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The Contrast between Dogmatic and Critical Arguments

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ABSTRACT: Karl Popper lamented the prevalence of dogmatic argument in philosophy and commended the kind of critical argument that is found in the sciences. David Miller criticises the uncritical nature of so-called critical thinking because of its attachment to dogmatic arguments. I expound and clarify Popper's distinction between critical and dogmatic arguments and the background to it. I criticise some errors in Miller's discussion. I reaffirm the need for philosophers to eschew dogmatic arguments in favour of critical ones.

KEYWORDS: Critical argument – critical thinking – David Miller – dogmatic argument – fallibilism – falsification – inference to the best explanation – justification – Karl Popper – persuasion – problem-solving.

1. Introduction

Karl Popper's approach to epistemology and rationality is strikingly different to the approaches characteristic of traditional and contemporary philosophers. He marks the differences by means of a number of contrasts, including: falsificationist rather than verificationist; deductivist rather than inductivist; fallibilist rather than justificationist; critical rather than dogmatic or authoritarian. All of these contrasts are reflected in his distinction between a critical and a dogmatic argument, which can be taken as a sum-

mary of his approach to epistemology and rationality, and of some of the errors that he sees exemplified in standard approaches to philosophy. However, Popper's explanation of the contrast between the two kinds of argument would benefit from clarification. A leading expositor and developer of Popper's 'critical rationalist' views is David Miller. Unfortunately, Miller's discussion of Popper's contrast between critical and dogmatic arguments, rather than clarifying the picture, seems to introduce some errors. My aims here are to explain clearly the similarities and differences between critical and dogmatic arguments and to renew Popper's insistence on the importance of eschewing dogmatic arguments in favour of critical ones.

In section 2, I give a brief explanation of the contrasts, mentioned above, that are reflected in Popper's distinction between critical and dogmatic arguments. In section 3, I quote what Popper says about the distinction before showing how it needs to be more clearly articulated. In section 4, I criticise Miller's discussion of the distinction. In section 5, I conclude by reaffirming the importance in philosophy, as elsewhere, of arguing critically instead of dogmatically.

2. A cache of contrasts

The logical positivists claimed that what distinguishes science is that its statements are verifiable by observations. However, the propositions which are most characteristic of science are statements of laws of nature, which are universal propositions. The simplest form of a universal proposition is:

(U) Everything, *x*, is such that, if *x* is *F*, then *x* is *G*.

Such a statement is not verifiable by observation because it goes beyond our experience, which covers only a finite number of cases. A universal statement which is consistent with every observation made so far may be refuted by the next relevant observation made. Of course, many statements of laws of nature involve more than one quantifier; and all statements of laws of nature have a (usually implicit) necessity-operator prefixed to them; but those complications do not alter the point. Statements of the form (U) may, however, *clash* with observations, since (U) is contradicted by:

(S) This is *F* and it is not *G*

and a statement of the form (S) may report an observation. Popper therefore proposes that what distinguishes science is *falsifiability*. A statement is *falsifiable* if and only if it is inconsistent with an observation-statement, that is, a statement that describes something we could conceivably observe, given our actual powers of observation. A theory is *falsified* if and only if, either on its own or in conjunction with some accepted background knowledge, it is inconsistent with an *accepted* observation-statement. A *scientific* statement is one which, either on its own or in conjunction with some accepted background knowledge, entails a *novel* falsifiable prediction; and the *method* of science permits a scientific statement to be rescued from falsification only by means of an alteration to theory which generates a novel falsifiable prediction (cf. Popper 1959, Sec. 1, 6, 9, 18-23, 27, 28).

Empiricist philosophers generally claim that scientific knowledge, or all knowledge, is derived from experience by induction, or by some other supposed form of non-deductively 'warranted' inference. The claim typically has a psychological and a logical component. The psychological component is the claim that knowledge begins with observations from which we generalise to universal theories. The logical component is that universal theories can be confirmed by observations which are consistent with them. Both components are false. First, we could generalise from observations only if we experienced different observations as similar. However, there are innumerable ways in which each thing is similar to every other thing, so perception of similarity presupposes a point of view, that is, a theory or an expectation which makes similarities of particular types salient. Second, any finite set of mutually consistent observation-statements is consistent with any number of mutually inconsistent universal statements each of which explains all the observation-statements in the set. For example, the blackness of all observed crows may be explained by any of the following rival universal statements: 'All crows are black', 'All crows are black only until 1 January 2050', 'All crows are black only until 2 January 2050' and so on indefinitely. So, a universal statement that explains all the accepted observation-statements might still be false, and the accepted observation-statements are not evidence for the truth of that universal statement as opposed to any of its rivals. Therefore, a universal statement cannot be confirmed by observations. Consequently, there is no such thing as induction, either psychological or logical. Knowledge begins with generalisations and proceeds by criticising or testing them, that is, attempting to falsify them. The only inferences involved are deductive. For, we test a generalisation by

deducing the consequences of the conjunction of the generalisation with some background knowledge. If any of those consequences is inconsistent with an accepted observation-statement, we deduce that the conjunction of the generalisation with the background knowledge is false if the observation-statement is true, and that the conjunction must therefore be rejected so long as the observation-statement is accepted. The next step is to make conjectures about which particular elements of the conjunction are at fault and how they should be replaced, and then to test those conjectures. Knowledge consists of those statements, or systems of statements, that have withstood testing and other criticism better than their rivals (cf. Popper 1959, Sec. 1, 2, 3, 5, 19, 20, 27, 30, 82, appendix *x; and 1983, 18-22).

Philosophers commonly maintain that knowledge is justified belief, and empiricist philosophers that knowledge is justified by experience. We have just seen that universal statements cannot be justified or confirmed by observation-statements. It is also the case that observation-statements cannot be justified by observations. For, observation-statements inevitably involve theoretical interpretations which may be false. Even so simple an observation-statement as 'Here is a glass of water' implies that the receptacle will exhibit the law-like behaviour of glass and that its contents will behave in the law-like way that water does; and those implications may be inconsistent with future accepted observation-statements. It is therefore false that knowledge can be justified by experience. It is also false that knowledge can be justified a priori. For, a statement can justify another only if it is itself justified, so the attempt to justify one statement by means of another leads to an infinite regress; and a statement cannot be justified by a feeling of conviction in its truth, since many things of which people have been convinced have turned out to be false, such as Euclidean geometry, the absoluteness of simultaneity and Frege's supposedly self-evident logical axioms for arithmetic. We must therefore eschew justification in favour of fallibilism, recognising that we may turn out to be mistaken in any view that we take to be true (see Popper 1959, Sec. 1, 8, 25, 27; and 1983, 18-22).

Dogmatic attempts to avoid the regress of justification by postulating the indubitability of reports of observation or of intuitive self-evidence lead to authoritarianism, because disputes over such reports must then be explained by cognitive deficit, irrationality or moral failings (see, for example, Audi 2013, 74-83; Huemer 2005, 137-141, 144, 220), so an authority is required to interpret the deliverances of sensory or intellectual intuition aright. Once we accept fallibilism we can shun the dogmatic attitude that

seeks justifications and adopt instead a critical attitude to all views, including those of supposed authorities, and hold all our views only tentatively, being prepared to give up any that do not stand up to criticism (Popper 1957, Sec. vi and vii; 1959, Sec. 9; 1960b, Sec. v, vi and x; 1983, 18-22).

In recent years philosophers have tended to acknowledge that all of our views are *in principle* revisable; but they retain the claim that we have justified beliefs. To avoid outright inconsistency they water down the notion of justification, for example, saying that justified views are only 'prima facie justified' (cf. Huemer 2005, 99-107). However, even a sceptic can admit that a view may be 'justified' in a sense weak enough to be consistent with the view being false. Yet the justificationist philosophers still insist that their accounts of 'justified belief' show scepticism to be mistaken (see Huemer 2005, 12, 118-121). It seems that their qualifications to the notion of justification are merely a way of paying lip-service to fallibilism while in practice they retain the old dogmatic notion of justification.

3. Popper's distinction

Popper draws a distinction between two kinds of discussion or criticism or argument, namely, dogmatic and critical, the first of which he takes to be mistaken. He complains that in philosophy

> there is the tacit assumption that a rational discussion must have the character of a justification, or of a proof, or of a demonstration, or of a logical derivation from admitted premises. But the kind of discussion which is going on in the natural sciences might have taught our philosophers that there is also another kind of rational discussion: a critical discussion, which does not seek to prove or to justify or to establish a theory, least of all by deriving it from some higher premises, but which tries to test the theory under discussion by finding out whether its *logical consequences* are all acceptable, or whether it has, perhaps, some undesirable consequences.
>
> We thus can logically distinguish between *a mistaken method of criticizing* and *a correct method of criticizing*. The *mistaken method* starts from the question: How can we establish or justify our thesis or our theory? It thereby leads either to dogmatism, or to an infinite regress, or to the relativistic doctrine of rationally incommensurable frameworks. By contrast, the *correct method* of critical discussion starts from the question:

> What are the consequences of our thesis or our theory? Are they all acceptable to us?
>
> It thus consists in comparing the consequences of different theories (or, if you like, of different frameworks) and tries to find out which of the competing theories or frameworks has consequences that seem preferable to us. It is thus conscious of the fallibility of all our methods, although it tries to replace all our theories by better ones. (Popper 1994, 60; see also Popper 1983, 20-30)

In that quotation Popper distinguishes two styles of discussion or argument. However, he does not distinguish between arguments as *abstract entities* and arguments as *activities*. The first difference that Popper indicates between dogmatic and critical arguments concerns arguments as abstract entities, or as abstract entities given expression in language, that is, in Popper's terms, items in World 3 (cf. Popper 1968). A *dogmatic argument* consists of premises, perhaps also some intermediate inferential steps, and a conclusion which expresses some more or less substantive thesis. A *critical argument* presents a number of more or less substantive hypotheses, which are currently-available alternative solutions to a problem, and a number of principles for evaluating the adequacy of those solutions. It includes inferential steps of at least two kinds. Those of the first kind show various logical consequences of each of the hypotheses (in conjunction with background knowledge). Those of the second kind take those consequences and the principles of evaluation and draw further inferences about the comparative merits of the hypotheses, leading to an overall conclusion which rates the hypotheses as better or worse, and which may identify one hypothesis as better than the rest. The principles of evaluation of the hypotheses will include such things as: how well they solve the problems they are proposed to solve, what other problems they solve, how simple or unified they are, whether they are consistent with accepted observation-statements, and so on. Therefore, despite their differences, dogmatic and critical arguments have some features in common: each has the character of a logical derivation of a conclusion from premises and each may be deductively valid. But whereas a dogmatic argument leads to a conclusion which states a substantive thesis, a critical argument leads to a conclusion which rates a number of rival hypotheses as better or worse.

The second difference that Popper indicates between dogmatic and critical arguments concerns arguments as goal-directed activities of agents. In this sense, a dogmatic argument is distinguished from a critical argument by its

goal and its assumptions. The goal of a *dogmatic argument* is to prove or justify or establish the correctness of a specific thesis. As a consequence, the premises of the argument are assumed to be proven or justified or established. The goal of a *critical argument* is to produce a rating of rival solutions to a problem, as better or worse, without attempting to prove or justify or establish any of them. The aim is not even to prove or justify or establish that the rating is correct, since it is assumed that any of the premises of the argument may in future be revised. The rating is therefore presented as the upshot of the current state of the discussion which may be improved upon as additional or better information about the hypotheses or their consequences becomes available or as new hypotheses are proposed and evaluated.

It should be clear that a critical argument (activity) will require a critical argument (abstract entity). However, while a dogmatic argument (abstract entity) is tailor-made for a dogmatic argument (activity), the latter could also make use of a critical argument (abstract entity). Such a hybrid kind of argument would be critical to the extent that it considers and compares rival hypotheses, but dogmatic to the extent that its goal is to prove or justify or establish the correctness of a rating of different hypotheses, therefore assuming that the premises of the argument are justified. A hybrid kind of argument which is even more dogmatic would have the goal of proving or justifying or establishing the hypothesis that is rated best. That conclusion is not deductively entailed by the premises, because the solution that is currently best, for example, in terms of simplicity, need not be the true one, and because the true solution might not even have been proposed yet. So this more dogmatic hybrid form of argument, known as 'inference to the best explanation' (cf. Harman 1965, 88-89), is committed to the mystery of a kind (never successfully spelt out by anyone) of inductive 'reasonableness,' or non-deductive 'warrant,' which makes the inference somehow legitimate despite being invalid.

So, a critical argument (abstract entity) articulates a comparative appraisal of currently-available options, while a dogmatic argument (abstract entity) has the form of a proof (maybe non-deductive) of a theorem from axioms. A critical argument (activity) contrasts with a dogmatic argument (activity) in the following ways. A critical argument is falsificationist in that it compares rival solutions to a problem with respect to how well they withstand criticism, unlike a dogmatic argument which is verificationist in that it seeks to establish a proposition. A critical argument uses an argument (abstract entity) which is intended to be deductively valid. Only some

arguments (abstract entities) used in dogmatic arguments are intended to be deductively valid; others, as in 'inference to the best explanation,' are supposed only to be 'warranted.' A critical argument is fallibilist, in that it is admitted that its premises may be false and so cannot justify, whereas a dogmatic argument is justificationist. One who engages in critical argument can eschew appeals to authority; one who engages in dogmatic argument cannot consistently do so.

4. Miller's discussion

David Miller (2005a) takes up the theme in his critique of so-called critical thinking. However, while Miller's critique is largely correct, it seems to be in some ways mistaken, and the mistakes seem due to unclarity – indeed, error – about the nature of critical argument and the ways in which it contrasts with dogmatic argument.

Miller says that, in the 'critical thinking' literature, critical thinking almost always means the exposure of poor arguments, but genuine critical thinking is the exposure, not of poor arguments, but of poor guesses (cf. Miller 2005a, 58-59). It means being critical, not of arguments, but of their conclusions, and thus of their premises (cf. Miller 2005a, 63). That is an overstatement, since one may be critical of invalid arguments, such as so-called 'inference to the best explanation.' Further, if an argument is invalid, one may be critical of its conclusion without being critical of its premises. Indeed, someone who emphasises the importance of the use of arguments in criticism, as Miller does (cf. 2005a, 67), must surely be critical of critical arguments which are invalid. For example, suppose we have a criticism of a theory which highlights the theory's unpalatable consequences. We could rebut that criticism by showing that the arguments it uses to derive the unpalatable consequences from the theory are invalid. Indeed, Miller makes that point himself elsewhere (cf. Miller 2005b, 79).

Miller says that the critical thinking movement fails to live up to the spirit, or even to the letter, of the mission, proclaimed for it by Glaser (1941, 5), to mount 'a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends.' Instead, textbooks of critical thinking emphasise that the logical purpose of an argument is to justify the argument's conclusion, and often that the psychological or pragmatic purpose of an argument is

the persuasion of others to the arguer's own views (see Miller 2005a, 59). He gives a number of illustrative quotations from advocates of 'critical thinking' (see Miller 2005a, 60-62). The problems, he says, are that:

(i) persuasion is authoritarian, suggesting someone who wants to teach rather than to learn, in contrast to the attitude expressed by Popper's motto, 'I may be wrong and you may be right, and by an effort, we may get nearer to the truth' (Popper 1945, Chap. 24, Sec. 1);
(ii) arguments cannot justify or prove;
(iii) students who are given this false picture of argument will be disappointed when argument fails to live up to their hopes, and they may in consequence abandon argument for irrationalism (cf. Miller 2005a, 59, 62).

Miller's (iii) seems a reasonable complaint, about which I will say no more. The reason that he offers for (ii) is the oft-repeated claim that every deductively valid argument is question-begging, in the sense that its conclusion is, implicitly or explicitly, included within its premises taken together (cf. Miller 2005a, 63-64). I have shown the falsity of that claim elsewhere (see Frederick 2011; and 2014), so I will not discuss it here. It is unfortunate that Miller invokes that claim to defend (ii), not only because it is false, but also because it is unnecessary, given the arguments of Popper summarised in section 2, some of which go back to ancient times (see Sextus Empiricus 2000, Book I, Chap. xv), and one of which Miller himself elsewhere (in Miller 1994, 56-59) both endorses and distinguishes from the claim that every deductively valid argument is question-begging.

Miller's (i) seems to be wrong. It is correct if 'persuade' is taken to involve an attempt to justify; but it seems clear that the word need not be taken in that sense, not least because it seems that Miller, who does not attempt to justify anything, is seeking to persuade us that the typical tenets of the 'critical thinking' theorists are mistaken. Similarly, in science, the point of a critical argument is often to persuade. When rival hypotheses are compared and rated, the point is not necessarily, perhaps not usually, to persuade everyone to accept the (currently) best hypothesis, but it is at least to persuade advocates of the other hypotheses that they have work to do to improve their theories. There is no attempt to justify anything: all may accept that the premises of the argument are revisable and merely reflect the current state of the debate. Yet everyone may, more or less, agree to the premises (concern-

ing the hypotheses under discussion, accepted observation-statements, background knowledge and the principles of evaluation of hypotheses) and they may accordingly be persuaded by the argument that a particular hypothesis is currently the best one. Indeed some scientists may intend the critical argument to persuade at least some other scientists to abandon work on some of the hypotheses that are rated poorly and perhaps to join with them in developing further one of the more successful hypotheses.

Miller later seems to say that arguments cannot persuade:

> Persuasion fares no better as a goal of argumentation than does justification, for if anything persuades the listener of the truth of the conclusion it is the truth of the premises... The argument itself is no more than a way of presenting in a new light some or all of the content conveyed by the premises. (Miller 2005a, 66)

However, the ellipsis omits a reference to Miller's (2005b), where he says, on p. 67: 'it would be foolish to deny that arguments are sometimes used to persuade others'. Miller's contention is that whenever we say that a person *A* used a particular argument to persuade a person *B* that *p*, we ought really to say that *A* used the assumed truth of the *premises* of the argument to persuade *B* that *p*. Miller's contention is urged as a consequence of his claim that every deductively valid argument is question-begging. I have said already that that claim is false. It also seems false that Miller's contention follows from it, because people are often persuaded by *invalid* arguments, as Miller (2005b, 67-68) acknowledges. Even if it were true that deductively valid arguments are question-begging, in a case where an inference from premises to conclusion is invalid, it would be false that the 'argument is no more than a way of presenting in a new light some or all of the content conveyed by the premises'. So, where a person is persuaded by an invalid argument, it would not be the case that the person was persuaded to the truth of the conclusion by the assumed truth of the premises.

5. Conclusion

One can sympathise with Popper's and Miller's complaints about the entrenchment of dogmatic argument throughout contemporary philosophy. For example, in a quite recent guide to writing a philosophy paper we read:

> An ideal philosophical argument should lead the reader in undeniable logical steps from obviously true premises to an unobvious conclusion. (Rippon 2008, 1)

The ideal philosophical argument (abstract entity) is thus taken to be dogmatic, having the form of a proof of a theorem from axioms, and the talk of 'obvious' premises and 'undeniable' steps signals that the aim is justification, thereby signifying that the ideal philosophical argument (activity) is dogmatic. The purpose of philosophical argument, according to this account, is to bludgeon the reader into submission. Who would want to read such philosophy? Further, it suggests the picture of the philosopher as a Turing machine which, fed some supposedly obvious premises, chugs away churning out their logical consequences. Who would want to practise such philosophy? There cannot be many activities that would be more soul-destroying than picking a bunch of banalities and then deriving their logical consequences in the hope that something non-obvious and worth knowing might turn up.

What should be evident from the history of the subject is that philosophy starts with an interesting problem; and what good philosophers do is to propose solutions to the problem. Very often they begin by considering the solutions that have been proposed by others and by criticising them, exposing their faults, which in turn leads to a better understanding of the problem, which may inspire new solutions. These solutions, far from being supposedly undeniable inferences from supposedly obvious premises, are usually wild leaps of imagination; and they in turn are criticised and compared with the other solutions so far proposed (Popper 1958-59 and 1960a contain illuminating illustrations). In short, the ideal philosophical argument should present rival solutions to an interesting problem and evaluate those solutions as better or worse. That is, the ideal philosophical argument (abstract entity) is a critical argument. Given our fallibility, which is richly illustrated by the history of science as well as the history of philosophy, the philosopher ought not to attempt to justify any of the proposed solutions, but should be critical of them all, and should even try to come up with a solution which is better than the one which is currently rated best. That is, the ideal philosophical argument (activity) is a critical argument.

That, at any rate, is the current state of the discussion: critical arguments are better than dogmatic arguments. But we must allow that further

discussion may throw new light on the issue, perhaps by showing that there is another kind of argument that is better still.[1]

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