

The Feeble, Few and Far Between Coincidences Argument for Realism

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The no coincidences argument for realism holds that we can infer the truth or approximate truth of a theory when it reaches a certain level of success. It would be a cosmic coincidence, the realists claim, if a theory were to enjoy such success and yet not be true. In this talk, I focus on the most prominent realist conception of the level of success required to licence inferences to truth or approximate truth. The conception I refer to involves the demand that theories generate novel predictions. I argue that, as it stands, this conception is too weak to deflect a rather simple challenge. I then propose ways to strengthen the realist conception in the hope that it is better able to overcome whatever challenges we throw at it.

Why do realists appeal to novel predictions? To adequately answer this question it is useful to go back to basics. It is a rather obvious fact that true theories have only true consequences. Less obviously, it is arguable that the more a theory strays from the truth the more likely it is that its consequences are led astray too. Even less obviously, it is arguable that having successful consequences, i.e. consequences that accord well with observations and measurements, is symptomatic of a theory's truth or approximate truth. Now since a theory can be made to have the right consequences by fiat, i.e. via ad hoc manoeuvres, today's realists demand from theories not only to accommodate phenomena but also to predict them. The trade name for this demand is 'novel predictions'.

Despite appearances, the notion of success that the novel predictions demand engenders is not strong enough to deflect a simple challenge. Saatsi and Vickers (2010) point out that even radically false theories can generate novel predictions and cite Kirchhoff's diffraction theory as one such theory. Although some doubts can be raised about their case study, e.g. whether the elements responsible for the success of Kirchhoff's theory are false, I am in general agreement with their conclusion. Indeed, I think that their central point is almost trivially true. Valid arguments with false premises can have true conclusions. It follows that false theories can have true consequences. Since it is a contingent fact whether such consequences are accommodated or predicted, it is reasonable to expect that some false theories can generate novel predictions. In other words, the realist has no choice but to concede that coincidences like these can take place. Even so, she can at least try to argue that they are few and far between and they typically involve feeble predictions. I develop the outlines of such an argument, replacing the notion of novel predictions with a more plausible notion of support that centres on the idea of independently testing individual consequences of a theory in different contexts such that a great many false theories can be eliminated from the competition.

References:

- Saatsi, J. and P. Vickers (2011) Miraculous Success? Inconsistency and Untruth in Kirchhoff's Diffraction Theory', *BJPS*, vol. 62(1): 29-46.