

WHY BAYESIAN COHERENTISM ISN'T COHERENTISM*

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ABSTRACT

It is sometimes assumed in the Bayesian coherentist literature that the project of finding a truth-conducive measure of coherence of testimonial contents will, if successful, be helpful to the coherentist theory of justification. Various impossibility results in the Bayesian coherentist literature are consequently taken to be prima facie detrimental to the coherentist theory of justification. These attempts to connect Bayesian coherentism to the coherentist/foundationalist debate in classical epistemology rest upon a confusion between the justification of a proposition and the credibility that a proposition has for some other proposition. Foundationalism requires a class of beliefs that have non-inferential justification, not beliefs that have credibility by themselves for others. Coherentists insist that beliefs can be justified only via inferential relations with others, but this does not mean that coherentists must deny that individual propositions can have credibility for other propositions. I analyze and respond to both Erik Olsson's and Michael Huemer's arguments concerning the alleged connection between the Bayesian coherentist project and the coherentist theory of justification. Finally, I argue that Bayesian coherentism as represented in the literature, so far from being a version of coherentism, is implicitly foundationalist because of its treatment of "witness reports", especially the reports of memory and sensation, as given evidence. The impossibility results, based on the assumption of given reports, are therefore not targeted at classical coherentism in epistemology at all.

Keywords: *coherentism, foundationalism, Bayesianism, Bayesian coherentism*

1. Introduction

Influential scholars writing in the area of formal epistemology known as Bayesian coherentism have argued that the success or failure of the Bayesian coherentist project is connected tightly to the classical epistemological debate between foundationalists and coherentists concerning the structure of justification. Given such a tight connection, if an intuitively plausible measure of coherence for the contents of “testimonies” (including the “testimonies” of apparent memory and sensation) can be found which is truth conducive, this will bolster the coherentist position in epistemology. Conversely, if there is such a connection between Bayesian coherentism and the coherentist position in epistemology, and if it can be proven that no such truth-conducive measure of coherence exists, such a result will be negatively relevant to the coherentist epistemological position.¹

The impression that there is a connection between Bayesian coherentism and the coherentist position in classical (non-formal) epistemology is incorrect. There is nothing distinctively coherentist as opposed to foundationalist about the idea that congruence among testimonies is truth-conducive. There is nothing anti-foundationalist about justifying realism or the general reliability of our senses and of memory by means of a cumulative case among items of our empirical evidence. Even strong foundationalists who insist on incorrigible foundations can accept such a project. Whether Bayesians accept the various putative impossibility results for the existence of a truth-conducive measure of coherence (see below) or continue to try to find responses to them (Huemer 2007, Schupbach 2008, Bovens and Hartman 2003, pp. 25-26), they should not think that the discovery and defense of a truth-conducive measure of the coherence of testimony or the coherence of the “reports” of our senses or apparent memories would make foundations, even incorrigible foundations, unnecessary for empirical knowledge or would strengthen the case for a coherence theory of justification.

In section 2 I will briefly lay out some aspects of the Bayesian coherentist project and the relevance of several probability theoretic results to this project. Because nearly every aspect of the Bayesian coherentist project is a matter of contention among Bayesian coherence theorists, and because the literature is very large, this overview will of necessity simplify some matters and leave others out.

¹ In addition to Erik Olsson (2005, 2013) and Michael Huemer (2007, 2011), on whom this paper focuses, Luc Bovens and Stephan Hartmann (2003, pp. 3, 26) and Gregory Wheeler (2009) have stated that the success of the Bayesian coherentist project is related to the success of the coherentist theory of justification.

In section 3 I will discuss a crucial distinction between the probability (or justification) of a proposition, on the one hand, and the confirmational force of a proposition, on the other. (In some of the Bayesian coherence literature, the latter is called the “individual credibility” of a proposition.) I will also explain how these two concepts function and do not function in the classical debate between foundationalists and coherentists.

In section 4 I will explain two confusions in some of the Bayesian coherentist literature. First, there is a confusion in the interpretation of C. I. Lewis between his treatment of what I will call the “report propositions” and the “content propositions”. Second, there is a confusion between the individual justification of a proposition and the individual confirmational force of a proposition. These confusions have affected both the interpretation of the seminal work of C. I. Lewis on coherence and the understanding of the epistemological significance of the Bayesian coherence project itself.

In section 5 I will argue that the attempted impossibility proofs and the Bayesian coherentist project as presented in the literature are implicitly foundationalist.

2. Bayesian coherentism and impossibility results

In very broad terms, the Bayesian coherentist project is the attempt to show that the coherence of the contents of a set of reports (in a broad sense of “reports”) bears a positive relationship to the truth of what the reports attest. Theorists working in the area of Bayesian coherentism, broadly conceived, are usually investigating *whether* there is such a relationship, though many working in the field have come to a negative conclusion on that question. (I will use the phrase “Bayesian coherence theorist” to cover both those who come to a negative and those who come to a positive conclusion on this question.) The “reports” can be real human witness testimony or the “testimony” of our senses or apparent memories. Some Bayesian coherence theorists (e.g., Schupbach 2008) still hope to find a measure of coherence which is *in general* truth-conducive, though Michael Huemer (2007, pp. 342-3) has argued that Bayesian coherentists need to argue only that coherence is truth-conducive in some more restricted set of interesting cases, not in general.

Following C. I. Lewis's largely unformalized suggestions (1946, pp. 239, 338, 346-7), Bayesian coherence theory investigates the hope of using coherence as part of the project to answer Cartesian skepticism and to justify our beliefs in the existence of the external world and in the reliability of memory and the senses. (See Olsson 2005, pp. 12, 34ff, 74-6, Bovens and Hartmann 2003, pp. 26-7, Huemer 2007, pp. 342-4.)

Coherence as a purely formal concept can be thought of (very broadly) as mutual positive relevance among the members of a set of propositions. Many formal measures of coherence have been proposed, including the measure suggested by Tomoji Shogenji (1999), one suggested by both Erik Olsson (2002) and by David Glass (2002), a measure suggested by Luc Bovens and Stephan Hartmann (2003, pp. 30-34), and Brandon Fitelson's proposed measure (2003). Shogenji's suggested measure of coherence, for example, is the ratio of the conjunction of a set of propositions to their independent individual probabilities:

$$\frac{P(A_1 \& \dots \& A_n)}{P(A_1) \times \dots \times P(A_n)}$$

Different suggested probabilistic measures of coherence are accompanied by different sets of suggested *ceteris paribus* conditions. The *ceteris paribus* conditions are important to the larger Bayesian coherentist project that motivates theorists to try to formalize a measure of coherence and show it to be truth conducive. If we are to compare the coherence of two sets of believed or asserted propositions (the contents of “reports”) in order to discover whether coherence thus defined is truth conducive or not, we should hold a relevant set of other factors equal in making the comparison. What else should be held equal is a source of much controversy among Bayesian coherence theorists. Different theorists also offer different accounts of what type of independence we should assume between or among the “reports” (usually some variety of conditional independence) in order to capture epistemic intuitions about when agreement among “reports” is significantly truth-conducive.

Erik Olsson (2005, pp. 134ff) and Bovens and Hartmann (2003, pp. 19ff) have proven slightly different results showing that, given the *ceteris paribus* conditions and independence conditions they respectively favor, the coherence of the contents of a set of reports is not in general truth-conducive for the conjunction of those contents. Shogenji (2013, pp. 529-34) has further proven that, given a set of *ceteris paribus* and independence conditions he favors, the coherence of the contents of a set of reports is not in general truth-conducive for a salient hypothesis H which is not equivalent to the conjunction of the contents of the reports.

It has also been proven that, if two reports W_1 and W_2 are conditionally independent of one another *modulo* both some hypothesis A and its negation, that is, if both:

$$P(W_1|A \& W_2) = P(W_1|A)$$

and

$$P(W_1|\sim A \& W_2) = P(W_1|\sim A),$$

and if neither W_1 nor W_2 alone has any positive relevance to A , then the conjunction of W_1 and W_2 also has no positive relevance for A . (See Huemer 1997 and Olsson 2005, pp. 112-16.) If it is taken to be a requirement of the coherence theory of justification that testimonial reports can have no positive relevance individually for their contents (as Michael Huemer takes it to be), but that testimonial evidence does justify its content by coherence among several reports taken conjunctively, this result appears *prima facie* to be a blow to the coherence theory of justification. Huemer (2007, pp. 340-2) has argued subsequently that the coherentist should not adopt full conditional independence as the most advantageous model for his position.

My argument in what follows calls into question the claim that the project of Bayesian coherentism, to the extent that it is successful in finding a truth-conducive measure of coherence, supports the coherence theory of justification against the foundationalist theory. In particular, the issue of the individual confirmational force of propositions for other propositions swings free of the foundationalist vs. coherentist debate. The various impossibility results, and the attempts to answer them, remain interesting for their own sake. It remains also a fascinating question what role, if any, the mutual positive relevance either of "reports" or of the contents of "reports" plays in the justification of our most important empirical beliefs about the external world and the reliability of our senses and memory. However, it will help to clarify our thinking if we set aside the idea that the coherentist theory of justification is either supported or refuted by conclusions drawn from these investigations.²

² Tomoji Shogenji (2005, pp. 311-12) has made brief comments which concur with the thesis of this paper--that the aims of Bayesian coherentism are not coherentist in the classical epistemological sense and that the report propositions are taken as given by Bayesian coherentists, which fits well into a foundationalist schema. However, Shogenji's brief remarks were made prior to the publication of the explicit and detailed arguments to the contrary that I am discussing, and he does not argue the points.

3. Justification, positive relevance, and foundationalism

To understand how the idea has arisen that Bayesian coherentism is related to the coherence theory of justification, it is necessary to distinguish confirmational force or positive relevance, on the one hand, from justification, on the other hand. As I am using the terms, the “confirmational force” or “positive relevance” of an evidential proposition E is its ability to provide confirmation to some other proposition H. So to say that E has confirmational force or positive relevance in this sense is always to make a relational claim. E has confirmational force for H if and only if $P(H|E) > P(H)$.³

On the other hand, either E or H is *justified* just in case it has, for the subject, sufficiently high probability, either foundationally (if foundationalism is true) or by inference from other propositions.⁴

The foundationalist position in epistemology is entirely related to the justification of beliefs (or propositions as believed by subjects) and to the structure of that justification. According to foundationalism, all justification is ultimately, when properly understood and analyzed, one-directional (see Foley 1980 and McGrew and McGrew 2008). Inferred beliefs must be based upon a privileged set of beliefs whose justification does not, in turn, depend upon inference. Laurence Bonjour describes the position clearly.

The most fundamental [epistemic issue] is a general problem having to do with the overall justificatory structure of the system of empirical knowledge.... [T]he common denominator among [versions of foundationalism], the central thesis of epistemological foundationalism as understood here, is the two-fold thesis: (a) that some empirical beliefs possess a measure of epistemic justification which is somehow immediate or intrinsic to them, at least in the sense of not being dependent, inferentially or otherwise, on the

³ The question of the role of background evidence here is an interesting one. Should we say that E has *individual* positive force for H if some particular background evidence is required to make it relevant? It seems that the coherence theorists I want to discuss would say that *individual* confirmational force (or “individual credibility”, as they call it) should be construed *without* including any background beliefs. However, I cannot find any place where they address this question explicitly. It might make a difference if we are talking about literal testimony of witnesses as opposed to the “testimony” of sensory or memory experiences in a Cartesian context. Background knowledge is obviously relevant in the case of literal witnesses and normal background, and there is a fairly clear meaning to the concept of individual force of the testimonies of literal witnesses.

⁴ As is generally the case in formal epistemology, in this paper I do not insist on a particular theory of the nature of probability. Readers are free to take “probability” to refer to subjective personal degrees of belief, though I am more inclined to construe probability in terms of logical relations of propositions as these would be understood by a hypothetical perfectly rational subject.

epistemic justification of other beliefs; and (b) that it is these “basic beliefs”, as they are sometimes called, which are the ultimate source of justification for all of empirical knowledge. All other empirical beliefs, on this view, derive whatever justification they possess from standing in appropriate inferential or evidential relations to the members of this epistemically privileged class. (BonJour 1985, pp. 16-17, emphasis in original.)

Moderate foundationalists hold that these foundational beliefs may have merely intermediate probability, but not in virtue of inference from anything else. The positive probability of the moderate foundationalist's privileged propositions must, of course, be high enough to rate some positive epistemic status, which the moderate foundationalist may call by various names such as “justification” or “warrant” (see BonJour 1985, p. 26). The strong foundationalist insists, instead, that the foundations on which our everyday beliefs are based must have maximal probability. They must be certain or incorrigible. (McGrew, T. 1995, pp. 57-58, BonJour 1985, p. 26-27).

Nothing in even the strong foundationalist position implies that inferred beliefs must be justified or even partially confirmed by means of *single, individual* foundational beliefs as opposed to conjunctions of foundational beliefs. McGrew, for example, in defending strong foundationalism (which he calls “classical foundationalism”) pictures an “evidence tree” in which some inferred belief Q_1 might require an entire set of foundational propositions $\{R_1...R_n\}$ for its justification. (McGrew, T. 1995, p. 50)

This means that foundationalism, even in its strongest form, does not require that individual foundational beliefs, *taken alone*, must have confirmational force for inferred beliefs. It would be possible to demand incorrigible foundations while holding that in some given case or even in a great many cases it is only the conjunction of a set of foundational beliefs that confirms some important inferred belief. The structure of justification, in that case, would remain one-directional, and the incorrigibility of the foundations would still be necessary. The evidence tree picture, with the foundations as the “roots”, is consistent with a situation in which each individual member of $\{R_1...R_n\}$ does have some degree of credibility for a higher-level belief Q_1 , but it is also consistent with a situation in which this is not the case. The foundationalist will always insist that individual foundational beliefs must have justification (for the incorrigibilist, a maximal probability of 1), but he need not insist that individual foundational beliefs have evidential force by themselves for other propositions.

It is also possible for the confirmational force which ultimately comes from the conjunction of foundational evidence to be manifested in complex ways at higher levels of the evidence structure (see McGrew and

McGrew 2008 and McGrew, L. 2010). Richard Foley (1980, pp. 60-61) points out correctly that the foundationalist position, strictly speaking, is that non-foundational propositions are not *sources* of justification at all but rather channels of the justificatory force that ultimately comes from the foundations. However, this does not preclude foundationalism from acknowledging and accounting for relations that are intuitively thought of as “mutual support”. The role of non-foundational propositions as channels of various foundational propositions is crucial to the analysis of mutual support (McGrew and McGrew 2008). If the project of Bayesian coherentism or a closely related project is successful, the foundationalist will argue that it is successful in virtue of the fact that the justification ultimately provided by the foundations can in some cases be *described* in terms of a measure of positive relevance among items of evidence or among the contents of a set of sensory or testimonial “reports.” The specifics of any foundationalist explication of a truth-conducive coherence measure (if one is ultimately found) will depend upon the specifics of the measure in question, upon *ceteris paribus* conditions, and, perhaps even more crucially, upon independence conditions among items of evidence (see previous section).⁵ There is no reason to think that such a foundationalist explication is impossible in principle.

Coherentists, in contrast to both moderate and strong foundationalists, reject the requirement for one-directional justification and hold that our empirical beliefs are justified entirely in terms of inferential support relations (coherence relations) within a web of beliefs which confer justification upon the set or system. Coherentists reject the existence of any foundationally justified beliefs--that is, beliefs that a subject is justified in holding without inferring them from anything else. As BonJour explains,

If there is no way to justify empirical beliefs apart from an appeal to other justified empirical beliefs, and if an infinite sequence of distinct justified beliefs is ruled out, then the presumably finite system of justified empirical beliefs can only be justified from within, by virtue of the relations of its component beliefs to each other--if, that is, it is justified at all. (BonJour 1985, pp. 87-88)

But this essential coherentist position does not imply that it is impossible for an individual proposition, by itself, to have *confirmational force* for some other proposition. For example, suppose that the subject believes, “The balls in this bag are all painted only with even numbers.” There is nothing about the coherentist position that requires that this proposition

⁵ My own suggestion, the exposition of which lies beyond the scope of this paper, is that it would be more helpful to think about the coherence of the reports themselves rather than the coherence of their contents, and that we should try to explain this coherence in a way that is *relative to* some hypothesis of interest. C.I. Lewis, the arch-foundationalist, was particularly insistent that the reports be independent given the *negation* of an hypothesis of interest (1946, pp. 344, 349).

has *no* positive relevance by itself for the proposition, “The ball I will pull out of this bag will not be painted with the number three.” In fact, the second proposition has a probability of 1 given the first proposition. A picture in which an individual proposition has the power to raise the probability of another is not at all contrary to the principles of coherentist justification. Yet, as I shall point out below, Michael Huemer argues strenuously that the coherentist *must* assert that propositions *do not* have individual confirmational force, and Erik Olsson labels the denial of individual positive relevance an assertion of “non-foundationalism.”

4. Individual confirmational force and foundational justification in the literature

A confusion on these issues in the Bayesian coherence literature appears to stem in part from an incorrect interpretation of some now-famous comments by C. I. Lewis:

The principle in question may be illustrated by the example of a number of witnesses, each of them not especially trustworthy as individual reporters, who independently tell the same circumstantial story. In case of such concurrence, one must quickly be convinced that what they tell is practically certain. In similar fashion, the probability of an objective belief...may come to have very high probability, even on the basis of confirmations which, taken separately, might not warrant a particularly high degree of assurance. (Lewis 1946, p. 239)

Our previous example of the relatively unreliable witnesses who independently tell the same circumstantial story, is another illustration of the logic of congruence;...For any one of these reports, taken singly, the extent to which it confirms what is reported may be slight. And antecedently, the probability of what is reported may also be small. But congruence of the reports establishes a high probability of what they agree upon, by principles of probability determination which are familiar:.... (Lewis 1946, p. 346)

Lewis defines the coherence in which he is interested (which he calls “congruence”) as follows:

A set of statements, or a set of supposed facts asserted, will be said to be congruent if and only if they are so related that the antecedent probability of any one of them will be increased if the remainder of the set can be assumed as given premises. (1946, p. 338)

The context in which Lewis applies the scenario of the “unreliable witnesses” is the justification of memorial beliefs. Lewis acknowledges that our apparent memories do not guarantee what we seem to remember and that our apparent memories taken individually do not seem to give very high probability to that which they attest (1946, p. 334). He brings in the scenario of the individually unreliable witnesses who tell the same story as an analogy for memorial beliefs which, taken jointly, provide a stronger case for that which they attest than they would taken singly, because of the phenomenon of congruence among them.

Erik Olsson (2013) incorrectly takes Lewis's position concerning memory to be a version of weak foundationalism. When discussing the coherence theory of justification and different versions of foundationalism, Olsson implies that the phrase “supposed facts asserted” as used by Lewis refers to moderately justified foundational beliefs that are assigned a “special role” because they are “close to experience.”

There is an obvious objection that any coherence theory of justification or knowledge must immediately face. It is called the isolation objection: how can the mere fact that a system is coherent, if the latter is understood as a purely system-internal matter, provide any guidance whatsoever to truth and reality? Since the theory does not assign any essential role to experience, there is little reason to think that a coherent system of belief will accurately reflect the external world. A variation on this theme is presented by the equally notorious alternative systems objection. For each coherent system of beliefs there exist, conceivably, other systems that are equally coherent yet incompatible with the first system. If coherence is sufficient for justification, then all these incompatible systems will be justified. But this observation, of course, thoroughly undermines any claim suggesting that coherence is indicative of truth.

As we shall see, most, if not all, influential coherence theorists try to avoid these traditional objections by assigning some beliefs that are close to experience a special role, whether they are called “supposed facts asserted” (Lewis, 1946), “truth-candidates”..., “cognitively spontaneous beliefs” (BonJour, 1985) or something else. Depending on how this special role is construed, these theories may be more fruitfully classified as versions of weak foundationalism than as pure coherence theories. An advocate of weak foundationalism typically holds that while coherence is incapable of justifying beliefs from scratch, it can provide justification for beliefs that already have some initial, perhaps miniscule, degree of warrant, e.g., for observational beliefs.

The reference to these beliefs “close to experience” as having an *initial* degree of warrant indicates that Olsson is taking them to be moderate foundations--they have this degree of warrant not in virtue of being inferred from other, foundational beliefs but rather in virtue of something else, such as their being cognitively spontaneous or “observational” in nature. (Cf. Olsson 2005, p. 65, which refers to a “Lewisian weak foundationalism.”) In this passage, Olsson recognizes correctly that foundationalism is concerned with the warrant or justification of a set of privileged beliefs to which foundationalists assign a special role. However, he is incorrect to take Lewis to hold a version of moderate foundationalism that grants some privileged but non-certain beliefs an “initial” degree of warrant.

To explain Lewis's use of the phrase “supposed facts asserted”, it will be useful to lay out a notation that enables us to distinguish clearly what I will call the report propositions from the content propositions. I will continue to use the convention of witness reports, with the continued understanding that, per Lewis, this analysis is meant to extend to reports that come from non-personal sources such as apparent memory or sensation. Let us stipulate that report propositions will be designated by W_1 , W_2 , and so forth. A report proposition is the statement *that* a witness has testified to a particular content. When, for simplicity's sake, I am assuming that the witnesses are saying exactly the same thing, I will simply designate the content as A, without use of a subscript. With all this in place, if two witnesses both attest that A, the report propositions are as follows:

W_1 Witness 1 says that A.

W_2 Witness 2 says that A.

If the witnesses attest different things, the report propositions can be shown like this:

W_1 Witness 1 says that A_1 .

W_2 Witness 2 says that A_2 .

So, for example, if two witnesses say that Jackson was at the crime scene, we have the report propositions

W_1 Witness 1 says that Jackson was at the crime scene,

W_2 Witness 2 says that Jackson was at the crime scene,

and the content proposition

A Jackson was at the crime scene.

Virtually all of the interest in Bayesian coherence literature about reports is directed toward the application of coherence measures to the A's, the *contents* of various witnesses' reports, in an attempt to see whether an increase in the unconditional positive relevance of the contents of various witness reports is truth-conducive for the conjunction of those contents.⁶

C.I. Lewis's interest in discovering whether coherence among "supposed facts asserted" is of epistemic value is the historic origin of this focus in the literature on the content propositions. Lewis is, of course, well-known for his insistence on the necessity for a given element in experience (Lewis 1952, 1946 pp. 171ff, 186), and there is no reason whatsoever to think that he made an exception to this requirement in the area of memory. Rather, Lewis uses the phrase "supposed facts asserted" (Lewis 1946, p. 338) to refer not to any foundational propositions but rather to the A's which are attested by the W's. In contrast, the "reports" are the W's, the incorrigible deliverances of the "witnesses"- i.e., our experiential beliefs. Lewis confirms this interpretation when he explicitly analogizes incorrigible experience to the report of a witness.

The root of the matter is that the unreliable reporters do make such congruent reports without collusion; that we do find ourselves presented with recollections which hang together too well to be dismissed as illusions of memory. The indispensable item is some direct empirical datum; the actually given reports, the facts of our seeming to remember; and without that touchstone of presentation, relations of congruence would not advance us a step toward determination of the empirically actual or the validly credible. (Lewis 1946, pp. 352-3)

Hence, a proposition like "I went to the store yesterday" would be a content proposition, while the "report" itself would be a memory-like experiential belief such as, "I seem to recall having gone to the store yesterday." The content proposition has, in Lewis's system, only inferential justification, while the experiential report is certain and is non-inferentially justified. Olsson's identification of Lewis as a "weak foundationalist" is based upon a confusion concerning the status in Lewis's system of the A's--the content propositions or the "supposed facts" which are "asserted" by the "reports" of memory and sensation.

When Olsson (2013) discusses Lewis's insistence that memory-like experiences do need to have some degree of individual confirmational force, he ties this as well to his claim that Lewis is a weak foundationalist. Lewis says

⁶ Bovens and Hartmann (2003, pp. 15ff) have worked on coherence and the truth of an entire set of A's where the A's are not all identical. Others (e.g., Olsson 2005, pp. 24ff) have simplified the model by discussing cases where witnesses testify the same thing--that is, where the A's are identical. Only Wheeler (e.g., 2009) has published work focused on the coherence of the report propositions as opposed to the content propositions.

[T]hese are, of course, generalizations from past experience (of remembering, and of later confirming or disconfirming) and as such are presently available only in the form of remembered experience, and require for their own authentication the presumption of initial credibility of the merely remembered as such. And the degree of this initial credibility, we have said, is hardly assignable. But it does not need to be assigned....If, however, there were *no* initial presumption attaching to the mnemically presented...then no extent of congruity with other such items would give rise to any eventual credibility (Lewis 1946, p. 357).

Olsson (2013) concludes from this,

While Lewis allows that individual reports need not be very credible considered in isolation for coherence to have a positive effect, he is firmly committed to the view that their credibility must not be nil. He writes, in his discussion of reports from memory, that “[i]f ... there were no initial presumption attaching to the mnemically presented ... then no extent of congruity with other such items would give rise to any eventual credibility” (357). In other words, if a belief system is completely isolated from the world, then no justification will ensue from observing the coherence of its elements. Thus, Lewis is advocating weak foundationalism rather than a pure coherence theory.

Here we encounter another source of the confusion concerning the connection between Bayesian coherentism and theories of justification. When Olsson refers to the “credibility” of the individual reports, he is referring to what I have called confirmational force. So is Lewis. Lewis’s “initial presumption attaching to the mnemically presented” clearly refers to some degree to which each of the W’s individually *confirms* each of the A’s.

The usage of “credibility” to mean positive probabilistic relevance is present, too, in Olsson’s discussion of “non-foundationalism”, which he (following Huemer, as I will discuss below) understands as an assertion of the *absence* of individual probabilistic relevance. Olsson calls a position “nonfoundationalism” if, according to that position, the probability of some proposition of interest A is not changed (and in particular, is not raised) by either of two items of evidence taken individually.

$$P(A|E_1) = P(A)$$

$$P(A|E_2) = P(A) \text{ (Olsson 2013; Cf. Olsson 2005, p. 72.)}$$

Olsson therefore takes Lewis’s assertion that individual apparent memories must have some degree of *confirmational force* for their contents to mean that Lewis is a weak foundationalist. He is a foundationalist, on Olsson’s view, because Lewis states that the “reports”

must have some degree of confirmational force. He is a weak foundationalist on Olsson's view, because their degree of confirmational force can be very small. Olsson also takes nonfoundationalism to be the *denial* of *any* individual degree of confirmational force.

But the claim that memory-like beliefs both do and must have individual confirmational force, though a claim made by Lewis, is *not* a central thesis of foundationalism, whether strong or weak. Nor is it essential to Lewis's own incorrigibilist foundationalism.⁷ In other words, Olsson moves away from an actually essential position of foundationalism--that the foundational beliefs must have non-inferential *justification*--to the separate claim, which is not essential to foundationalism, that the foundational reports of sensation and memory must have individual *confirmational force* for some proposition A.⁸

The same confusion is amply illustrated in Michael Huemer's discussions of this issue, in which he treats the matter of individual confirmational force as a watershed between foundationalists and coherentists. In a discussion of the question "Must the coherentist reject individual credibility?" Huemer argues for the surprising conclusion that the coherentist must do so.

[T]his theorem [that independent propositions with no individual force also have no force taken together] poses a problem only for coherentists who claim that coherence can provide justification in the absence of any credibility on the part of individual witnesses or individual beliefs. Why should we saddle the coherentist with this claim?

First, the claim is crucial to differentiating foundationalism from coherentism. Foundationalists and coherentists can agree that, if a proposition coheres with a set of beliefs that are themselves already justified, then that proposition is thereby to some degree justified.... Foundationalists and coherentists, in short, do not differ over whether coherence can be epistemically valuable. Where they differ is over whether coherence *alone* can provide justification for belief, or whether we must posit a privileged class of belief having some individual credibility. (Huemer 2007, p. 339)

Huemer's discussion begins here with the issue of individual *credibility*--which, as Huemer defines it, is individual confirmational relevance. (See

⁷ The question of why Lewis insisted that the individual mnemonic beliefs must have individual positive relevance for their contents is a fascinating one, but it lies outside the scope of this paper.

⁸ Given Olsson's explicit use of BonJour in his discussion of Lewis in the immediate context, it seems plausible that this mistake on Olsson's part has been borrowed from BonJour's discussion of Lewis (BonJour 1985, pp. 147-48). However, the BonJour passage on which Olsson relies is not entirely clear.

Huemer 2007, p. 338 and 2011, pp. 38, 41 for formal definitions of individual credibility.) As he continues, Huemer states that the difference between foundationalism and coherentism concerns whether coherence can justify all our beliefs in the absence of some class of “privileged” propositions. That statement is correct as far as it goes. But the foundationalist's “privileged” propositions are not (necessarily) those that have individual confirmational force for some other proposition but rather those that have individual *justification*. In the final clause, Huemer incorrectly calls the foundationalist's privileged beliefs those which have “some individual credibility.”

Huemer moves again to justification or “likeliness to be true” as his exposition goes on:

It is said that putatively foundational beliefs, being supported by no reasons, must be merely arbitrary, or that the foundationalist cannot coherently explain why allegedly foundational beliefs should be thought *likely to be true* [my emphasis]. The coherence theory is advanced in large part as an alternative to such putatively arbitrary foundations. But a 'coherence' theory that allows beliefs to have a *small* degree of non-inferential *justification* [my emphasis] offers no escape from these sorts of problems. To avoid the central alleged defects of foundationalism, the coherentist must eschew foundational justification entirely. (Huemer 2007, pp. 339-40)

These sentences describe a real, essential point at issue between coherentists and foundationalists--namely, the existence or non-existence of non-inferentially justified beliefs. However, in the very next sentence, Huemer switches back yet again, quite explicitly, to the issue of individual credibility (individual confirmational force) *for* some target proposition:

The coherence theory of justification should therefore be understood as being committed to lack of individual credibility. *In probabilistic terms, this means that we should assume in our testimonial models that $P(A|W_1) = P(A)$.* (Huemer 2007, p. 340, my emphasis)

Why “therefore”? As I have argued above, there is nothing whatsoever about the coherentist claim that there is no such thing as foundational *justification* that implies that there is no such thing as individual confirmational force from one proposition for another. The essential point of coherentism is not that propositions have ability to provide some support to *other* propositions only when taken in groups, but that empirical propositions or beliefs *are themselves well-justified* only when taken in groups, and that all justification is of this sort.

It is only because of this confusion between foundational justification and individual positive relevance (which also arises in the 2011 article) that Huemer believes that his own earlier impossibility result (1997), showing

that individually irrelevant and conditionally independent propositions can have no force when combined, is potentially problematic for the coherentist theory of justification. This concern in turn motivates him to make suggestions (2007 and 2011) to coherentists as to how they can evade this result while retaining what he views as their fundamental non-foundational commitments.

Thus we can see that attempts to connect Bayesian coherentism with coherentism as a theory of justification arise from confusions, either in interpretation (in Olsson's misunderstanding of C.I. Lewis) or in conceptual analysis (in the confusion between individual confirmational force and individual justification).

5. Bayesian coherentism or Bayesian foundationalism?

As I described it at the outset, the broad Bayesian coherentist project is the attempt to discover whether there is a positive relationship, either in general or in an important class of cases, between the coherence of the contents of a set of reports and the truth of what those reports attest. Whether such a relationship can be found or not, I have argued that it is compatible with a foundationalist structure and even with strong foundationalism.

Even more interesting is the fact that the Bayesian coherentist literature related to reports, including the impossibility results, assumes that we have the *reports* and treats them as given evidence, independent of coherence considerations. The questions about testimony considered by Bayesian coherence theorists concern what the effect will be of conditionalizing on sets of report propositions (the W's) if what they report (the A's) is more (or less) coherent. The entire structure of the questions raised and debated is therefore implicitly one-directional and foundationalist, depending as it does on the existence of some given evidence and on inference *from* that given evidence to other, inferred propositions.

The implicit foundationalism of Bayesian coherentism is also clear when we consider the intended connection to Cartesian skepticism and the problem of the external world. The hope of the Bayesian coherence project is that we might be able to use coherence relations among our sensory or memory-type experiences to help form a response to the Cartesian skeptic. It is beyond the scope of this paper to discuss whether or not this project is likely to succeed or whether the best way to understand it is in terms of coherence among the contents of sensory or memorial experience reports. Presumably the Cartesian skeptic would argue that his Deceiver can account for coherence relations as well as realism accounts for them.

But the probable success of the proposed project is not to the point here. My point, rather, is that the very nature of the project involves treating the “reports”—i.e., the experiences—as the *given evidence* in virtue of which the higher-level beliefs are justified. These are exactly the sorts of things that foundationalists consider to be non-inferentially justified beliefs “having the character of ‘reports’” (Lewis 1946, p. 347). The strong foundationalist says that we are non-inferentially justified in believing that things *seem* to us to be a certain way and that we *seem* to remember such-and-such. It is then a question of whether and how we can justify more interesting propositions about real events and things in the external world based on these given foundations. The foundationalist insists that, at bottom, we must have something to work with, some evidence that is justified without inference, and that other beliefs are justified from those foundations. Bayesian coherentists seem tacitly to agree.

Bayesian coherentism, then, isn't really a version of coherentism at all. There is nothing in the project of Bayesian coherentism that a foundationalist *qua* foundationalist must reject, and the treatment of the reports parallels the foundationalist demand for the given element in empirical justification. Conversely, the significance of the various impossibility results does not consist in their presenting a challenge to coherentism as a theory of justification.⁹ Coherentism and foundationalism will have to continue to battle it out on the basis of the kinds of arguments that have already been made in epistemology—e.g., arguments for and against the existence of loops of justification, the alleged value of coherence in the absence of foundational justification, and the necessity for a given element in experience. Perhaps Bayesian coherentism should get a new name.¹⁰

⁹ Arguably, the argument here shows that the impossibility results are irrelevant to the coherence theory of justification for an interesting additional reason. Given the structure of the impossibility results, the coherentist should probably reject them *ab initio*. The classical coherentist could object to the impossibility results by saying that they are implicitly question-begging against his position, since they take the justification of the report propositions to be unproblematic and conditionalize on those propositions one-directionally. He could insist that he will consider no impossibility result to be relevant to his position unless it treats *all* of our justification, including our justification for believing that we *have* some set of reports, as arising from coherence and inferential relations among beliefs. But that position has never been defended anywhere that I am aware of in the Bayesian coherentist literature. It is the results themselves, not their presuppositions, that are considered *prima facie* problematic for coherentism.

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