Must the Best Explanation Be True?

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Topic and outline

Truth requirement (TR): the best explanation of a given phenomenon should have a true *explanans*, i.e. the *explanans* should be a true description of the explanatorily relevant facts.

- TR is an all-out claim; it doesn't contain an all-else-equal clause.

Many writers on explanation assume TR. I argue that we shouldn't.

I do so by looking at several arguments *for* TR and arguing that they fail.

Then, a (bare) sketch of a positive view of explanation, consistent with denying TR.

The structure of the dialectic

Observation: Many good (best?) scientific explanations idealize, i.e. contain falsehoods.

Further observation: such cases often involve tradeoffs between truth and explanatory virtues like unification, simplicity and generative power.

Given this, and assuming that practice exerts a prima facie constraint on philosophical theorizing, we need positive arguments for TR, if we are to accept it.

Further comments: (1) setting aside questions about direct/indirect views of modeling. (2) my claims are neutral on realism/anti-realism.

An argument from the pragmatics of description (Lewis)

1. Explanation is a species of factual communication.
2. Factual communication is subject to a truthfulness maxim.
3. So Explanations should be truthful.

Lewis' version (roughly): all else equal, a factual statement is better to the extent that it's close to the truth. Because of the all-else-equal clause, Lewis' maxim doesn't conflict with TR.

Then, in arguing that truth overrides other explanatory virtues, Lewis presupposes TR (outright):

"Philosophers have proposed further desiderata, [including] that good explanations ought to show that the causal processes at work are governed by simple and powerful laws; or that they are not too miscellaneous. But I say that a good explanation ought to show none of these things unless they are true." (1986, p. 228).

An argument (?) from the aims of science

Does TR follow from a claim about the aims of science, such as: "Science aims to give us, in its theories, a literally true story of what the world is like" (van Fraassen 1980, 8)?

No: science, like many institutions, has multiple aims, which may well conflict. Specifically, description and explanation are plausibly at cross purposes, sometimes.

An argument from Inference to the best explanation (IBE)

1. IBEs move from explanatory merits to truth.
2. IBE is very important, perhaps indispensable.
3. So to retain IBE, we must adhere to TR.

Not quite; even if IBE is indispensable, it doesn't presuppose TR:

IBE says that explanatory merit is *one* guide to truth, not the only guide. If you know, on the basis of non-explanatory evidence, that a given hypothesis is false (e.g. when it's an idealization), then it isn't (even) a candidate for the conclusion of an IBE. So we can retain IBE irrespective of TR.

- Idealization might mean that IBE has lesser scope, but that's a different matter.

A (vaguer) argument from fear of relativism

Q: Unless we demand truth, how are we to avoid rampant relativism?

A: (1) TR isn't necessary for combating relativism in an epistemic sense – what's needed are objective standards for evaluating explanations. (2) TR (or related semantic principles) is (are) insufficient for combating relativism – what matters isn't truth but objective standards of evaluation.

Explanation and understanding (very briefly)

Basic claim: explanations are good to the extent that the supply understanding.

Understanding: the *cognitive capacity* to make what-if-thing-had-been-different inferences.

Understanding is (1) not factive, but (2) objectively evaluable.

Because of the nature of understanding, explanation is closely connected with causation (but also with other dependencies.)

Truth can be seen as an explanatory virtue: all else equal, an explanation is better to the extent that it is closer to the truth. But, crucially, all else is usually unequal.