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Comments on Tim Lyons: Exploring the Prospects for a Purely Axiological Realism

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Comments on Tim Lyons: Exploring the Prospects for a Purely Axiological Realism

Midwest Workshop in Philosophy of Science and Philosophy of Mathematics

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Department of Philosophy

Indiana-Purdue University Fort Wayne

LA35A

Let me first see if I can summarize Tim's view (some of this comes from his 2005 *Toward a Purely Axiological Scientific Realism*):

1. None of the various epistemic realist claims about what we are justified in believing about successful scientific theories work due to the presence of historical counterexamples.
2. But if so we lack reason to believe the corresponding descriptive semantic claims about what is true about successful theories as well as their corresponding descriptive syntactic claims about what successor theories retain from their predecessors.
3. But this does not mean that we should reject axiological realism, roughly the view that science aims at truth, because one can be justified in having an aim even if one is never justified in believing that one has attained it.
4. But this is possible only if we can identify certain necessary conditions for the attainment of progress towards our ideal aim, some of which also have value in themselves that can account for the utility of the pursuit of a utopian aim, one we can never know we've attained.
5. But given all this the aim of science must be some subset of truth for which such necessary conditions (some with intrinsic value) can be specified and towards which it can plausibly be maintained science has been endeavoring in its history.
6. The subset of truth towards which science aims (and has presumably been aiming) is the increase of experientially concretized (XT) truths in theory-complexes.
7. Theory-complexes are sets of theories + auxiliaries needed to generate predictions, tests and reports from them.
8. XT truths are true statements that enter into reports of specific experiences or in tested statements about the world of experience.

9. Specifically, they are not truths that are detached from the complex or conjoined in such a way that they are vacuous and can make no difference to the world of experience.
10. Axiological realism thus appropriately modified becomes independent of the debate over epistemic realism; its justification lies elsewhere (in 4 above.)
11. But the debate concerning epistemic realism has led to a succession of descriptive content-retention hypotheses that can in principle be ranked according to the quantity of historical counter-examples.
12. This is useful because it provides evidence for a descriptive view about the nature of scientific inquiry (also independent of the epistemic issues from which it arose) according to which theory change has been historically governed by the application of not one but a prioritized distribution of content-retention hypotheses (e.g., retain the predecessor's classification of phenomena, mathematical structure, manipulated posited entities, deployed constituents, non-deployed constituents, etc.)
13. And this prioritized list of content-retention hypotheses can be combined with a prioritized list of theoretical virtues that are necessary conditions for achievement on IncXT (e.g. an increase in empirical accuracy and consistency, an increase in or retention of BOS, TST, SIMP, etc.)
14. The result is a descriptive view of the nature of scientific inquiry with the following characteristics
 - a. It is grounded in axiological rather than epistemic realism
 - b. It emphasizes flexibility in theorizing
 - c. It combines content-retention principles with non-empirical theoretical virtue principles.
 - d. From it inference to the best explanation follows.
 - e. It is testable.
 - f. It responds to the historical challenge to realism as a modus tollens rather than as a pessimistic induction.

Can you be more specific about the connection between your content-retention and theoretical virtue priorities and the nature of inference to the best explanation? How is it that IBE follows from these? Are you saying that your view provides a better grounding of IBE as a mode of inductive inference or gives it more substance (a clearer understanding of what is better and why it is better?)

What's the nature of the modus tollens you refer to? You say that it falsifies the Type-D semantic meta-hypothesis "Successful theories are approximately true". So is this it? "If successful theories are approximately true then successful theories a, b, c ...n should be approximately true. But its not the case that successful theories a, b, c ... n are approximately true, so its not the case that successful theories are approximately true." But reading "all" as the quantifier this just leads to "Some successful theories are not approximately true" which needn't trouble the realist much if most of them are. So why can't the type-D meta-hypothesis still be probably correct? In which case we are back to the pessimistic induction argument it seems.

In a similar vein, what's the argument that the epistemic realist needs to defend a universal type-D content retention meta-hypothesis, one that works in all cases? Only, it seems to me, if she says that being approximately true is the only explanation of theoretical success. But why must she say this? In any case, trying to support a probabilistic content-retention meta-hypothesis would seem to be an alternative to a methodology involving a hierarchical ranking of such hypothesis.

Tim talks about Type-E meta-hypotheses (about what we are justified in believing) that correspond with Type-D semantic meta-hypotheses (about what is true) that in turn correspond with Type-D syntactic content retention meta-hypotheses (about which sentences/categories/referential expression of predecessor theories can be retained by successors) but why no mention of Type-D metaphysical meta-hypotheses (about the existence of the unobservables that successful scientific theories commit to, about what is "out there")? Following Devitt, why not say that at the center of the realist debate is the metaphysical question, and that semantic and epistemic (and axiological?) issues are parasitic on the metaphysical issue? In any case, it seems like we could (should?) at least recognize a similar variety of Type-D metaphysical meta-hypotheses corresponding to the various epistemic, semantic, and syntactic ones, making for three descriptive levels. And if so, following the logic of this paper, perhaps we could take the results of the epistemic debate all the way down (or up) to the metaphysical level, with a hierarchical prioritized list of metaphysical hypotheses.

If we can't ever know if we have attained or are approaching our aim, and have to rely on the utility argument to ground scientific methodology or inquiry, how is this different from saying that the real aim of science is just the attainment of those necessary conditions of IncXT that have value in themselves? And does e.g. empirical accuracy and BOS really have this sort of value?

