Best Explanationism and Justification for Beliefs about the Future
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Abstract: Earl Conee and Richard Feldman have recently argued that the evidential support
relation should be understood in terms of explanatory coherence: roughly, one's evidence
supports a proposition if and only if that proposition is part of the best available explanation of
the evidence (2008). Their thesis has been criticized through alleged counterexamples, perhaps
the most important of which are cases where a subject has a justified belief about the future
(Byerly 2013; Byerly and Martin forthcoming). Kevin McCain has defended the thesis against
Byerly's counterexample (2013, 2014a). I argue that McCain's defense is inadequate before
pointing toward a more promising solution for explanationism. The Byerly-McCain exchange is
important because it casts light on the difficult issues of the standards for justification and the
nature of epistemic support. Furthermore, McCain's defense of explanationism about epistemic
support represents an important recent development of the burgeoning explanationist program in
epistemology and philosophy of science.

Key words: epistemic justification, evidentialism, explanationism, epistemic support

1. Best Explanationism

Before criticizing Conee and Feldman's proposal, it is important to get clear on what their thesis

is. Conee and Feldman are well-known as defenders of e*videntialism*, which says a doxastic

attitude is justified if and only if that attitude *fits* the evidence possessed by the subject.[1] In order

to evaluate evidentialism, we need to understand what it means for a proposition to "fit"

someone's evidence; that is, we need an analysis of evidential support.

Conee and Feldman have recently attempted to provide such an analysis. In their 2008

paper "Evidence" they argue that evidential fit is a matter of explanatory coherence with a body

of evidence. The rough idea is that one's evidence supports a proposition if and only if that

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[1] Conee and Feldman also characterize evidentialism as a supervenience thesis in the afterword to "Evidentialism"
(2004). The alternative characterization is, according to Conee and Feldman, equivalent to their definition of
evidentialism as EJ.

proposition is part of the best available explanation of the evidence.[2] That notion of evidential

fit, plus evidentialism, suggests this thesis:

> Best Explanationism (BE)   S's evidence e justifies p to some degree at *t* iff p is
> part of the best available explanation of e at *t* or p is available as an entailment of
> the best available explanation of e at *t*.[3]

Presumably, for an explanation or a consequence to be available is for it to be actually or

potentially within the subject's awareness. That understanding of awareness allows for the

possibility of propositions being supported by a subject's evidence when the subject has not

thought of the propositions. It also prevents the support relation from extending beyond what the

subject can understand. Consider complex logically necessary propositions. They are entailed

by every body of evidence, but many of them are too complicated for many to understand. So, in

order to be justified in believing any proposition on the basis of a body of evidence, the subject

must at least be capable of becoming aware of the entailment between the body of evidence and

the proposition which the evidence justifies.

Three more notes about the wording of BE: first, BE is a principle of propositional

justification, not doxastic justification. BE says how a proposition is supported by evidence.

Whether the subject has a justified *belief* on the basis of some evidence requires the satisfaction

of further conditions, such as a basing condition. Second, it may be that a proposition is well-

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[2] There has been some debate about whether Conee and Feldman intended a biconditional reading or a sufficient condition reading. T. Ryan Byerly argues that the context of their remarks suggests the biconditional reading (2013). Kevin McCain reports that Earl Conee has stated in private conversation that the principle was intended only as a sufficient condition (2013 fn. 4; 2014 fn. 6). In this paper, we will treat BE as a biconditional, as McCain does.

[3] A few notes are in order. First, this definition of BE includes revisions that both Byerly and McCain argue for in their papers. For brevity, I have simply incorporated those revisions, along with others described below, into my definition of the principle. Second, Byerly and McCain have used different names for essentially this principle. Byerly (2013) and Byerly and Martin (forthcoming) call the thesis (EXP+E); McCain (2013) calls it (EE). Third, while Conee and Feldman originally proposed BE, McCain has been the most ardent defender of explanationism about evidential support.

supported by *some* of a subject's evidence, but the subject is also in possession of other evidence

which defeats the supporting evidence. So the subject's whole body of evidence does not justify

the proposition. BE allows us to make that distinction.[4] Third, a proposition may be supported

to some degree by a whole body of evidence, but not enough to justify believing the proposition.

This happens in cases of underdetermination. Suppose that my entire body of evidence e

supports p more than it supports competing available explanations q, r, s, or t. So p is the best

available explanation of e. But p is not flat-out justified because the disjunction of q or r or s or t

is supported even better than p.[5] So, that a proposition is part of the best available explanation

does not entail that the proposition is justified full-stop.

        Now that there is a clear proposal on the table, let us evaluate it.

2.   Beliefs about the Future

T. Ryan Byerly has recently proposed a counterexample to BE (2013). Kevin McCain (2014a)

has responded to Byerly, as well as developed explanationism about evidential support in more

detail (2013; 2014b). Byerly and Martin (forthcoming) reply to McCain (2014a). The main

issues in the debate appear in Byerly (2013) and McCain (2014a), so I will focus on those

papers. The Byerly-McCain exchange concerns the prospects of BE justification of beliefs about

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[4] Note, however, that McCain's formulation EE in his (2013) does not allow this distinction. His wording of the
principle says S is *justified in believing* that p if p is part of the best available explanation or available as a
consequence of that best explanation. Two points deserve mention. First, the wording suggests McCain's EE is a
principle of doxastic justification, contrary to what seems to be McCain's stated aim of offering a principle of
propositional justification (2013, p. 302). Second, because McCain imposes a total evidence requirement on what
counts as a best explanation, his EE principle does not analyze what it is for evidence to support a proposition
simpliciter, but only of what it is for a total body of evidence to support a proposition.

[5] Richard Fumerton raises this point in discussing the difficulty of abductivist responses to external world skepticism
(2005). To be flat-out justified in believing the real world hypothesis you have to be justified in believing not only
that the real world hypothesis is a better explanation than each competitor, but also that it is a better explanation than
the disjunction of competitors. I agree with Fumerton on this point.

the future. BE claims that a necessary condition of any proposition being justified is its being a part of the best explanation of the subject's evidence or a logical entailment of that explanation. Byerly thinks some intuitively justified beliefs about the future do not satisfy BE (2013). He describes a scenario in which he has been golfing well and in good conditions for an entire day. He starts a putt that looks like it will go in. Byerly claims that the proposition *the ball will go into the cup* is justified for him.[6] But its justification does not depend on it being a part of the best explanation of his current evidence, he argues, because "the ball's rolling into the cup at some later time doesn't explain why right now [he has] the evidence that [he has]" (2013, 235). He argues that the causes of his current evidence are past and present facts, not future ones; therefore past and present facts explain his evidence, not future ones.[7] So, the best explanation of his evidence, and therefore what he has justification for believing, consists entirely of propositions about the conditions under which he is putting. No claims about the future enter into this explanation. Therefore, he concludes, BE delivers the intuitively implausible verdict that he does not have justification for *the ball will go into the cup*.

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[6] My lack of athletic ability prevents me from possessing justification for propositions of that form. But because S can be justified in believing that p while T is justified in believing not-p in virtue of S and T possessing different evidence, my inability to justifiably believe I am about to score a point in just about anything that requires sustained coordination is no objection to the plausibility of Byerly justifiably believing his putt will go in.

[7] Byerly (2013) equates rejection of future facts as *causes* for his present evidence with rejection of those facts as *explanations* of his present evidence. He is tacitly assuming a causal theory of explanation: to explain E is to cite the causes of E. It is important to note this assumption because it is crucial in his argument against BE and because the causal theory is not uncontroversial. For a defense of it, see Lipton (2004). If the causal theory is rejected, it is open to the defender of BE to consistently affirm *both* that Byerly's evidence at t_1 is explained by some proposition about the future *and* that there is no fact at t_2 causing Byerly's t_1 evidence. Note, however, that this move will not by itself protect BE against Byerly's argument: the defender of BE who rejects the causal theory of explanation needs to provide an alternative theory of explanation and argue that the best explanation of the t_1 evidence is in some sense a future *proposition*, while no future *fact* is causally responsible for the t_1 evidence.

Kevin McCain attempts to defend BE from Byerly's argument by offering a reconstruction of Byerly's justification which cites only presently available evidence (2014a). That evidence includes these claims:

(E1) All *observed* golf balls rolling toward a cup in circumstances C have gone into the cup.
(E2) That golf ball appears to be rolling toward a cup in C.[8]

According to McCain, the best explanation of (E1) and (E2), respectively, includes:

(BE1) All golf balls rolling toward a cup in C go into the cup.
(BE2) That golf ball is rolling toward a cup in C.

These form the premises of a justificatory argument for the conclusion:

(BE3) That ball will go into the cup.

McCain's reconstruction, if sound, successfully avoids Byerly's objection that beliefs about the future justified by BE illicitly require future causes of present evidence. But is McCain's reply successful?

I think there are two problems with McCain's reply. The first problem concerns how subjects could possess justification for (BE1). The second concerns the nature of the difference between BE and another view about evidential support Conee and Feldman reject. I will present both problems before considering solutions.

First. Clearly, if the subject is justified in believing (BE1) and (BE2), from them competently deduces (BE3), and lacks defeating evidence, then the subject possesses justification for (BE3). The premises relevantly entail the conclusion and it requires little intellectual sophistication to recognize that fact. (BE1) states that all golf balls in C "go" into the

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[8] McCain does not explicitly state what Byerly's perceptual evidence is, only its explanation (which I have labeled (BE2)); but I believe he would accept my description in terms of subjective appearances.

cup. In order for justification to transmit from the premises to (BE3), which is a claim about the

future, (BE1) must apply to the behavior of *future* golf balls in C. The universal generalization

(BE1) makes no temporal distinctions. What is the justification for (BE1)? According to our

reconstruction, it is (E1): all *observed* golf balls rolling toward a cup in circumstances C *have

gone* into the cup.

Hume taught us that just because things have always gone a certain way doesn't mean

they always will. Something besides (E1) is needed to justify (BE1). Clearly, if it is for the

subject *coincidentally* the case that all observed golf balls in C have gone into the cup, that will

not justify the inference to (BE1). There has to be some reason for the subject to think that the

observed regularity will continue. This is not to require that in order to have justification for

beliefs about the unobserved, a subject must have evidence that *guarantees* the observed

regularity fits a general pattern. Indeed, the subject's justification may only make probable that

the observed regularity is part of a general pattern. This justification may be defeated by future

evidence, including future observations in similar circumstances where the previously observed

regularity fails to obtain. The fact that the regularity might fail to hold in some future

circumstances is insufficient to defeat the subject's justification at an earlier time for believing

that the regularity would hold in the future, provided that the subject had, at that earlier time,

good reason to think the regularity would hold in the future.[9] Regardless of how strong one's

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[9] Consequently, the standard of justification I am defending here is weaker than what Hume requires. In the *Enquiry*, Hume writes, "May I not clearly and distinctly conceive that a body, falling from the clouds, and which, in all other respects, resembles snow, has yet the taste of salt or feeling of fire?" (22). Hume is requiring that one's justification for a law-premise connecting observations with propositions describing general regularities must be so strong as to preclude the possibility of the regularity failing to obtain. Contrary to Hume, I am allowing that one may have fallible justification for the law-premise and still get justification for one's belief about the general regularity. Thanks to an anonymous referee for helping me to clarify this point.

justification must be to justifiably believe a proposition describing a lawful connection between an observed regularity and a general regularity that would make probable the observed regularity, some such law-proposition must be justified in order for one to believe with justification that there is a general regularity. Thus, the universal generalization (BE1) needs to be justified by an inference from (E1) to a claim connecting being a golf ball in C with going in the cup *as a matter of law*, and from those premises to (BE1). Otherwise, there is no assurance that the behavior of *future* golf balls in C will resemble the behavior of *past* golf balls in C, and so (BE1) would be unjustified. And if (BE1) is unjustified, it can't justify (BE3).

Byerly agrees with this point. He argues that for his present evidence to justify (BE3) would require subjects to possess justification for believing there are laws of nature which entail (BE3), but such justification would require a degree of intellectual sophistication ordinary subjects lack (2013, 239). Consequently, he thinks ordinary subjects are not justified in using descriptions of laws in their inferences. McCain agrees with Byerly that subjects are often not justified in believing there are laws of nature which would make claims like (BE3) probable, but McCain claims such justification is not necessary (2014a; 6).[10] The problem is that the universal generalization fails to justify propositions about the future unless the subject possesses justification for believing the observed regularity will continue as a matter of law.

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[10] Here is McCain: "Nowhere in this explanation is a particular law of nature appealed to, nor does it seem that such an appeal is necessary… Additionally, while it may be that laws of nature explain the truth of the universal generalization (assuming that it is true), the fact that these laws ultimately explain the generalization does not entail that these laws must be part of the explanation. In light of this fact it seems that one can have an explanation available to her that includes a generalization of this sort without having the law of nature that explains the truth of the generalization also available" (2014a, p. 6). Below, I return to the issue of how detailed one's understanding of a law of nature has to be for justification. As we shall see, it is possible McCain intends something rather specific by "particular law of nature": he may not want to eliminate *all* requirements concerning inferences to lawful grounds of observed regularities. If so, it is unclear in McCain (2014a), as the remarks just quoted seem to suggest that belief in a universal generalization is sufficient to justify the inference in question.

In an instructive note, Laurence BonJour concludes his abductive argument for external world realism by saying that even if his argument works, and even if (as he thinks) the reasoning he requires on the part of ordinary subjects is not too complicated, it is unlikely people even implicitly work through such reasoning (2003, 96). He concludes with skepticism about doxastic justification. BonJour's idea is that epistemologists ought to first identify the standards for justification, and then see what is required to meet those standards.

There is an important moral to be drawn from the Byerly-McCain exchange on this point. Their debate is an instance of the epistemologist's concern with discovering the conditions under which subjects could possess justification, while hoping those conditions can be met by non-epistemologists. Those who seem to require too much intellectual work for people to possess justification are charged with "over-intellectualization" while those who don't are accused of making justification too easy. Part of Byerly's criticism seems to be that the standards explanationism requires are too high for ordinary subjects. In reply, McCain appears to lower the standards, instead of identifying a way to meet them.[11] McCain seems to worry that requiring too much cognitive work will yield a result similar to BonJour's: it is possible, though unlikely, that anyone possesses the relevant sort of justification. I think it is clear that justification for believing a regularity is lawful is required to justifiably believe the regularity will hold in some future case. Explanationism has to accommodate this while avoiding skepticism about justification for beliefs about the future.

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[11] But see below, where I consider a way McCain's position could be understood as accepting standards similar to Byerly's. As I said in footnote 10, if McCain intended the alternative reading, it is unclear in his (2014a).

The second problem is that McCain's justification of (BE3) is accomplished solely by the use of enumerative induction plus syllogistic inference. No distinctly explanatory reasoning was involved. I don't wish to argue here that induction is logically independent of explanatory inference.[12] That is a separate issue. The problem here is that, according to Conee and Feldman, BE is superior to "evidential proportionalism": the thesis that evidential support is a matter of logical and probabilistic relations holding between propositions (2008, 94). But if BE 'explanations' consist only in non-explanatory forms of logical and probabilistic inference, such as induction and syllogistic inference, then BE and proportionalism are not competitors. Propositions supported by explanatory relations to one's evidence will simply be propositions supported by logical or probabilistic relations to one's evidence. If that is so, BE has all the problems Conee and Feldman claim for evidential proportionalism, and evidential proportionalism has all the virtues Conee and Feldman claim for BE.[13]

One might reply that if enumerative induction is a kind of explanatory reasoning, then the justification a subject gets through induction *is* justification the subject gets using explanatory reasoning. Consequently, Byerly could use induction while BE remains unscathed. While analyzing enumerative induction as a kind of explanatory inference could be used as part of an argument that BE and proportionalism are analytically distinct, the problem remains: if those

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[12] Richard Fumerton has argued that inference to the best explanation is just enthymematic inductive reasoning (1980). If Fumerton is right, there are no instances of propositions justified by explanatory inference that are not justified by enumerative induction. For a contrary view, see Harman (1965).

[13] One of Conee and Feldman's reasons for rejecting evidential proportionalism is that it seems to justify propositions made probable or entailed by a subject's evidence whose relation to the subject's evidence is something of which the subject is unaware. A response is that the mere *existence* of a logical or probabilistic relation obtaining between one's evidence and some other proposition is not sufficient to justify the proposition. For justification, the subject must also be *aware* of the relation. Conee and Feldman added an availability condition to their account of BE for what I assume is the same purpose. With the availability condition added to both the proportionalist and explanationist theses, it is not clear how the views are different if BE explanations are just disguised uses of non-explanatory forms of inference.

forms of inference are not distinct, BE and evidential proportionalism are not competing

accounts of evidential support because they justify all and only the same propositions to the same

degree. So, BE cannot solve problems raised for proportionalism. To block the objection,

explanationists must identify non-inductive justification-conferring explanatory inferences at

work in our reasoning. McCain at least seems to allow that inductive inference is sufficient to

justify (BE1) independently of any non-inductive inference.[14] His argument for (BE1) does not

use any independent explanatory reasoning. While 'explanatory' reasoning justifies (BE1), so

does induction. That threatens the claimed superiority of BE. There is a dilemma here for BE.

Either induction is a species of explanatory inference, and evidential proportionalism is no longer

BE's competitor; or induction is not a species of explanatory inference, and BE is false.

Now for some replies on behalf of explanationism. To the first objection: explanationists

should accept that beliefs about accidental regularities are insufficient to provide justification for

universal generalizations. Therefore, subjects with justification for beliefs about the future have

justification for beliefs about laws guaranteeing regularities observed in the past will continue in

the future. Fortunately, that justification is not too difficult to acquire.[15]

There are two ways the defender of BE could try to accomplish this. What they have in

common is the claim that ordinary subjects are able to entertain a belief that is simple enough to

be within their ken, but which counts toward their justification that some observed regularity has

a lawful ground. Regarding the first, what McCain explicitly rejects is that ordinary subjects

must have justification for beliefs about *particular* laws of nature.[16] Perhaps McCain did not

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[14] Thanks to an anonymous referee for helping me clarify this objection.

[15] John Foster presents an abductive argument that would secure a premise like (BE1) in "Induction, Explanation, and Natural Necessity" (1983).

[16] See footnote 10.

mean to reject any and all requirements concerning justification for beliefs about laws of nature, but only those concerning particular laws. As an initial pass, we might understand a belief about a particular law of nature to be a belief whose content fully describes some fundamental relations and entities (or properties, events, states of affairs, or whatever) and says they are necessarily connected. Such laws might be completely accurate descriptions of occurrences of interactions at the level of quantum physics. Maybe understanding a particular law of nature requires the possession of concepts few people have. One option for the explanationist is to argue that ordinary subjects have beliefs the content of which closely enough approximates beliefs about particular laws of nature. Those simpler beliefs function as proxy for more detailed beliefs about laws. The notion of approximation has to be worked out carefully. The important idea is that ordinary subjects can form the simpler beliefs, and if those beliefs are justified, they are sufficient to justify at least some of the same conclusions that the more complex beliefs would be, if the latter were justified. Applied to BE, this possible solution requires that sometimes subjects have justified beliefs about particular laws of nature, but they have them in an approximate form.

For example, our golfer may justifiably believe the putting green lacks dips and bumps, the swing just executed will send the ball straight, and so on. This belief closely enough approximates, for the purposes at hand, a much more detailed group of propositions describing the behavior of the fundamental entities and forces whose cooperation is necessary (and possibly sufficient) for the putt to go in. The more detailed proposition has probably never been thought by anyone, and possibly never will. The golfer's belief approximates the complex proposition well enough for the simple belief to count toward the justification of the golfer's belief that the

putt will go in. This notion of approximate belief allows the explanationist to require justified

belief in laws of nature, but makes those beliefs easier to come by.[17]

The second way is to forego any requirement of a belief in a law of nature, and allow that

subjects instead reach justified conclusions about the future through beliefs about lawful

regularities. The content of a belief about a lawful regularity simply asserts a lawful connection

between events, properties, or states of affairs. A thought of the form, "As and Bs always go

together" is a thought about a lawful regularity. Beliefs about regularities are simpler than

beliefs approximating propositions describing laws of nature. Importantly, beliefs about

regularities do not necessarily approximate more complex propositions describing the

fundamental workings of nature. A subject can form a belief about a lawful regularity of As and

Bs by inferring from the ubiquitous co-occurrence of As and Bs to some causal grounding or

other underlying that regularity.[18]

Which of the two views is preferable need not be resolved here because the reasoning a

person must perform to meet plausible explanationist standards is the same for both. In the golf

ball case, the subject must have a sufficiently great number of experiences of golf balls in C

going into the cup. Bracketing worries about inductive skepticism, the subject may then reason

as follows: "(1) All golf balls in C have gone into the cup. (2) The best explanation of (1) seems

to be that the behavior of golf balls in C is not accidental; rather, there is some causal grounding

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[17] The notion could also be useful in ethics. For example, just war theorists often contend that ordinary combatants
are blameless for their participation in an unjust war partly because they are not well-enough positioned to figure out
that the war is wrong. But if the combatants have beliefs that closely approximate beliefs about ethical principles
and theories, then perhaps they are capable of performing the requisite reasoning, albeit in a simpler way. Thanks to
Brady Hoback for discussion.
[18] This is just a description of the content of a belief about a lawful regularity. I have said nothing about what it
would take to justify such a belief. In particular, the concept of causation appears in the belief, and offering
plausible standards for justified beliefs about causal relations is no small task.

underlying their behavior. (3) Therefore, all golf balls in C will go into the cup."

Explanationists should deal with putative counterexamples this way: allow that subjects reason from observed regularities to a lawful grounding of that regularity, and from that ground to specific instances. Explanationists will have to argue (on pain of inconsistency) that the law-belief is justified by inference to the best explanation. If the explanationist requires justified beliefs about particular laws of nature for the justification of beliefs about the future, then the reasoning the subject performs will have to sufficiently approximate a fully articulated belief about a law of nature; if the explanationist does not require that, then justified belief about a lawful regularity will have to be sufficient. In neither case is the required intellectual sophistication problematic. Whichever way one goes, one of those solutions should be acceptable to explanationists like McCain, and will allow them to defend BE without conceding to skepticism about the future.

While the responses just outlined adequately handle the first problem, I think the second problem remains unsolved. Even if BE and proportionalism are analytically distinct, BE is not a genuine rival to evidential proportionalism if BE 'explanations' are equivalent to disguised uses of other forms of logical and probabilistic inference. I am not sure what such forms of irreducibly explanatory inference there might be, and that is no argument against the possibility of their existence: but that no plausible candidates suggest themselves leads me to doubt there are any. It is up to explanationists interested in securing the independence of BE from proportionalism to argue that explanatory reasoning is independent of these other forms of reasoning. For without being told what distinctly explanatory reasoning is, BE is not a new

theory of evidential support, but a different way of describing an old theory of evidential

support.[19]

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