is fallible” is fallible. It is, of course, possible to decompose this sentence into language and meta-language components or into a position and a sentence and then treat these components in a dialogic way. But we still believe that the sentence itself has a slightly different meaning than its various decompositions.

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Notes

1. In fact, Popper admits that there is an exception falling outside of the scope of non-demonstrable knowledge, but we are going to ignore this issue here. ‘As soon as we take objective knowledge into account, we must say that at best only a very small part of it can be given anything like sufficient reasons for certain truth: it is that small part (if any) which can be described as demonstrable knowledge and which comprises (if anything) the propositions of formal logic and of (finite) arithmetic.

   All else – by far the most important part of objective knowledge, and the part that comprises natural sciences, such as physics and physiology – is essentially conjectural or hypothetical in character; there simply are no sufficient reasons for holding these hypotheses to be true, let alone certainly true. (See Popper 1972, p. 75 and Bartley 1984)

2. However, see (Hauck 1978) for her preference of agent fallibilism and criticism of proposition fallibilism.

References


Why Advocate Pancritical Rationalism?

Darrell P. Rowbottom and Otávio Bueno

Abstract This paper provides a rationale for advocating pancritical rationalism. First, it argues that the advocate of critical rationalism may accept (but not be internally justified in accepting) that there is ‘justification’ in an externalist sense, specifically that certain procedures can track truth, and suggest that this recognition should inform practice; that one should try to determine which sources and methods are appropriate for various aspects of inquiry, and to what extent they are. Second, it argues that if there is external justification, then a critical rationalist is better off than a dogmatist from an evolutionary perspective.

Introduction

Consider two individuals. One believes $h$ dogmatically, and will never give it up. The other believes $h$ just as strongly (i.e., has the same synchronic degree of belief), but is prepared to reconsider that belief in the light of criticism. Is the latter in a better position than the former? From an ordinary language point of view, it seems as if the advocate of (comprehensively) critical rationalism thinks so; and therefore also believes that the latter is ‘justified’ in believing $h$ in a manner that the former is not. Why else recommend the critical attitude?

A possible answer is that the former individual is incapable of learning (insofar as $h$ is concerned), whereas the latter clearly is so capable. But if we accept that one can learn something that is false, as (comprehensively) critical rationalists tend to, then this seems insufficient. Learning could lead one to false beliefs, rather than just true ones. It could also be fatal, rather than merely dangerous.

We endeavour to solve this problem. We argue that the advocate of critical rationalism may accept (but not be internally justified in accepting) that there is ‘justification’ in an externalist sense, specifically that certain procedures can track
truth, and suggest that this recognition should inform practice; that one should try to determine which sources and methods are appropriate for various aspects of inquiry, and to what extent they are. We also point out that Popper seems to accept something similar, in one of his discussions concerning observation statements.

But if there is external justification, then why is a (comprehensively) critical rationalist better off than a dogmatist? We argue that the former enjoys better flexibility and adaptability, and is therefore in a superior position from an evolutionary perspective (ceteris paribus).

Critical Rationalism and Faith

According to Popper's discussion in The Open Society and Its Enemies, being a critical rationalist is ultimately a matter of faith:

Whoever adopts the rationalist attitude does so because he has adopted, consciously or unconsciously, some proposal, or decision, or belief, or behaviour; an adoption which may be called 'irrational'. Whether this adoption is tentative or leads to a settled habit, we may describe it as an irrational faith in reason. (Popper 2003 [1966], p. 255)

If this is correct, however, then it hardly provides a platform on which to promote critical rationalism — understood, to a first approximation, as the philosophical position that we ought to adopt critical attitudes — by argument. Instead, the way ahead would appear to be to proselytize; to spread the faith by encouraging people to make such an irrational leap. Evangelism and critical rationalism would go hand in hand, in principle if not in practice.

The problem with this, as was forcefully argued by Bartley (1962), is that it provides an excuse for irrationalism. If one admits that being a rationalist requires an irrational move, then one should also admit the primacy of irrationalism. There is hence a great excuse — by the rationalist’s own admission — for selecting a different faith:

In sum, the belief that rationality is ultimately limited, by providing an excuse for irrational commitment, enables a Protestant, or any other irrationalist, to make an irrational commitment without losing intellectual integrity. (Bartley 1962, p. 103)

Furthermore, it appears curious to suggest that a genuine rationalist would want to encourage anyone, rationalist or not, to perform a totally irrational act: to make a leap of faith and sustain that faith come what may. ’Behave irrationally because it’s the key to behaving rationally!’ is clearly no way to advocate rationalism. Nor, indeed, is ’Be dogmatic in your non-dogmatism!’ Similarly, Christians who are true to the principles of Christianity do not resort to unethical means to win converts. (And if we are not prepared to make irrational leaps of faith, then why should we expect others to do so?)

It comes as some relief, then, that Bartley (1962, 1984) argues that rationalists need not rely on faith at all:

We can assume or be convinced of the truth of something without being committed to its truth... A rationalist can, while eschewing intellectual commitments, retain both the courage

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of his convictions and the courage to go on attacking his convictions—the courage to think and go on thinking. (Bartley 1984, p. 121)

For present purposes, we will assume — although it is by no means uncontroversial — that Bartley is right about this. But simply because there is no excuse for irrational commitment, it does not follow that we should be rationalists in Bartley’s sense. In fact, Bartley (1962, pp. 215–216) confesses: [M]y argument does not force anyone to be a rationalist... Anyone who wishes, or who is personally able to do so, may remain an irrationalist.

Our aim in what follows is to address this outstanding problem, which is one of considerable practical significance for critical rationalism as a movement, as well as one of considerable interest to any self-styled critical rationalist who is intent on assessing the wisdom of continuing to strive to have a critical attitude!

One might object that “Why advocate pancritical rationalism?” is not the sort of question that a pancritical rationalist ought to ask, because it is (or looks like) a request for justification. However, we do not think that the appropriate methodology for answering the question, or indeed the expected form of the answer, is implicit in the question. We contend that it is perfectly reasonable, for instance, to answer it by critically comparing critical rationalism with the alternatives in the relevant domain. The appropriate question is presumably supposed to be “What’s wrong with critical rationalism?” But a dogmatist may answer simply with “It is not endorsed by the authority”, or even “It is conclusively falsified by the authority”. Ultimately, the verbal formulation therefore matters little. What does matter is how we tackle the question.

Two Kinds of Argument for Pancritical Rationalism

In saying that he has no argument against being a dogmatist, Bartley is perhaps a little unkind to himself. In fact, it is possible to reconstruct two separate kinds of argument from The Retreat to Commitment. The first of these is ethical in character, and suggests that those with critical attitudes may conduct themselves in a more understanding and generous manner than those without:

[S]ince the rationalist... need be committed neither to his rationalism nor to any other of his beliefs, he need not repudiate people with whom he fundamentally disagrees. In principle, he can act toward them in a remarkable way. (Bartley 1962, p. 216)

The second argument is epistemic in character, and suggests that there are reasons of self-interest for having a critical attitude. The fundamental idea is that we may profit from our interactions with others in a manner that others may not from their interactions with us:

[I]f we treat our opponents in discussion not as they treat us, but as we would have them treat us, it is we who profit... We may learn from the criticisms of our opponents even when their own practice prevents them from learning from us. (Bartley 1962, p. 220)

There is a clear sense in which these two arguments are related. By adopting a critical attitude, Bartley thinks, we can behave in a way that enables us to learn from
others when we otherwise might not be able to. Yet doing so will also allow us to behave toward them in a gentler and kinder way than we otherwise might. We need not treat them as enemies of the faith, to be converted or dispensed with. We might even feel rather sorry for some of them (although not, of course, on the basis of a smug assumption of superiority on our own part).

In what follows, we will focus on the argument, roughly, that there are situations in which we can learn if we’re critical, but cannot if we’re not. If correct, however, the first argument is still important. For it suggests that increasing the number of people with critical attitudes need not have a detrimental effect at the societal level; that one person’s gain in this respect need not result in another’s, or indeed the community’s, loss.

Before we continue, however, we’d like to cast some doubt on the strength of the second argument, as it stands. Let’s accept that having a critical attitude does enable new learning possibilities, as this seems rather uncontroversial; e.g., that a fundamentalist’s belief in ‘God exists’ may not be shaken by any argument, whereas a pancritical rationalist’s might be. What, precisely, is the benefit for the latter? ‘God exists’ may, after all, be true. And if we accept that we can learn things which are false – as one of us, while at secondary school, learned that Europeans in the time of Columbus thought that the Earth was flat – then there may be no advantage whatsoever (or even a serious disadvantage in some scenarios). In short, ‘learning’ in this sense – simply changing one’s beliefs – doesn’t seem to have any value.

**Justification Versus Justificationism**

The previous point may be made more starkly as follows. For every conceivable person with a large number of false beliefs and a small number of true beliefs who will come to have more true beliefs than false ones through possessing a critical attitude, there is a conceivable person with a large number of true beliefs and a small number of false beliefs who will come to have more false beliefs than true beliefs. Ranging over possible dogmatists, what’s more, some lucky souls will be dogmatic just about those things that are true.

In light of this, one option would be to suggest that having a critical attitude provides a kind of internal justification for one’s beliefs that having an uncritical attitude does not. But even if this were true, what would the value of such justification be? BonJour (1985, pp. 7–8) suggests that there is none unless justification has a link to truth:

> Why should we... care whether our beliefs are epistemically justified? ... The goal of our distinctively cognitive endeavors is truth... If finding epistemically justified beliefs did not substantially increase the likelihood of finding true ones, then epistemic justification would be irrelevant to our main cognitive goal and of dubious worth... Epistemic justification is therefore in the final analysis only an instrumental value, not an intrinsic one.

Such a link between having a critical attitude and being in a better position to find the truth is, in fact, precisely what is missing. Caring about the truth and doing the best to find it might even lead you unerringly to believe things that are entirely false. Conversely, not caring a jot about the truth might lead you to commit dogmatically to a whole host of true beliefs.

Similar complaints—there is a gap between method and aim—have been made about (pan)critical rationalism, and indeed Popper’s philosophy of science, before. Newton-Smith (1981, p. 70), for instance, attacks the putative link between corroboration and verisimilitude. And Watkins (1997, Sect. 13) has more recently suggested, along similar lines, that ‘if one is to aim at X, and pursue one’s aim rationally, one needs to be able to monitor the success or failure of one’s attempts to achieve X’, and therefore proposed a negative answer to the question ‘Are Popperians entitled to claim that one could do if X were simply true?’ Watkins thinks that the answer lies in appeal to possible truth as an aim. But surely this could also be the aim of dogmatic commitment, if fallibilism is accepted. It is, after all, more than merely logically possible for theories to be falsified on the basis of false observation statements. It is also more than logically possible to be committed to the truth of a proposition which is actually true.

Miller’s (1994, p. 418) reply appears to be that ‘falsificationism is unable to justify (in whole or in part) its role in the search for truth’, and he would presumably add that this goes equally for the critical attitude. But even if we accept this, it is hardly a satisfactory response. We are asking precisely whether there is a link between adopting a critical attitude and improving one’s epistemic lot. And it would appear to be perfectly reasonable to think that there is not such a link, if a suitable possibility cannot even be outlined. (If preferred, as sketched in the second section, we are asking the pancritical rationalist to provide an argument against dogmatism. We have seen that “Dogmatists cannot learn” does not appear, taken alone, to do the job.)

As a way into finding an answer, we should first like to note that to advocate pancritical rationalism is to reject authoritarianism, and indeed authoritarian accounts of justification, but need not be to reject the notion of justification wholesale. Consider, in this regard, Bartley’s account of ‘justificationism’:

> It is the view that the way to criticize an idea is to see whether and how it can be justified... Such justification involves:
>
> 1. an authority (or authorities), or authoritatively good trait, in terms of which final evaluation is to be made;
>
> 2. the idea that goodness or badness of any idea or policy is to be determined by reducing it to... the authority (or authorities), or to statements possessing the authoritatively good trait. That which can be so reduced is justified; that which cannot is to be rejected. (Bartley 1984, pp. 184–187)

In fact, it is easy to see that one could fail to be a justificationist, in exactly this sense, while still believing in justification. One need only believe that there are no authorities, or authoritatively good traits, according to which final evaluations of hypotheses—or even everyday statements—should be made. In short, one may accept the possibility that one’s means of evaluation are not beyond question, and are in no sense ‘final’, while nevertheless accepting that justification is to be had. And one obvious way to do this, although surely not the only one, would be to
suggest that one can be justified in believing that \( p \) without realizing that one is justified in believing that \( p \).

Internal Versus External Justification

By emphasizing that justification need not be internal – in the sense that to take something as a justification, we need to be aware that it is a justification – the pacific rationalist can employ an external notion of justification, rather than an internal one. But which features should such a notion of justification have?

From the discussion above, it is clear that external justification should have a significant link to truth. There may be some mechanism, or process, that links truth and justification in some systematic, regular way. However, for the pacific rationalist, our ability to recognize such a link is fallible. To require that we could infallibly establish, or identify, a means of recognizing the connection between justification and truth would amount to a return to justificationism, with an implicit demand for ultimate justifications. As we saw, a pacific rationalist wouldn’t take that route. However, we emphasize the importance of there being a connection between truth and justification. Otherwise, it’s unclear why the pacific rationalist would be any better off than the dogmatist.

To articulate an external account of justification meeting the conditions above, we recall the counterfactual account of tracking developed by Nozick (1981). On the counterfactual view, two conditions are needed for our beliefs to track the truth of a statement \( p \):

- \( (T1) \) If \( p \) weren’t true, we wouldn’t believe that it is.
- \( (T2) \) If \( p \) were true, we would believe that it is.

As an illustration, suppose that you’re a biologist investigating the components of the structure of cells using an electron microscope. This instrument offers a much higher resolution than anything provided by an optical microscope. Moreover, the images that are generated by each device overlap. As a result, you can explore the overlap to identify more clearly the new components of cells that are enhanced by the electron microscope. Suppose that, as a result of this process, you identify a new component in the nucleus of cells. In this case, as long as the electron microscope is reliable, you could track the new cellular component, in the sense that: if this component weren’t in the cell, you wouldn’t believe that it was; and if the component were there, you would believe that it was. A reliable instrument allows you to track novel phenomena.

Of course, you may not know whether the instrument is in the end reliable, and on an externalist view, this lack of knowledge of the instrument’s reliability doesn’t prevent you from being justified in forming the belief about the new component of cells. In fact, in many cases, it’s not clear that you know whether the instrument you’re using is indeed reliable, given that often the only access you have to the sample under study is via the very instrument that you’re using to study the sample.

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Consider now the tracking conditions \((T1)\) and \((T2)\) as a requirement not on the notion of knowledge (as Nozick takes them to be), but only on the notion of justification. A belief is then justified if it’s sensitive to the environment in which it is generated – if it tracks the relevant features of the world, by satisfying the conditions \((T1)\) and \((T2)\). In other words: if \( p \) weren’t true, you wouldn’t believe that \( p \); if \( p \) were true, you would so believe.

On this conception of justification, there is then a close connection between being justified in believing something and having a true belief. However, as noted, the pacific rationalist doesn’t take as a requirement for us to be justified in believing that \( p \) that we are aware (let alone know) that we are justified in having such a belief. So the justification the pacific rationalist invokes is external.

On this picture, our capacity of recognizing that something is a justification is also fallible. After all, in many contexts, we may think that our beliefs are tracking certain aspects of the world while in fact they are tracking something else. The fact that we don’t know that we are justified in having the beliefs we do makes room for such fallibilism. For example, for a long time Newtonian physicists thought that the notion of gravity invoked in their theorizing tracked a significant aspect of the world. And it did track something, but not what they thought they were tracking. With relativity theory, it became clear that gravity should not be understood as a force, but should rather be conceptualized in terms of space-time. This is the feature of the world that the relevant physical theories should be tracking – at least if relativity theory is true. However, since we don’t know whether the latter theory is true, we don’t know that we are justified in believing that our current theories are indeed tracking what we think they are. But this lack of knowledge, on an externalist view, doesn’t prevent us from being justified in believing that gravity is related to the curvature of space-time.

How does the tracking account of justification explain how a pacific rationalist is better off than the dogmatist? It’s not clear that we can guarantee that the former will be better off than the latter in every situation. But we don’t think that this is the result that the pacific rationalist needs. All that needs to be offered is a principled account as to why the pacific rationalist will be better off than the dogmatist in typical cases. And in fact, a pacific rationalist – by being open to revising his/her beliefs, experimental procedures, and so forth – can avoid mistakes by tracking the relevant features of the world. A blind commitment to Newtonian physics would have prevented the dogmatist from shifting to relativity theory. Similarly, a blind commitment to employing one instrument (or procedure) in particular may only one’s horizons, even in the event that said instrument (or procedure) is reliable. (Think of refusing to use a telescope to make observations of celestial phenomena, and instead trusting only the naked eye.) And since our ability to recognize that something is a justification is fallible, the account offered here meshes well with the stance adopted by the pacific rationalist: a critical attitude toward all of his/her beliefs and even ‘aims… conjectures, decisions, ideas, policies, [and] programs’ (Bartley 1984, p. 183).

A similar argument might be made without mentioning tracking; but instead by suggesting that there may be reliable means by which to form beliefs (or classify statements as true or false) which serve to (externally) justify the beliefs so formed.
Imagine, for instance, that we can employ a procedure which has a high propensity to accurately sort a peculiar class of propositions into 'true' and 'false' groups. A dogmatist will not be able to accept the results of such a procedure if they conflict with his commitments. Moreover, a dogmatist committed to a procedure that instead has a high propensity to inaccurately sort propositions will not be able to renounce it. (Think of whether we should prefer intuition or observation to generate test statements for our scientific theories.) The dogmatist's situation will progressively worsen, over time, unless he or she makes lucky commitments. Ranging over possible dogmatists, what's more, we can see that being lucky has a low objective probability. This is clearly the case if we assume what most of us seem to, namely that there are more possible unreliable methods, procedures, and so forth, than there are reliable ones. (We could classify theories as true or false on the basis of coin-flipping, the reading of tea-leaves, the reading of palms, astrological charts of their advocates, etc.) In searching for the reliable, we are looking for a needle in a haystack.

It is worth adding that at one stage, at least, Popper (1974, p. 1114) appears to endorse this sort of view:

Our experiences are not only motives for accepting or rejecting an observational statement, but they may even be described as inconclusive reasons. They are reasons because of the generally reliable character of our observations; they are inconclusive because of our fallibility.

It is unclear whether Popper thinks that the fallibility arises because we may be wrong that our observations are reliable, or only because our experiences can lead us to mistaken beliefs. We think it arises on both counts.

Conclusion

The considerations above indicate that a pancritical rationalist need not shy away from the notion of justification. As we saw, by adopting an external account of justification, the pancritical rationalist can be better off than the dogmatist while still avoiding justificationism. Although there is much more to be said, we hope we have said enough to indicate why advocating pancritical rationalism is a sensible thing to do.

Notes

4. See also Rowbottom (2008) for a related discussion and a list of further pertinent references.
5. Watkins does not suggest, of course, that we cannot (or that science should or does not) aspire after truth. His point, rather, is that an aspiration is somewhat different from a rational aim.
6. Note that Musgrave (forthcoming) rejects 'justificationism' in a slightly different sense. Our treatment here does not depend on accepting this either.
7. Those who are sympathetic to an empiricalist approach could read this claim as emphasizing the connection between justification and empirical adequacy—roughly, truth about the observable phenomena (see van Fraassen 1980; Bueno 1997).
8. In fact, it was exactly through this procedure, and with the crucial use of the electron microscope, that ribosomes were first identified. See Palade (1955).
9. Of course, whenever you can, you will use additional instruments to double check and compare the results you obtained with the original instrument. (Palade [1955] also did that.) But the point remains: the reliability of these additional instruments needs to be examined.
10. This may be significant because of the notorious difficulties surrounding the truth-conditions of counterfactual conditionals.

References

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