (Dordrecht, 1981).

[12] Goldman, 'What is Justified Belief?'

[13] Sosa, 'The Raft and the Pyramid'.

[14] Jerry A. Fodor, 'Modularity', in manuscript.

[15] *Ibid.*

[16] Thomas Reid, *Inquiry and Essays*, Keith Lehrer and Ronald E. Beanblossom (eds.)

(Indianapolis, 1975) contains the materials supporting this interpretation, to which we are indebted to John C. Smith.

[17] Lehrer, in Bogdan (ed.), *Keith Lehrer*, pp. 79–80; Ronald De Sousa, 'How to Give a Piece of Your Mind, or the Logic of Belief and Assent', *Review of Metaphysics* **25** (1971), 52–79; and Daniel C. Dennett, *Brainstorms* (Montgomery, 1978).

[18] Cf. Goldman, 'What is Justified Belief?'.

[19] Cf. J. Flavell and H. Wellman, 'Metamemory', in *Perspectives on the Development of Memory and Cognition*, R. Kail and J. Hagen (eds.) (Hillsdale, 1977) and other articles in the volume.

[20] *Ibid.*

[21] Jerry A. Fodor, *The Language of Thought* (Cambridge, 1975), p. 52.

[22] Harman, *Thought*.

[23] James Van Cleve, 'Foundationalism, Epistemic Principles, and the Cartesian Circle', *Philosophical Review* **88** (1979), 55–91.

[24] Roderick M. Chisholm, *Theory of Knowledge*, second edition (Englewood Cliffs, 1976), p. 78.

[25] Adapted from remarks in Chapter 3 of John Pollock, *Knowledge and Justification* (Princeton, 1974).

[26] Pollock, *op. cit.*, Chapter One; and Roderick M. Chisholm, *Perceiving: A Philosophical Study* (Ithaca, 1957), p. 112.

[27] Pollock, *op. cit.*, pp. 11–12.

[28] Pollock, *op. cit.*, Chapter Two.

[29] Adapted from Pollock, *op. cit.*, Chapter Three.

[30] Chisholm, *Theory of Knowledge*, p. 14.

[31] Roderick M. Chisholm, 'A Version of Foundationalism', in *Midwest Studies*, p. 545.

[32] Van Cleve, 'Foundationalism'.

[33] *Ibid.*

[34] Sellars, 'Givenness'; and Isaac Levi, *Gambling with Truth* (New York, 1967).

[35] Reid, *Inquiry*; Chisholm, *Perceiving*; and Mark Pastin, 'Modest Foundationalism and Self-Warrant', in *Justification and Knowledge*, George Pappas and Marshall Swain (eds.) (Ithaca, 1978), pp. 279–288.

[36] Reichenbach, *Theory*; Skyrms, *Causal Necessity*; Swain, *Reasons*; and Goldman, 'What is Justified Belief?'.

[37] Armstrong, *Belief*, and Dretske, *Knowledge*.

[38] Sellars, 'Givenness'; Rescher, *Coherence*; and Harman, *Thought*.