Modal Predictivism: a novel solution to the paradox of predictivism

Kit Patrick

On the one hand it seems that novel prediction must be 'privileged': novelly predicted evidence provides especially strong confirmation for the predicting theory, whilst merely accommodating the evidence provides little or no confirmation that the theory is true. On the other hand, it seems that prediction cannot possibly influence confirmation, because confirmation is 'logically pure': The confirmation of a theory is determined by the theory and the evidence alone. Whether scientists used the theory to novelly predict the evidence is a historical accident, and simply irrelevant to whether we should believe that the theory is true.

I develop and defend a new solution to this 'paradox of predictivism': whether a theory *could have* predicted the evidence influences how well that theory is confirmed. In other words, it is predict*ability*, rather than prediction, that is privileged. Such 'modal predictivism' has been hinted at by several authors (e.g. Leibniz, Ladyman and Ross), but no full account has yet been developed.

Any account of modal predictivism faces several challenges. In particular, 'predicted evidence' is usually taken to mean that the evidence was not used in generating that theory. But almost all evidence is predictable in this sense. A more nuanced notion of predictability is required. I examine Schlesinger's notion of a theory having 'predictive power' and argue that the resulting modal predictivism either violates any plausible principle of logical purity, or else fails to make sense of the fact that only some evidence provides especially good confirmation. Next, I consider Schurz's development of Carnap's bilateral reduction sentences into 'potentially novel predictions' of a theory, but find that the resulting version of modal predictivism is too permissive. I develop an alternative account of predictability, based on the notion of novel prediction as not 'put in by hand' but rather derived 'naturally' from the theory.

This version of modal predictivism avoids key objections to other accounts of prediction and confirmation, and provides a more satisfying solution to the paradox of prediction than any of the previously available solutions. Specifically, it gives a more plausible account of which predictions are privileged than either the view that all predictions are privileged, or the 'weak predictivist' view that prediction indicates the presence of some privileged property. Furthermore, modal predictivism avoids violating even the strongest requirements of logical purity, as endorsed by Carnap and his successors. For according to modal predictivism, whether evidence is predictable by a theory can be decided by examining the theory and evidence alone.

Finally, I argue that there is reason to accept modal predictivism, independent of its ability to solve the paradox of predictivism. The claim that prediction is privileged has often been supported by a version of the no-miracles argument. Barnes and others have criticised such versions of the no-miracles argument. I argue that when the no-miracles argument is properly adjusted to avoid these criticisms it supports modal predictivism.