

TAKING LOGIC FOR GRANTED

Peter Millican

University of Leeds

'Our logic may appear right to us, but Descartes' logic appeared equally right to him. So unless we are able to justify our logic "objectively", we should not criticise Descartes for failing to conform to it. However we cannot justify our logic objectively, since any argument which we give to justify it will itself make use of our logic, and will therefore be circular. So we should not criticise Descartes for failing to conform to our logic.'

This is just one typical example of a class of arguments which are sometimes used to attack those (such as the author of this article) who presume to criticise philosophers with different views, or from different cultures, by "dogmatically" appealing to the principles of logic. There is, as we shall see, something very odd about this sort of argument, but it does have a certain superficial plausibility, and also an air of moral virtue through its spirit of generous open-mindedness. Who are we to criticise Plato, Descartes and the rest, for failing to live up to our limited Modern Western Logic? Our criticisms must be simply the result of narrow-minded bigotry, which prevents us from seeing that all standards are relative, and that the pretended "objectivity" of our logic is no more than a manifestation of our supreme cultural arrogance.

Those thus accused of arrogance tend to vary, depending on the philosopher or the type of theory on whose behalf the relativist counterattack is being made. If Descartes or a thinker in the modern "continental" tradition has been subjected to logical criticism, then dogmatic "Empiricist" logic will probably be to blame. If, on the other hand, an oriental mystic or a medieval believer in occult powers has been similarly criticised, then the bogey will instead be the European post-renaissance logic of scientific rationalism, a logic which, presumably, Descartes shared.

I

The first point to make about this sort of "defence" of Descartes is that its air of open-mindedness is entirely spurious. In its explicit appeal to logical relativism, it implicitly denies precisely what Descartes was most concerned to establish: that certain truths can be known in a completely objective and non-relative way, using arguments so strong that they can overcome even the most

determined objections of the sceptics. This Cartesian aim may be impossible to achieve, and it may even be that arguments of the type quoted above can be used to demonstrate its impossibility. But those who propose such arguments should not pretend that they are providing any sort of defence for the Cartesian project. "Friends" like these, who doubt not only Descartes' factual beliefs but even the objectivity of his basic logical principles, are far more fundamentally opposed to him than are most of his declared sceptical enemies.

What I have said about Descartes applies equally to Plato, to the medievals, and indeed to nearly all of the great philosophers of the past. Many of these thinkers took themselves to be establishing eternal truths about God, the world and man's place in it, and even those who had no such ambition at least generally took for granted that their principles of reasoning were objectively and universally valid. So their modern "defenders" who espouse a thoroughgoing logical relativism are themselves adopting a philosophical position which these philosophers would have rejected, and it is totally illegitimate to appeal simply to quasi-moral principles such as tolerance and open-mindedness in order to support that position. For it is obviously neither tolerant nor open-minded to dismiss out of hand and *a priori* the attempts of so many past philosophers to establish certain and universal truths.

If logical relativism is to be supported, therefore, then this must be on the basis of argument. But here the relativist should be somewhat embarrassed, since on his own principles the logic which he uses to support his position will be every bit as "relative" as the logic of those whom he is criticising. To persuade his audience he must clearly start by using a logic which is accepted by them, but even if he does so, and even if his argument is convincing, he will be unable to bring them to the relativist conclusion, because as soon as he convinces them that logical relativism is correct they should immediately (if they are in earnest) have relativist doubts about the argument which they have so far been following. Thus the relativist's intended conclusion will undermine his own reasoning. The best he can hope to show is that "Modern Western Logic", say, leads to logical relativism. But even if he is able to show this, the natural conclusion cannot be that such relativism is (objectively) *correct*, since on relativist principles no theory is. So even if the relativist can show that "Modern Western Logic" undermines itself by leading to relativism, he has not thereby done sufficient to support his case. For on his own principles there are many other, alternative "logics" which one might use, and since relativism *cannot* be correct, the natural result of his refutation of Modern Western Logic should be to encourage us to look for some better, alternative logic which cannot be so easily refuted.

To the best of my knowledge, there is in fact no good argument to show that "Modern Western Logic" leads to relativism. The argument with which this article started, for example, does not even attempt to show that "our logic" is self-defeating, but only that our use of it cannot be justified by argument. And

this is surely a very obvious and unsurprising point: that any reasoning which is used to justify the use of reasoning must ultimately itself take for granted the very point at issue. But why should we be at all disturbed by this conclusion? Of course any justification must make use of some principles of reasoning, and of course this implies that our most basic principles of reasoning cannot themselves be justified. What follows from this is simply that we must either take some basic principles of reasoning for granted, or else we must give up reasoning. In the absence of a proof that all principles of reasoning whatever will inevitably lead to inconsistency (and how on earth would one go about proving *that?*), surely we can have no good motive at all for preferring the second of these alternatives to the first unless either we suffer from appalling intellectual indolence, or else subscribe to a ridiculously extreme rationalist prejudice against taking anything whatever for granted (a prejudice for which, needless to say, no reason can consistently be given). It would, at any rate, be extraordinarily perverse of anyone who calls himself a philosopher, or who takes philosophy to be a subject worthy of serious study, to advocate that we should give up reasoning! And, of course, he has little ground for complaint if we refuse to take seriously any "arguments" which he gives to support his position, since his own use of them indicates that he himself is not persuaded by them!

II

Forced to concede that he can give no good reason for rejecting Modern Western Logic, the relativist may now try to turn the tables by pointing out that the same will apply to any other logic which is equally "self-consistent", that is, any other logic which cannot *on its own terms* be reduced to absurdity (by leading to relativism, for example). If we can defend our adherence to our own logic merely on the grounds of its self-consistency, even though, as we have seen, we cannot give any independent arguments in its favour, then surely exactly the same move is available to others. So if Descartes' methods of reasoning are also self-consistent, then even if they are very different from ours we have no right to criticise him. As long as Descartes' logic is consistent on its own terms, then we cannot justifiably object to it simply because it is in conflict with our own. For to make an appeal to our own logic against his would clearly take for granted that our logic is superior to his, which is precisely the point at issue.

This "defensive relativism", which does not pretend that it can undermine Modern Western Logic, but instead restricts itself to defending a principle of toleration towards self-consistent alternative logics, is probably the logical relativist's most tenable position. It is of no great significance, however, until the relativist has shown that there *are* some self-consistent alternative logics on offer: if it turns out, for example, that Descartes' principles of reasoning are

essentially the same as ours, then the relativist must look elsewhere to give substance to his position.

To make this issue precise (something that most relativists seem curiously reluctant to do!), we must first be clear about what exactly we mean by a "logic". Our discussion so far has assumed that we are talking about the fundamental principles of all reasoning rather than any special principles which might be involved in, for example, scientific method or moral decision making, so let us continue for the moment to do the same. Under "the principles of logic", therefore, we shall include only such general principles as the law of non-contradiction (a single proposition P cannot be both true and false at the same time), the rule of *modus ponens* (if P is true and P implies Q, then Q must also be true) and the rule of universal instantiation (if every existing individual has property F and n is some existing individual, then n must have property F).

If we interpret "logic" in this way, however, then it is surely very clear that Descartes' logic and our own correspond very closely. And this is just as well, since if they did not, I do not see how we could hope to understand any of his arguments. Suppose, for example, that someone were to deny the law of non-contradiction, and to assert that some proposition is, simultaneously, both (literally) true and (literally) false. I find it hard to make any sense of such an assertion, since to call a proposition "false" is surely to deny that it is true, while to assert and deny (literally) the same thing in the same breath is simply to abuse language. I would have to conclude, therefore, that such a person meant something different by the words "true" and "false" (or else was not after all using his words literally). Again, someone who denies the rule of *modus ponens* cannot really be said to understand what we mean by the word "implies": to say that P implies Q *just is* to say that the truth of Q is guaranteed by the truth of P, so a person who states that P implies Q but yet refuses to accept that Q follows from P cannot properly be said to understand what he is stating. And a similar point applies to the word "all" and the rule of universal instantiation. In short, no one who correctly understands the words "true", "false", "implies" and "all" *can* coherently deny the principles of non-contradiction, *modus ponens* and so on, since these principles follow immediately from the meaning of those words. (It is perhaps worth pointing out in passing that the relativist argument quoted at the beginning of this paper itself hinges on a use of *modus ponens*: "If we cannot justify our logic objectively then we shouldn't criticise Descartes. But we cannot justify our logic objectively. Therefore we shouldn't criticise Descartes". Any force that this argument has thus clearly depends on one of the principles of "our" logic.)

It is therefore hard to take seriously a "defence" of Descartes (or, I would guess, of most other philosophers) based on a thoroughgoing logical relativism, not only because such relativism is totally contrary to the spirit of his philosophy, but also because there is in his writings no discernable "alternative" logic - on

the contrary, he uses arguments whose structure and progression are perfectly comprehensible in modern terms, though they are indeed sometimes marred by dubious premises, undeclared and unjustified assumptions, and fallacious inferences. When Descartes goes wrong, it is usually possible to see how he has gone wrong without in any way supposing that he has been following some alternative principles of reasoning, and it is at least surely incumbent on those who would advance such relativist claims to give substance to them by making explicit the alternative principles which they purport to find in his writings, and by explaining why such principles need to be postulated. I very much doubt whether they will be able to do so with any plausibility whatever.

III

At this point the logical relativist will perhaps retreat to a less extreme position by claiming that although the principles of *deduction* (non-contradiction, *modus ponens* etc.) might indeed be genuinely universal, nevertheless culture-relativity infects certain other principles which are "logical" in a less rigorous sense, namely those principles which govern the methods of enquiry that we use to discover truths about the empirical world. The relativist might accordingly maintain, for example, that the medieval alchemists reached different conclusions about the world not because their deductive procedures were any different, but just because they were relying on a different "logic" of discovery and confirmation, which may seem dubious from our biased modern perspective, but which was on its own terms just as good as anything which Western science has to offer.

Obviously this diluted "logical relativism", even if true, will do little to defend a philosopher such as Descartes, who intended to build his metaphysical system on solid deductive foundations. But it is, in any case, highly implausible, for a number of reasons which I can here only briefly summarise, since an adequate consideration of them would take far too long.

First, to a large extent, the methods of discovery and the criteria of confirmation that have been used down the ages have in fact been fundamentally similar. The search for patterns in observed phenomena, and for theories to explain and predict them; the preference for theories which are accurate, consistent both internally and with other preferred theories, broad in scope and yet simple: these things are not in any way peculiar to the modern western mind. Indeed such "scientific method" is probably almost universal, since it is in Hume's words "nothing essentially different from reasoning on common life", except to the extent that it is "exacter and more scrupulous" (*Dialogues Concerning Natural Religion*, edited by Norman Kemp Smith, Nelson 2nd edition 1947, p.134 - see also Hume's *Enquiry Concerning Human Understanding*, edited by L.A. Selby-Bigge and P.H. Nidditch, Oxford, 3rd edition

1975, p.162). The methods of modern science may superficially be very different from those of the past, or from our everyday "primitive" thinking. But it is not clear that any of these differences need be attributed to a fundamental shift in orientation rather than merely to the demands of precision and systematisation.

It might be argued that there is, nevertheless, one notable respect in which some past methods of "discovery" (including those of Descartes) differed significantly from those of today: namely, in their apparently considerable reliance on purely *a priori*, and often largely theological, speculation. This difference, however, should give little comfort to the relativist, for to the extent that past scientific theories were based on such speculation they have typically been entirely discredited, partly through their failure to pass the empirical tests, and partly because the *a priori* arguments on which they were based have been found wanting (according to deductive standards which, I have claimed above, are not in any way culturally biased).

If the basic methods of science (and proto-science) are fundamentally universal, then this implies that many ancient beliefs, and many beliefs from other cultures, may legitimately be judged by similar criteria to those which we standardly use today to assess scientific theories. And on such criteria most of these beliefs will, I suspect, fail. Of course the relativist will see all this as yet another manifestation of that appalling cultural arrogance to which he is so opposed, and he might even use this as the basis for a quasi-moral argument against the universal standards that I have here suggested. If culturally alien beliefs do not match up to our criteria, he may say, then surely it is more reasonable to acknowledge, modestly and open-mindedly, the possibility that those beliefs might be intended to meet different criteria, rather than arrogantly to suppose that our own particular beliefs are so vastly superior to others.

We have already seen that the tone of open-mindedness in this sort of argument is entirely spurious, so we need feel no moral qualms about dealing with it forthrightly. Nor need we be apologetic in claiming superiority for our well-established modern scientific theories over their ancient rivals (alchemy, astrology or whatever) - of course they are vastly more successful in every way, as the evident achievements of modern technology indicate. But the awareness of this fact need not be accompanied by arrogance: if science has progressed over the centuries, this is only because later thinkers have been able to stand on the shoulders of their predecessors. The fact that we have more accurate scientific beliefs than the ancients does not in any way indicate that they were intellectually inferior - ignorance and stupidity are two quite different things, and I have no doubt that many ancient beliefs would have quickly been modified if evidence that is now familiar to all of us had become available at the time. The ancients were not in general foolish to believe what they did. What would indeed be foolish, however, would be to continue today to cling to such beliefs in

preference to modern competitors which outperform them on every measure. There could also, ironically, be a significant degree of arrogance in such an attitude. Because those such as the "New-Agers", who reject modern science in favour of "alternative" beliefs with which they feel more attuned, are typically giving greater weight to their own particular sympathies than they give to the painstaking achievements of millions of researchers who have through the centuries contributed to the scientific edifice. For example the theory and practice of modern medicine have been developed over many years by countless anatomists, biochemists, epidemiologists, geneticists, immunologists, microbiologists, nutritionists, pathologists, pharmacologists, and physiologists (to mention only some of the most general medical specialities!). Some "alternative" therapies, by contrast, were born fully formed as the inspired guesswork of some eccentric nineteenth century quack (homeopathy being the most familiar example). To repose greater trust in such a therapy than one does in modern medicine, and to do so on the basis of one's intuitions and feelings, indicates self-confidence, not to say cognitive arrogance, of quite staggering proportions.

All this is not to say, of course, that modern western theories are inevitably better than those of the past or those from other cultures. For even impeccable scientific practice is not guaranteed to lead to the truth, while progress in both the sciences and in other disciplines can certainly be corrupted by the influence of bias, dishonesty, vested interests and political distortion. On the other hand, some ancient and traditional beliefs may be well worthy of considerable respect: if they were founded on careful observation, and refined over many years, then their credentials may be just as good as those of any modern western competitor. Examples here are most likely to come from areas of study where science has yet to take a good hold, and where observation is relatively independent of abstract theory - the everyday behaviour of people in society, for instance, or (to mention one of the more respectable "alternative" therapies) the immediate curative powers of Amazonian herbs. In fields such as these, traditional folklore may indeed provide a relatively reliable source of knowledge and the best starting point for further research.

IV

To sum up, logical relativism may initially appear as a reasonable, open-minded and undogmatic response to the evident diversity of belief between different cultures and different ages. But so far from being reasonable, it is in fact a dubiously coherent doctrine which is in its way every bit as dogmatic as those which it seeks to reconcile. For this reason any "moral" argument in favour of such relativism is entirely bankrupt: there is nothing virtuously open-minded about crudely begging the question against the overwhelming majority of non-relativist philosophers. Nor can there be any good "theoretical" argument in

favour of logical relativism, since the relativist conclusion will undermine any such argument. The relativist's only weapon is to appeal to the impossibility of justifying "our logic" from an independent point of view. But this weapon is only self-sufficient on the extreme rationalist assumption that nothing whatever should be taken for granted without independent justification. It is easy to see that such an assumption immediately spells an end to all reasoning - this in itself gives us ample grounds for rejecting it, and with it the excessively rationalistic prejudices that lie at the secretly dogmatic heart of logical relativism.

The only aspect of logical relativism that has any legitimate force is, then, its emphasis on the impossibility of judging between alternative logics from an independent standpoint. But if we indeed reject the relativist's extreme rationalism, then this impossibility seems entirely insubstantial unless he provides good grounds for supposing that there are any alternative logics in the offing, or that such logics have in fact been employed by the historical philosophers whom he purports to defend. These claims appear to be extremely dubious, whether the term "logic" is understood as referring narrowly to the principles of deduction, or widely to the principles of scientific discovery and confirmation. So unless the relativist is prepared to articulate the alternative "logics" which he claims to find implicit in the theories of culturally alien philosophers, and unless he is prepared to show how the postulation of such "logics" is both coherent and necessary to make sense of these theories, we can conclude that logical relativism deserves to be consigned to the philosophical dustbin.