Maclaurin and Dyke on Analytic Metaphysics

Mike McLeod and Josh Parsons

Abstract: We argue that Maclaurin and Dyke's recent critique of non-naturalistic metaphysics suffers from difficulties analogous to those that caused trouble for earlier positivist critiques of metaphysics. Maclaurin and Dyke say that a theory is naturalistic iff it has observable consequences. Depending on the details of this criterion, either no theory counts as naturalistic or every theory does.

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James Maclaurin and Heather Dyke [2012][1] is a vigorous assault on what its authors call "non-naturalistic metaphysics". Included in this category are theories concerning material constitution, the existence and nature of properties, and possible worlds, and some but not all forms of mathematical realism and nominalism. Excluded are the A-theory / B-theory debate in philosophy of time, and some other forms of mathematical realism and nominalism. Maclaurin and Dyke are not positivists – they do not deny that non-naturalistic metaphysical theories are meaningful – but their criterion for naturalisticness closely resembles Ayer's [1946] weak verifiability criterion for "factualness" of a proposition. We argue that, like Ayer's criterion, Maclaurin and Dyke's is trivial – either every theory counts as naturalistic or no theory does.

We are no defenders of non-naturalistic metaphysics – far from it – there are some theories that Maclaurin and Dyke believe to be non-naturalistic that we too would happily consign to the flames. But there are others that they specifically condemn on which we believe important progress is now being made. Discussing the merits of specific metaphysical theories would be beyond the scope of this discussion note, however – our complaint is that Maclaurin and Dyke have not succeeded in identifying the class of theories they wish to attack.

Maclaurin and Dyke give two different criteria for a metaphysical theory to be naturalistic – one at the beginning of their paper, and another in reply to an objection [p. 302]. It is the second criterion that resembles Ayer's – the first one resembles a simpler positivist criterion of verifiability that Ayer rejected (for reasons similar to the objection Maclaurin and Dyke are dealing with). We will begin by discussing the first, simpler criterion, and then explain how the second criterion differs.

At the start of their paper Maclaurin and Dyke say that "non-naturalistic metaphysics is 'any philosophical theory that makes some ontological (as opposed to conceptual) claim, which, in principle, has no observable consequences" [p. 292] Two things about this definition should be gotten out of the way quickly: first, the "ontological / conceptual" distinction seems to us to be a red herring – why should conceptual theses be immune from empirical refutation (by the results of surveys by experimental philosophers, perhaps, or by the more traditional methods of conceptual analysis)? Second, it is a famously vexed matter just what counts as "observable" – but for the purposes of this paper we are prepared to grant Maclaurin and Dyke the concept of observability.

The key feature of Maclaurin and Dyke's criterion, we think, is the role of consequence. They categorise theories as naturalistic or non-naturalistic based on their semantic relations to other propositions – specifically on whether they bear the consequence relation to an observation sentence (to use the positivists' jargon). It is this feature that accounts for the resemblance to positivism. It is also this feature that lends Maclaurin and Dyke's project its strength. You can't know, they think, whether a theory of non-naturalistic metaphysics is true; but you can know what it

1 Henceforth page references without a citation are references to Maclaurin and Dyke (2012).

means, and thus, apriori, have a grip on whether it is naturalistic or not. Moreover, they give the impression that it is quite easy, based on a casual understanding of the content of a theory, to determine what its consequences are.[2]

It has been suggested to us[3] that we are imposing a logical or semantic reading of the word "consequence" on Maclaurin and Dyke, and that what they mean when they say that some theory "lacks observable consequences" is simply that that theory is empirically untractable in some sense not further defined in their paper. If that's what Maclaurin and Dyke *mean*, then it's not what they *say*: they use the term "consequence" in every one of the explicit formulations of their criterion; and they frequently speak of the criterion in even more explicitly logical or semantic terms: observations are spoken of as "being inconsistent with" [p. 293] or "contradicting" theories [p. 297]; observations are said to be "deduced" from theories [p. 302]. Moreover, if Maclaurin and Dyke meant to apply some unanalysed notion of empirical tractability, what evidence are we suppposed to have that the theories they object to are empirically intractible? It's difficult to tell what types of evidence will later apply to a theory – who would have guessed in 1897 that there could be evidence from physics against the hypothesis that there is an objective ontological distinction between past, present, and future [p. 293] for example? Maclaurin and Dyke clearly think that we are able to tell whether theories are naturalistic or not in advance of any future advances in science; a literal reading of their talk of "consequence" delivers that result, and few other criteria of empirical tractability would.

Maclaurin and Dyke's second criterion is intended to reply to an objection:

> It is widely accepted that hypotheses are not testable in isolation. If we rule out hypotheses of non-naturalistic metaphysics on these grounds, lots of hypotheses at the frontiers of science would also have to be thrown out... [p. 302]

Their reply is this:

> We acknowledge that no hypotheses are testable in isolation, but we note that this does not imply that for any hypothesis there is some set of auxiliary hypotheses with which it could be conjoined such as to render it testable... If the truth of a claim, on its own or conjoined with any set of auxiliary hypotheses, makes no difference to the observations we can deduce from the claim, then it fails our criterion. The observations we can deduce from the claim that the statue and the lump are two things, are exactly the same as those we can deduce from their being one thing, no matter what set of auxiliary hypotheses we conjoin with these claims. [p. 302]

We understand this, revised, criterion in a similar way to the first. Maclaurin and Dyke are saying that a theory of non-naturalistic metaphysics is an ontological theory the conjunction of which with any auxiliary hypothesis never has any observation sentence as a consequence.

In the first edition of *Language, Truth, and Logic*, A. J. Ayer gave a criterion of "weak verifiability" that is (almost) equivalent to Maclaurin and Dyke's second criterion. Ayer had already rejected a criterion similar to their first criterion, for similar reasons to those given in the quote above. Isaiah Berlin [1938] pointed out that Ayer's criterion was trivial – that every theory whatever counted as weakly verifiable by the letter of Ayer's text. We think that Maclaurin and Dyke's attempt to demarcate naturalistic from non-naturalistic metaphysics fails in the same way.

Here's Ayer's statement of his "first edition" criterion of weak verifiability (the one that resembles Maclaurin and Dyke's second criterion): "the mark of a genuine factual proposition [is] that some experiential propositions can be deduced from it in conjunction with certain other premises without being deducible from the those other premises alone" [Ayer 1946, pp. 38-39] By "other premises", Ayer means what are now called "auxiliary hypotheses". Ayer's criterion differs only from

2 For example, they seem to think that a two paragraph description of the puzzle of Dion and Theon and solutions to it is sufficient to establish that the solutions lack observable consequences. (pp. 292-293)

3 By an anonymous referee for the Australasian Journal of Philosophy.

Maclaurin and Dyke's in that it dodges a triviality objection: every hypothesis has observable consequences when conjoined with an auxiliary hypothesis that itself has observable consequences! Accordingly, Ayer inserts the clause "without being deducible from the those other premises alone". We presume that Maclaurin and Dyke would add this amendment to their criterion in the face of the same objection; in that case their second criterion of naturalistic metaphysics is equivalent to Ayer's criterion of weak verifiability.

Berlin's objection to Ayer's criterion is simple. For every theory T, there's an auxiliary hypothesis of the form "If T, then O", where O is an experiential proposition, which, when conjoined with T has the experiential proposition O as a consequence. The auxiliary hypothesis does not itself have O as a consequence, so every theory satisfies Ayer's criterion – every theory is genuinely factual. The same counter-example applies to Maclaurin and Dyke. For every theory T, there's an auxiliary hypothesis of the form "If T, then O", where O is an observation, which, when conjoined with T has the observation O as a consequence. So every theory counts as naturalistic according to Maclaurin and Dyke's second criterion.

It may be thought that the problem with Ayer's criterion was his focus on propositions, rather than theories. Maclaurin and Dyke speak of conjoining "claims" with "auxiliary hypotheses", and a sentence of the form "If T, then O", it may be thought, does not count as a hypothesis. This will not help, however, as all that's required is that there be a hypothesis that entails "If T, then O". These are not too hard to make up.[4]

What about Maclaurin and Dyke's first criterion, according to which a naturalistic metaphysical theory must have observable consequences itself? As we have mentioned, Ayer rejected the corresponding criterion of verifiability as trivial in another way. Explaining why, he writes:

> Suppose we have devised an experiment to test the validity of a scientific "law". The law states that in certain conditions a certain type of observation will always be forthcoming. It may happen in this particular instance that we make the observation as our law predicts. Then it is not only the law itself that is substantiated, but also the hypotheses that assert the existence of the requisite conditions. For it is only by assuming those conditions that we can hold that our observation is relevant to the law. Alternatively we may fail to make the expected observation. And in that case we may conclude that the law is invalidated by our experiment. But we are not obliged to accept this conclusion. If we wish to preserve our law, we may do so by abandoning one or more of the relevant hypotheses. We may say that the conditions were not what they seemed to be, and construct a theory to explain how we came to be mistaken about them; or we may say that some factor which we had dismissed as irrelevant was really relevant, and support this view with supplementary hypotheses. [Ayer 1946, p. 94]

The history of science is littered with examples of what Ayer is talking about here – this is the stuff of any introductory philosophy of science course. Take for example, the wave theory of light and the predictions which falsified it. According to the wave theory, light is a wave in a medium – the luminiferous ether – that pervades the whole universe. If this were true, then it ought to be possible to measure the velocity of the Earth relative to the ether by measuring the speed of light, and in a famous series of experiments in the 1880s, Michelson and Morley did just that. They discovered, astonishingly, that the Earth was at rest with respect to the ether; worse, wherever they performed the experiment (even in laboratories that were known to be moving with respect to each other) they got the same result. These experiments are widely regarded as providing clear experimental evidence that light is not a wave in any ordinary medium. If the wave theory has observable consequences at all, then it has the consequence that measurements of the velocity of the ether would have different results when measured in different locations.

This, however, is not a consequence of the wave theory, as is made plain by what happened after Michelson and Morley's experiments. For 20 or so years, most physicists were convinced that

4 Consider for example, the hypothesis that there is an omniscient being who is willing to reliably and observably answer questions put to it concerning whether T is true.

motion relative to the ether distorted the shapes of Michelson and Morley's apparatus in just such a way as to cancel out the effects of that motion on the speed of light. This idea – the Lorentz contraction hypothesis – was consistent with the wave theory; together, they predict that Michelson and Morley's experiment would have the result it actually had. So it cannot be that the wave theory has the consequence that measurements of the velocity of the ether would have different results when measured in different locations – if it did, it would be inconsistent with the contraction hypothesis. So the wave theory does not have the observable consequences we supposed it to have.

Now of course, Maclaurin and Dyke's criterion is not supposed to be applied to scientific theories, just philosophical ones. But surely it's too high a standard to apply to a philosophical theory that it must have empirical content in a way that even theories in the physical sciences fail to!

So, it seems to us that both of Maclaurin and Dyke's criteria of naturalness fall into triviality. Their first criterion counts every metaphysical theory (even ones they like) as non-naturalistic; their second counts every metaphysical theory (even ones they don't like) as naturalistic. The arguments against non-naturalistic metaphysics use their criterion as a premise. If, they argue, a theory fails their criterion, then we cannot know whether it is true, and it is worthless to speculate. [p. 299-300] But this conditional is false on their first criterion (because there are scientific theories that fail the criterion, and yet we can know them); it is true on their second criterion, but no theories fail.

Is there any other way of fixing up Maclaurin and Dyke's criterion? The history of Ayer's criterion of weak verifiability is not encouraging. Ayer accepted Berlin's objection and, in the preface to the second edition of his book, published a revised and more complicated criterion. This too was subsequently shown to be trivial, and a series of patches and counter-examples ensued.[5] The consensus is that Ayer's project of demarcating empirical from metaphysical theories based on their consequences never successfully dealt with the initial problem of auxiliary hypotheses.

We suspect, but cannot prove, that what makes a metaphysical theory naturalistic, or gives a scientific theory empirical tractability, is not its content, or what consequences it has, but is, in part, a matter of how the world is. It's because we happen to live in a relativistic universe that Maclaurin and Dyke's example of a naturalistic metaphysical theory, the B-theory of time [p. 293] has what empirical tractability it has. But if that's so, then it's not possible to determine which theories are naturalistic just by understanding what those theories say. To determine whether a theory is naturalistic, we have to do some philosophy (and possibly some science too). The worst thing to do would be to take Maclaurin and Dyke's advice, and to give up trying just because we can't see in advance how contemporary science could bear on a philosophical issue.

Otago University, New Zealand

Corpus Christi College, Oxford University, United Kingdom

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5 For more on Ayer's criterion and its fate, see Lewis [1988]. Lewis's paper also contains a sophisticated account of what it could take for a theory to be empirical in its subject matter. We doubt that this will give Maclaurin and Dyke what they want, but we commend their attention to it.