

On the irrelevance of theory

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Introduction: The preoccupation with geometry.

Many people have observed that philosophy in the West, and intellectual endeavour more generally, has been much impressed by the achievements of mathematics, and that has meant, for the most part, the achievements of Euclid in geometry. Fallible though he was, he gave the Greeks one of their few tangible scientific achievements and an exemplar to succeeding generations of what proper science should look like. He offered an axiomatization: a series of deductions from a small set of axioms (axioms and postulates, more accurately) and definitions that yielded as theorems a vast array of detailed results.

Guided by that achievement, we have in general sought axioms that are true, that are relatively perspicuous, one might hope obviously true. We want our axioms to be complete, to yield all the consequences we know, and some we have yet to establish by observation. But what we find is that in Euclid the axioms are also, as I shall say, fine-tuned – change them [i.e. regard one as false and replace it with some contrary] and you get very different theorems – if we take the parallel postulate to be false it follows that triangles don't add up to 180 degrees, and so on..

I think we tend to think both that this is an extra virtue of axioms and that it is shared by “theories” in other, less exact fields. There, I suggest, it underwrites what one might call a contagion theory of error: if your starting points are infected with error then your conclusions will likewise be seriously mistaken.

Exposition

Theme 1: People seem to think it important to ascertain the correct theory in, say, educational contexts when they are concerned to propose practical recommendations for what we should do. (Similarly in many other areas: environmental, social welfare, medical, My target now does not include high-energy physics or mathematics, though it might be worth asking whether my argument reaches that far.)

Theme 2: The truth-table for “material implication” and the prevalent assumption that we can translate ordinary conditionals in argumentative contexts by using this truth-function.

P	Q	If P then Q
T	T	T
T	F	F
F	T	T
F	F	T

One common way of testing for valid arguments is to conjoin the premises, form the material conditional corresponding to the argument (if premises then conclusion) and then evaluate this conditional. If it turns out to be a tautology the argument is valid.¹ What this means is that the argument can be valid in cases represented by lines 3 and 4 of the truth-table, cases where the

¹ As Bradley and Swartz point out (1979, 292), it is not true that if the conditional corresponding to the argument turns out not to be a tautology then the argument is invalid. Those lines in the truth-table may represent impossible worlds.

conjunction of the premises is false and where the conclusion may be true or may be false.

Development

From a Guardian online article

(<http://education.guardian.co.uk/higher/profile/story/0,,1719358,00.html>, accessed 2/1/08):

White's new book traces the origins of intelligence theories - propounded by such thinkers as Galton, Burt, Pearson and Goddard - back to early Protestant beliefs in predestination, salvation, the elect and the power of logical thinking.... While this may appear as little more than an interesting historical aside, its implications are far reaching, as it has been these very ideas about intelligence that have driven educational policy in this country and the US.... The idea that a curriculum could be based upon a philosophical model that is known to be false is deeply disturbing to White.

Courses in critical thinking and related activities often remind students of what is called "the genetic fallacy" (sometimes a specific instance of a more general fallacy known as denying the antecedent: if P then Q, not-P, so not-Q). Whatever people might think, the fact that you got an idea from reading Aristotle, or dreaming, or poring over tabulations of years of data, makes not an iota of difference to whether that idea is true. I think most examples of the genetic fallacy invoke cases where there is primarily a causal link between the idea in question and its genesis, as indeed there is in White's example. But the point is general and applies to logical relations as well. So let us suppose we have deduced something from Calvinism; what does that tell us about its truth-value? More specifically, would it be false if Calvinism is false? The answer is clearly "No". It *might* be false, but equally well, it *might* be true.

One route we might take is to look more closely at the supposed fallaciousness of these types of argument. Charity or politeness may make us seek interpretations of what people say such that they are not committing elementary fallacies. In the case of denying the antecedent, perhaps the most common charitable strategy is to think that the arguer's 'if P then Q' really amounts to more: 'P if and only if Q' (alias 'if P then Q and if Q then P'). If that were what was really being said, then of course adding 'not P' would validly yield 'not Q'. So I might say 'if it doesn't rain, we'll go for a picnic' and you might well think 'it is raining so we won't go for a picnic'. In such a case, Gricean considerations and common knowledge about people's disinclination to sit in the rain, make it plausible that I was in fact conveying that we would go for a picnic if and only if it didn't rain. But will this sort of move help White? I would suggest not. He can hardly be taken to committed to the thought that only Calvinism would yield the desirability of IQ testing. He seems to admit that most proponents of that activity had no suspicion of a grounding in a minority protestant theology. But they didn't advocate it for no reason at all, so White ought to allow that other positions might be invoked to support IQ testing.

Recently, Godden and Walton (2004) have offered a different way of avoiding fallacy here. They want us to include more of the dialogical context in the analysis of what might look like denying the antecedent. They offer the following dialogue profile to display what they think may sometimes be happening (231):

Moves	Proponent	Respondent
1.	I can prove that C.	How can you prove it?
2.	Argument: A, therefore C.	Is your argument valid?
3.	Yes, because $A \rightarrow C$ is true. ²	OK, but I still deny C.
4.	Why?	Because I deny A.

In my terms, they are taking 'not P so not Q' as saying rather 'not P so the argument 'if P then Q, P so Q' is unsound'. They say themselves “the legitimate use of denying the antecedent is just a special case of showing that an argument is a bad one by showing that it has a bad premise. Specifically, in a target argument of a *modus ponens* form, while the conditional premise might be acceptable, the premise which asserts the antecedent of the conditional may not be. Denying the antecedent rebuts the initial argument by denying this premise” (238).

Will this strategy help White? Again, I'm afraid the answer must be negative. If most people were supporting IQ testing by reference to Calvinism, then Godden and Walton give White the option of being taken to say in effect that IQ testing still needs to be defended because Calvinism is false. But that clearly is not the dialogical context White is contributing to. The IQ industry has probably never heard of Calvin, so why is White telling them that a putative support that someone else once used is no good?

So I conclude that we cannot absolve White from fallacy in this case. He seems to be committed to the contagion theory of error that I mentioned at the beginning.

Let us return to the truth-table. Earlier I asked what happens if we deduce something from Calvinism when Calvinism is false. Let us look at the other situation, where Calvinism is true. If Calvinism were true, and if we had really deduced something from it, then that thing would be true. If we knew we had a true theory, and we knew we had rigorously deduced something from it, then we would be sitting pretty. Perhaps that is our situation in mathematics and affiliated areas, so my argument doesn't reach that far. But for the softer areas of inquiry, we cannot feel so secure. We have not only to contend with the general fallibilism that most epistemologists would now apply to most of our beliefs about the world, but also and independently the fact that in matters of practical application we are not usually deducing anything rigorously. The best we can do is make it plausible that, in these circumstances and with general approval of these policies, then we should do one thing rather than another. Once we move away from rigorous deduction, any guarantee that truth will lead only to truth is also gone, and so we are back with the sheer irrelevance we noted in the case of false premises.

Another route to the same conclusion, while allowing that we may have rigorous deduction, is to notice that in many non-mathematical cases, our (often implicit) axioms are not fine-tuned. If that were so, we could replace various assumptions by conflicting ones and yet still derive the same conclusions. I doubt that the following could count as rigorous deduction, but long ago I reviewed a philosophy of education text-book and remarked that according to its author, “radically opposed philosophies end up by endorsing very similar curricula, with perhaps some slight differences of emphasis” (1982).

Of course, I have provocatively overstated my case here. Having just referred to plausibility considerations I should not assume that the truth-value of a theory is totally irrelevant to what one

² The authors use a hook rather than an arrow but I can't find that among Open Office's symbols.

might try to derive from it, that lines 3 and 4 of the standard truth table are equally probable, believable or what have you. But I do think public debate, not only in education, does tend to move a lot too swiftly from the putative falsity of a premise/theory to the falsity of what has been supported by it. Maybe, as the environmental sceptics suggest, it isn't human action that is leading to polar ice melting or stocks of cod declining. But would that mean we should go catching as many cod as we can, or burning fossil fuels without a care in the world? I doubt it. (Though it ought not to be beyond the philosophical imagination to devise a story in which constant overfishing leads to massive population regeneration, cf. the baby boom after World War II.)

What this suggests to me is that we are getting practical policies out of our theories by in fact relying on pretty untheoretical elements – noting what works and what doesn't, in basic terms. The theory is an elaborate superstructure that is largely idle. For one other illustration I might note a book I recently reviewed by Helen Abadzi - *Efficient Learning for the Poor: Insights from the Frontier of Cognitive Neuroscience*. One comment illustrates the point I am making: “we don't really need to know the details of the cognitive psychology to know that people, even very young children, learn less well when taught in a language they barely comprehend than when instructed in their mother tongue” (to appear).

What, then, is the point of concentrating so much time and energy on such things as educational theories? Since they are rarely creations of great intellectual beauty, my gut-reaction is that there is in fact very little to be said for it. Sociologically we can tell plausible stories: experts need to be able to exclude the rest by having access to esoteric would-be knowledge. But the idea that it is useful to sort the wheat from the chaff here is, perhaps unfortunately, hollow.

References

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