The Philosophical Quarterly, Vol. 54, No. 215 April 2004
ISSN 0031–8094

IS EVIDENCE NON-INFERENTIAL?

By Alexander Bird

Evidence is often taken to be foundational, in that while other propositions may be inferred from our evidence, evidence propositions are themselves not inferred from anything. I argue that this conception is false, since the non-inferential propositions on which beliefs are ultimately founded may be forgotten or undermined in the course of enquiry.

I. INTRODUCTION

A widespread conception of evidence takes it to be foundational, in the following sense. We use evidence as the ultimate basis of inference. Thus while other propositions are inferred from our evidence, our evidence propositions are not themselves inferred. (I shall be concerned here only with *propositional* evidence. We do talk of things such as bloody daggers as being evidence. I shall leave for exploration elsewhere the relationship between this usage and the propositional concept of evidence.) Evidence is itself non-inferential. This view is implicit, for example, in the assumption common among empiricists (and many non-empiricists) that evidence is observational. It is explicit in Patrick Maher's account of evidence:

E=EK. The proposition *p* is among *S*'s evidence if and only if *S* knows *p* directly by experience.[1]

I shall articulate the view in question as

E→NI. The proposition *p* is among *S*'s evidence only if *S* does not know or believe *p* on the basis of an inference.

Since what is given directly in experience is not inferred, (E=EK) entails (E→NI).

Timothy Williamson has argued for the following equation concerning evidence:

[1] P. Maher, 'Subjective and Objective Confirmation', *Philosophy of Science*, 63 (1996), pp. 149–74, at p. 158.

E=K. The proposition *p* is among *S*'s evidence if and only if *S* knows *p*.[2]

If (E=K) is correct, and we have any inferred knowledge, then we have evidence which is inferred and (E→NI) is false, and so (E=EK) is false too. Williamson's arguments for (E=K) might thus be thought to be sufficient to refute (E→NI). This is, however, not the case. Williamson divides his arguments for (E=K) into arguments for the following two claims:

E→K. If *p* is among *S*'s evidence, then *S* knows *p*
K→E. If *S* knows *p*, then *p* is among *S*'s evidence.

It is the argument for (K→E) that would rule out (E→NI). However, Williamson's argument proceeds by refuting what he takes to be the main alternative to (K→E), *viz* that only knowledge that is *certain* is evidence. Since a proposition might be non-inferential knowledge without being certain, Williamson's argument for (K→E) is consistent with (E→NI), and so his argument is incomplete.

One might think that the main point of identifying evidence with non-inferential beliefs or knowledge is the conviction held by some that such beliefs and knowledge will be certain. One might also think none the less that it is theoretically significant to identify the foundations upon which the structure of knowledge rests, and that the concept of evidence identifies these foundations, marking the division between what one has inferred and what one has ultimately inferred it from. Maher (p. 158) writes, for example,

> Even if a proposition is known to be true, if this knowledge [*E*] is not directly based on experience then *E* is not evidence and hence not evidence for anything. For example, let *E* denote that a substance taken from a certain jar dissolved when placed in water, and suppose we know *E* directly from experience. Let *H* be the proposition that the substance that was in the jar is soluble and suppose we know *H* by inferring it from *E*. Then we know both *H* and *E* from experience, but *E* is evidence for *H* and not *vice versa* since only *E* is known *directly* by experience.[3]

If one accepts the first of Williamson's conditionals (E→K), while adhering to (E→NI), then one holds

E→NIK. If *p* is among *S*'s evidence, then *S* knows *p* non-inferentially.

This position might produce the following account of evidence:

E=NIK. If *S* knows *q* by inference, then *S*'s evidence for *q* consists in that non-inferential knowledge from which *q* is (ultimately) inferred.

[2] T. Williamson, 'Knowledge as Evidence', *Mind*, 106 (1997), pp. 1–25, and *Knowledge and its Limits* (Oxford UP, 2000), pp. 184–208.

[3] Maher recognizes that we do call inferred propositions evidence, which conflicts with his proposal. He himself uses an example in which the advance of the perihelion of Mercury is evidence. In effect he permits inferred knowledge to be regarded as evidence when it stands in for or replaces the non-inferential knowledge from which it was inferred (pp. 160–1).

(E=NIK) proposes that evidence is to be equated with an *ultimate* spring or source of knowledge, the propositions from which one infers one's knowledge but which are themselves not inferred.

Maher's account of evidence as *knowledge* given directly by experience, (E=EK), entails not only (E→NI) but also (E→NIK). It is consequently close to (E=NIK). The principal difference between (E=EK) and (E=NIK) is that the latter would permit non-inferred *a priori* and innate knowledge to count as evidence.

The central aims of this paper are

(i) to show that (E→NIK) is false
(ii) to refute on this ground Maher's account of evidence (E=EK), as well as the related account (E=NIK)
(iii) to plug the gap in Williamson's argument for (E→K), and hence to shore up his claim (E=K).

I also aim to do the following:

(iv) to refute an alternative but related view of evidence as causally (rather than inferentially) foundational
(v) to show how the argument against (E→NIK) may be extended to a rejection of (E→NI).

II. LOSS OF EVIDENCE: FORGETTING AND UNDERMINING

Imagine that a subject *S* makes a chain of inferences starting from the proposition *e* and leading to the proposition *p*. Let it be that these inferences add to *S*'s knowledge. We may take it that *S* does have evidence for the proposition *p*, for *S* knows *p* on the basis of inference. Let us assume that everything relevant to *p* that *S* knows is contained in the chain of propositions constituting the inferences leading to *p*. Therefore *S*'s evidence for *p* lies somewhere in this chain of propositions. (E→NIK) requires that it is the knowledge at the starting point of this chain that is evidence, *viz* the proposition *e*. The intermediate propositions, although known, are not evidence.

It follows that in order for *S* to retain knowledge of *p* without inferring anew from different evidence, *S* must retain knowledge of *e* so long as *S* has any evidence for *p*. In general then, (E→NIK) requires that in order to possess inferential knowledge, one must retain, as knowledge, all the evidence from which it was originally inferred. But that is implausible, since one can lose one's 'ultimate' evidence without also losing knowledge of what is inferred from it. For example, one can forget one's evidence without ceasing to know the things inferred from that evidence. Suppose *S* knows *p*, having inferred it from *e*; *S* then, having forgotten *e*, goes on to infer *q* from *p*. According to (E→NIK), *S*'s evidence for *q* is not *p*, since *p* is inferential knowledge; *S*'s evidence for *q* ought to be *e*, since *e* consists of propositions not inferred by *S* but from which *S* has, in a transitive historical sense, inferred *q*. But *e* cannot be part of *S*'s evidence for *q*, since at the time of coming to know *q*, *S* no longer knows *e*. By (E→K), *e* is no longer part of *S*'s evidence. Hence (E→NIK) and also (E=NIK) and (E=EK) are false.

In Maher's example quoted above, it might be important for some purpose of *S*'s to know whether the substance in the jar is soluble. As in the example, *S* comes to know this by inferring it from the fact that the sample dissolved, as he saw. In due course *S*, while still remembering the important fact that the substance is soluble, forgets how he came to know this. For all *S* can recall, it might equally have been thanks to someone's testimony. At this point *S* comes to learn that the substance in the jar is glucose; and so *S* infers that glucose is soluble. What evidence does *S* have for the belief that glucose is soluble? According to (E→NIK), none. For the proposition 'The substance in the jar is soluble' is not evidence (it is known by inference); and the proposition 'The substance in the jar did actually dissolve when placed in water' is not known at all, having been forgotten. But it is absurd to suggest that *S* has no evidence for the belief that glucose is soluble.

This argument may be thought to trade too much on human failing. An ideal epistemic subject, a philosophical elephant, does not forget. (E→NIK) may be supposed to apply only to such subjects. To accommodate humans, we idealize subjects, so that their evidence includes propositions they would know, were they to have remembered them. But this will not do, since there are ways of losing evidence from which even the ideal subject may suffer. One way in which the rational memory-perfect individual can lose evidence is for it to be undermined. New evidence may misleadingly cast sufficient (rational) doubt on some previous piece of evidence that is no longer known. In Williamson's example a subject sees a red ball and a black ball enter an empty bag.[4] A ball is withdrawn and replaced 10,000 times. Each time the ball drawn is black. The initial knowledge that there is a red ball in the bag is now undermined. The subject should not now rationally believe that there is a red ball in the bag rather than that it seemed to him as if a red ball was placed in it. This does not show that the original perceptual knowledge was not after all non-inferential, that it was inferred from the evidence that it seemed that a red ball was placed in the bag. Apart from the fact that this simply fails to do justice to the phenomenology of perceptual knowledge, this response, to be perfectly general, requires that non-inferential knowledge must be certain in the sense of not being subject to any possible

[4] Williamson, 'Knowledge as Evidence', pp. 20–1; *Knowledge and its Limits*, pp. 205–6.

undermining. But there is no reason to suppose that non-inferential knowledge has this feature, or that any knowledge has. Undermining of this sort can happen to all sorts of knowledge, not just perceptual knowledge. Testimony, even if reliable, is often open to undermining by counter-testimony. A proposition which is known non-inferentially may also be knowable inferentially; it may thus also be undermined inferentially.

I now consider a case where non-inferential knowledge is undermined by misleading additional evidence. Since knowledge is necessary for evidence, the proposition in question loses its status as evidence. At time t, there is just enough evidence e, so that when S infers p from e, S knows p. However, at t^*, some portion of e, the set of propositions x, is undermined by new information. Normally that would deprive S of the knowledge of p. However, let it be that between t and t^* S has also acquired further additional evidence e^* in favour of p such that the total current evidence $e-x+e^*$ is sufficient to support knowledge of p. At t^* S can know p even though S did not infer p from the evidence S has at t^* for p, so long as S is still appropriately *sensitive* to the evidence. This, along with forgetting, shows that S can still know a proposition p even though p was inferred from propositions that are no longer part of S's evidence. We might stretch the interpretation of (E→NIK) to permit this, since p was inferred from what was S's evidence at the time. Let S infer q from p at t^*. Then the non-inferential propositions from which q is ultimately inferred are the propositions in e, including x. But S's evidence at t^* does not include x – the propositions in x were undermined, and so are not known by S, who for that reason may not even believe them any more. So S's evidence cannot be identified with S's non-inferential knowledge, and hence (E→NIK) is false.

To illustrate such a case we may imagine that a detective, Nipper of the Yard, sees Reggie near King's Cross Station at 11:00 p.m. (Nipper knows e). At 11:20 p.m. a mail robbery is committed at the station. The proposition e, that Reggie was at the scene of the crime, is non-inferential knowledge for Nipper. This crucial evidence enables Nipper to infer and know that Reggie committed the crime (Nipper knows p). Although he himself knows with full confidence that Reggie committed the crime, in order to ensure a secure conviction in court Nipper pulls Reggie in, extracts a confession and obtains damning forensic evidence (Nipper knows e^*). Let it also be the case that (unknown to Nipper) Reggie has an identical twin brother, Ronnie. This fact is not itself a defeater for Nipper's knowledge that Reggie committed the crime, since at the time Ronnie was locked up in high-security Pentonville gaol. But now Nipper is informed by a reliable source that Reggie has a criminal identical twin brother who was in London near King's Cross at 11:00 p.m.; but the source fails to add that this was because the brother was in the nearby prison. This additional information undermines Nipper's direct and perceptual knowledge that Reggie committed the crime: he cannot now truly say 'I saw that at 11:00 p.m. Reggie was near King's Cross' (Nipper no longer knows *e*). None the less Nipper still knows *p*, that Reggie committed the crime. He is in possession of a confession and compelling forensic evidence *e**. But the retention of the knowledge of the truth of *p* does not require that Nipper must infer anew the proposition *p* that Reggie committed the crime from the confession and forensic evidence, so long as Nipper's belief in that proposition *p* is sensitive to this new evidence *e**. (I shall discuss causal and counterfactual sensitivity at greater length below.)

Suppose Nipper later reflects on the fact (and comes to know) that Reggie is the single most prolific criminal in London, having now exceeded Jack the Hat's record of twenty-three robberies and other crimes in the preceding year (Nipper knows *q*). This is inferred knowledge. The theoretical role for evidence captured in (E→NIK) is that evidence should be the non-inferential knowledge from which inferred knowledge is inferred. So what is the foundational non-inferential knowledge which according to (E→NIK) is Nipper's evidence for *q*? It is not (i) Nipper's perceptual knowledge *e* that Reggie was near the scene of the crime, because, thanks to undermining, this is no longer knowledge; it is not (ii) Nipper's knowledge *p* that Reggie committed this robbery, since this is inferred knowledge, not non-inferential knowledge; it is not (iii) his knowledge *e** that Reggie confessed (or that there is damning forensic evidence), for even if this is non-inferential knowledge, it is (*ex hypothesi*) not knowledge from which Nipper has made any inference. While it is likely that Nipper possessed (and perhaps even inferred from) a lot of relevant background knowledge, that background knowledge was not enough to let him know *q*, that Reggie is the most prolific criminal in town. None of the crucial propositions, *e*, *p* or *e**, fulfils the role of being non-inferential knowledge from which this inferred knowledge is inferred.

As the example suggests, knowledge of inferred propositions can survive the loss of the evidence from which they were inferred. Since such inferred propositions can be the basis of further knowledge-producing inferences, it appears that it is not merely knowledge that gets transmitted by inference but also the status of being evidence. That is to say, in the above, *p*, although inferred, is the evidence on which knowledge of *q* is based.

III. UNDERMINING INFERRED PROPOSITIONS

The falsity of (E→NIK) is demonstrated by the vulnerability to undermining not only of non-inferential propositions, but also of intermediate inferred propositions. The thought is that if the chain of inference is undermined by undermining an intermediate proposition, then although the non-inferential propositions which initiate the chain may retain their status as evidence, they are no longer evidence for the conclusion proposition, as is required by (E=NIK). Knowledge of inferred propositions may be undermined by counter-evidence. For example, let an inferred hypothesis *h* be known at time *t*, thanks, among other things, to the essential role of statistical inference from (non-inferential) evidence *e*. Further evidence *e**, gained before time *t**, may undermine the inference, and so also knowledge of *h*. I can now construct a case similar to the previous example, except that the non-inferential evidence remains, but its status as evidence *for* some inferred proposition is lost.

The inferred proposition *h* is that it is a probabilistic law that Fs are likely to be Gs. This is known at *t* on the basis of background knowledge and a statistical inference from a correlation between Fs and Gs. At *t* it is also known non-inferentially (e.g., by perception) that some object *a* is F. One infers from this, plus *h*, that *a* is likely to be G, and gets to know this. Let it also be the case that by time *t** further (misleading) statistical evidence has been gathered concerning the relationship between F and G such that knowledge of the law connecting them is undermined and lost; this further evidence may even (falsely) suggest a negative correlation between F and G, so that one is now given some reason to think that an F is more likely to be a non-G than a G. Whereas at *t* F*a* was evidence for the proposition '*a* is likely to be G', at *t** F*a* is no longer evidence for this proposition, and is, if anything, weak evidence for '*a* is likely not to be G'. None the less '*a* is likely to be G' might still be known, as in the previous example, thanks to causal sensitivity of belief in that proposition to new and independent supporting evidence acquired between *t* and *t** (e.g., evidence that most Hs are Gs, and H*a*). (E=NIK) is refuted by this example, since although the non-inferential evidence (*viz* F*a*) from which '*a* is likely to be G' was inferred remains, that evidence is no longer evidence for the proposition.

IV. CAUSAL SENSITIVITY

The examples of the last two sections depend on the idea that evidence may support knowledge without that knowledge being inferred from that evidence. Inferring a proposition from evidence is one way in which a belief in that proposition can be appropriately responsive to the evidence, but it is not the only way. Counterfactual dependence is more general than the relation of inference. It might be that if *p* were not among *S*'s evidence, then *S* would not continue to believe *q*; or that if asked why one should believe *q*, *S* would cite *p*. The truth of these counterfactuals is consistent with *S*'s having at no point inferred *q* from *p*. In the example discussed above, I said that Nipper could retain knowledge that Reggie committed the crime, despite the undermining of his original evidence. That retention does not require that Nipper must infer anew the proposition that Reggie committed the crime from the confession and forensic evidence. Perhaps Nipper does not give the matter a second thought. Why does he still know, despite not having drawn a fresh inference? The truth of the following counterfactuals would typically be sufficient to show that Nipper has sufficient sensitivity to the new evidence for knowledge even if he has not made an inference from it: were he asked why anyone should believe that Reggie committed the robbery, he would cite the confession and forensic discoveries; and had he not himself had that new evidence, he would have ceased having a high degree of belief that Reggie was near King's Cross on learning of the existence of Reggie's twin Ronnie.

(E→NIK) might reasonably be supposed to accommodate cases where an existing belief is inferred anew from a fresh set of evidence. But it is implausible to suppose that this is in fact what always occurs when new evidence is acquired. We are constantly acquiring new evidence that is relevant to a huge range of existing beliefs. We do not refresh those beliefs by repeatedly re-inferring them. But that does not make the beliefs we have irrational. The counterfactual causal sensitivity of our beliefs to one another can be enough to ensure this. The failure of causal, reliabilist and counterfactual (e.g., tracking) analyses of knowledge notwithstanding, it is undoubtedly the case that it is typically the reliability (often causal) of the connection between the facts and a belief-like mental state that makes that mental state one of knowing. Let *S* know *p* and let it be that this knowledge is therefore reliably related to the fact that *p*. Then *S*'s belief in *q* might be reliably related to the fact *q* by virtue of a reliable connection between that belief and *S*'s knowledge that *p* plus a nomic correlation between *p*-like and *q*-like facts. Hence *S* may know *q*. The reliability of the connection between *S*'s belief in *q* and *S*'s knowledge of *p* may require causal or counterfactual sensitivity of the former to the latter, but need not require that *S* has inferred *q* from *p*.

Those who would still wish to restrict evidence to a foundational subset of knowledge might take this on board by suggesting that (E=NIK) should be replaced by an alternative, where the idea of being *inferred from* is replaced by that of being *causally sensitive to*. This move would also accommodate those who would hope to bypass the foregoing discussion by having a very weak account of what it is to infer one proposition from another, whereby causal sensitivity is sufficient for inference. Such a move would yield something like

E=CIK. If *S* knows *q*, then *S*'s evidence for *q* consists in that knowledge to which *S*'s belief in *q* is causally sensitive, but which is itself not causally sensitive to other knowledge.

The final clause, that evidence is knowledge which is itself not causally sensitive to other knowledge, is required to match the key element of (E=NIK), that evidence is the root or foundation of knowledge. While (E=K) says that all knowledge is evidence, (E=NIK) makes an asymmetrical distinction between evidential and non-evidential knowledge. Non-evidential knowledge, on this view, depends on evidential knowledge in a way in which non-evidential knowledge does not depend on evidential knowledge.[5] In (E=NIK) this is assured by the historical dependence implicit in 'inferred from'. In (E=CIK) it is the final clause that generates this asymmetry. Without the final clause we would have

E=CEK. If *S* knows *q*, then *S*'s evidence for *q* consists in that knowledge to which *S*'s belief in *q* is causally sensitive.

(E=CEK) might well be a starting point for an account of 'evidence for'. However, it does not provide an alternative to (K→E), with which it is consistent. In particular (E=CEK) does not provide the required asymmetry between evidence and what it is evidence for. This is because two pieces of knowledge may be causally sensitive to each other. The thesis of the theory-dependence of observation states that one's observational knowledge may be causally sensitive to which theories one believes (and knows). At the same time, obviously, theoretical belief (and knowledge) is causally sensitive to the observations one makes. In a related kind of case, my knowledge of some arithmetical truth may be sensitive to my knowledge of the reliability of the calculator I use – it was malfunctioning, and I have had it repaired; my belief and knowledge of the arithmetical output are thus sensitive to my knowledge that it is now functioning reliably. At the same time, my knowledge of that reliability is also sensitive to my knowledge of the calculator's output. Should something cast doubt on the output, such as conflict with my mental arithmetic or with the results of another calculator, then my knowledge of the calculator's reliability might be undermined.

Since causal sensitivity is not asymmetrical, (E=CEK) will not do as a replacement that seeks to retain the spirit of (E→NIK) (*viz* that evidence is the root or foundation of knowledge); the additional clause that gives (E=CIK) is required. But now the problem arises that (E=CIK) may prevent

[5] Maher seeks to establish just such an asymmetry in the passage quoted above in §I.

too much from being evidence. The discussion of the last paragraph raises the possibility that no knowledge is causally insensitive to other knowledge. According to (E=CIK) there would then be no evidence. Even if that were not itself an absurd conclusion, it would be in conflict with the current argument for (E=CIK), which is the thought that evidence is a special kind of foundational knowledge, whereby the possibility of non-evidential knowledge depends on its relation to the evidence.

V. EVIDENCE AND CERTAINTY

Historically there has been a tendency in epistemology which conceives of evidence as *certain*. Strictly, (E=NIK) and (E=EK) are independent of this conception, since one could hold that non-inferential and purely experiential propositions support knowledge of the propositions inferred from them without thinking that the non-inferential or experiential ones must be certain. Neurath's apostasy from positivist purity was to allow observational reports externally conceived (and thus potentially uncertain) as evidence. Post-positivist empiricists such as van Fraassen endorse this sort of view. Nevertheless it is natural to want to link the conceptions of evidence as certain and as foundational. A rationalist is disposed to hold that one's evidence is just the set of self-evident truths. Self-evident truths are evidence for other propositions, but are not themselves known on the strength of other evidence. Hence they meet the conception of evidence as foundational. At the same time self-evidence seems to supply certainty. For empiricists, non-inferential knowledge is knowledge of one's sense-impressions – from this knowledge more complex empirical knowledge may be inferred. These foundations are held also to be certain, since it is supposed that knowledge of one's sense-impressions cannot fail.

For those who want to link foundations and certainty, the nature of non-inferential knowledge as evidence is guaranteed by the (alleged) fact that its status as knowledge is what Williamson calls *luminous* (i.e., the subject is always in a position to know whether or not he possesses this knowledge). Even those who accept that the KK principle is in general false might say that non-inferential knowledge is evidence precisely because it is immediately known to be known. Luminosity is one of the two more natural interpretations to be put on the claim that evidence must be certain. (The other interpretation is that certain knowledge is knowledge that is free from potential undermining, which is the interpretation that Williamson discusses when rejecting the thesis that evidence must be certain.[6])

[6] For Williamson's refutation of this thesis, see *Knowledge and its Limits*, pp. 205–7.

It is, however, false that non-inferential knowledge is always known to be known (or such that one is in a position to know that it is known).[7] This would require that for any piece of non-inferential knowledge one should know or be in a position to know that the process that formed the belief is reliable. But in general that need not be the case. With non-inferential *a priori* arithmetical knowledge, one's reliability decreases as the complexity of the propositions in question increases. There is thus an upper limit on complexity such that beyond this limit one's (non-inferential) judgement is not sufficiently reliable to generate knowledge (beyond the limit one can know the arithmetical propositions only by inference, e.g., calculation). One need not know exactly where the limit lies. For any proposition which lies just below the limit on complexity, since it is below the limit, one can know the proposition non-inferentially. But because it is very close to the (unknown) limit on complexity, one does not know that it is within that limit, and so one does not know that one's judgement is reliable; i.e., one does not know that one knows. To take an *a posteriori* example, one can consider judgements about an object at some distance. If the distance is small, one might judge that *p* and know that one's judgement yields knowledge (since one knows that one's judgement is reliable at that distance). At greater distances one's (non-inferential) judgement may be knowledge without one's any longer knowing that one's judgement is still reliable – one knows (non-inferentially) without knowing that one does.[8] One is not always in position to know that one has some piece of non-inferential knowledge.

Efforts to make non-inferential knowledge fit the picture of knowledge that is known to be knowledge lead to distortion. For example, it is natural to regard testimony as non-inferential. But testimonial knowledge is not luminous knowledge (i.e., knowledge which one is in a position to know to be knowledge). Hence it was common to deny appearances and assert that such knowledge is inferred after all, i.e., inferred from beliefs about the reliability of the sources and the contents of their utterances. The problem is that such accounts of testimony are generally regarded as implausible, since one can gain knowledge from testimony without having beliefs concerning the reliability of the source, let alone knowledge of its reliability.[9]

[7] I am confining myself to consideration of the weaker principle that if one has non-inferential knowledge one is in a position to know that one has this knowledge. Otherwise, since this second-order knowledge is itself non-inferential, any piece of non-inferential knowledge would be accompanied by an infinite chain of iterated pieces of knowledge.

[8] Williamson's argument that one can know without knowing that one knows uses an example involving (presumably) non-inferential judgements: *Knowledge and its Limits*, pp. 114–23.

[9] Hume's view that testimony is inferential is discussed in C. Coady, 'Testimony and Observation', *American Philosophical Quarterly*, 10 (1973), pp. 149–55, and *Testimony* (Oxford: Clarendon Press, 1992). On the necessity for trust with regard to scientific knowledge, see J. Hardwig, 'The Role of Trust in Knowledge', *Journal of Philosophy*, 88 (1991), pp. 693–708.

The views associated with and lending support to (E=NIK), typically internalist views, are implausible. The status of non-inferential knowledge as knowledge is not luminous. Nor is the status of non-inferential knowledge as non-inferential knowledge. It follows then that if (E=NIK) were correct, the status of non-inferential knowledge as evidence would not be luminous either. Without the link to certainty in Williamson's sense of being immune from undermining, or in the weaker current sense of being known to be known, the restriction of evidence to non-inferential knowledge may indeed look less plausible.

VI. IS EVIDENCE NON-INFERENTIAL BELIEF?

I have shown that (E→NIK) is false. The arguments depend on accepting the first of Williamson's two conditionals, (E→K). One might wonder whether if one rejected this assumption, one might thereby be able to retain a conception of evidence as non-inferential. In the light of the rejection of (E→K), one would not take one's evidence to be non-inferential knowledge, but something else instead, for example, non-inferential belief or non-inferential justified belief. Thus, we may ask, can the arguments for (E→NIK) be extended to give us arguments for (E→NI)?

It is easy to see that the arguments given above will refute any conception of evidence as non-inferential. They rest on the idea that the non-inferential knowledge at the origin of a chain of inferences might be forgotten or undermined. Suppose the concept of evidence under consideration is weakened to non-inferential *belief*. Beliefs can be lost, just as knowledge can. Forgetting *p* is factive: one can forget *p* only if *p* is true. So strictly, forgetting does not apply to false beliefs (nor, I think, to any belief that does not constitute knowledge). Even so, it is clear that false beliefs can be lost in a manner that is entirely analogous to forgetting. Consequently one can lose one's non-inferential beliefs. If they are one's evidence, then, absurdly, one would have no evidence for the proposition at the end of the chain of inference, even though one could cite many reasons supporting that proposition (the intermediate propositions in the chain).

Matters are slightly different with undermining. For one can lose one's knowledge when faced with a raft of counter-evidence, even if one persists in one's belief. If so, one would still retain one's evidence (if evidence = non-inferential belief). But of course a rational individual would give up the undermined belief. That leads to the following dilemma. If the original non-inferential belief *e*, from which the proposition *q* is inferred, is retained in the face of the undermining evidence, then *S*, although remaining in possession of evidence for q, is irrational. On the other hand, if S rationally gives up the belief in e, then he no longer has evidence for the proposition q. And consequently he begins to look irrational in virtue of believing q without having any evidence from which q is inferred. My undermining cases were set up so that S can still have knowledge of the proposition q despite the undermining, since he is counterfactually or causally sensitive to new evidence, without having engaged in any inference from that new evidence.

I then considered whether an account of evidence in terms of causal/counterfactual sensitivity would salvage something akin to the non-inferential view without falling foul of the undermining cases. In this discussion the difference between belief and knowledge was not salient. The central problem is that such sensitivity among beliefs is not asymmetrical. Indeed, symmetrical relations of sensitivity are widespread. So an attempt to build in asymmetry (evidence beliefs are insensitive to other beliefs) would rule out many beliefs from being evidence, including observational beliefs – plausibly, no beliefs could be evidence on this account. This would undermine the guiding idea of evidence as being foundational. For evidence beliefs, conceived of as foundational, are intended to be such that they are both not supported by anything else and also sufficient to provide justification for all other rational beliefs.

VII. CONCLUSION

It is tempting to conceive of evidence as foundational, as just described: evidence is the rational support for all else, but is not itself supported by anything. The idea of evidence as non-inferential knowledge or belief was intended to capture this idea, as, it seems, was Maher's account of evidence as knowledge given directly by experience. I have argued that this conception of evidence must fail.

Is the idea of evidence as foundational a complete red herring? If so, how did it enter the discussion at all? My hypothesis is that something akin to the foundational idea might hold in a local fashion. In a one-step inference where the premise proposition, being known to S, thereby permits the conclusion proposition to be known to S also, it is correct to think that here the premise proposition is the *evidence for* the conclusion proposition. From this it is falsely inferred that in a sequence of inferences it is only the premise propositions of the *first* inference in the sequence that are the evidence propositions in the whole sequence, and that more generally, if we think of all our knowledge as a structure built up through inferences, our evidence is the knowledge that the structure is built upon. The structural picture of knowledge is a mistaken one. As I have shown, one can remove the foundations (through forgetting or undermining) without any more of the structure necessarily coming under threat.

A contrasting and slightly better picture of knowledge is of a quality that can be inherited by a proposition, in virtue of its being inferred (adequately) from other propositions possessing this quality.[10] A proposition *p*, being known, can be evidence for a second proposition *q*, and thereby make *q* become knowledge. That relation is asymmetrical, and *p* can be considered, in this context, as the foundation of our knowledge of *q*. But that is consistent with *q*'s then being itself evidence for some third proposition *r*, and passing on the status of being known to *r*. The proposition *q* can be evidence, and thus pass on the status of knowledge, so long as it is still known, even if *p* is no longer known (having been forgotten), just as I can pass on inherited qualities (or things) to my children, even if my parents from whom I inherited them are no longer alive. This suggests a conjecture about the concept of evidence, that evidence is that from which knowledge-producing inferences can be made. This would both explain the implicit (but local) asymmetry in the concept of evidence, and also explain why Williamson's symmetrical equation, evidence = knowledge, is true (since all and only known propositions can support knowledge-producing inferences). It would also explain why inferred propositions can be evidence.

University of Bristol

[10] But as I have pointed out, it is not only inference that can permit a proposition to be known, but also causal sensitivity and other kinds of dependence relation.