# Scientific Realism without Novel Predictions

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Scientific Realism is the position that our current most successful theories are approximately true. When presenting their position scientific realists often leave the notion of success rather vague. But there are a number of challenges to scientific realism, e.g., the pessimistic meta-induction, which put pressure on realists to make the notion of success more precise. One popular way to do so is to demand that successful theories must have made a significant number of novel predictions. In my paper I argue against adding this condition to the notion of success. In particular the notion of novel predictions is not well-suited to capture the tremendous success that our current best theories enjoy. I then argue that scientific realists should rather rely on more humdrum notions for the characterization of success such as diversity of evidence and agreement with precise measurements.

What is a "novel prediction"? In the talk I assume that novel predictions involve three conditions. The first condition is use-novelty: A piece of data entailed by a theory is *use-novel*, iff it was not used in the construction of the theory. The second condition is that the entailed data is dissimilar from all other data already known to be entailed by the theory i.e., dissimilar from the data used in the construction of the theory and also dissimilar from all earlier novel predictions of the theory. This condition is meant to capture the idea that a novel prediction is indeed *novel*, i.e., about a new *kind* of phenomenon or fact. The third condition is that the predicted data should be sufficiently *specific*. If the predicted data is too general or too vague, then the prediction is not surprising.

I then go on to argue that the first condition, use-novelty, contributes little to the confirmational value of novel predictions. I also argue that the second and third condition are similar to the notions of diversity of evidence and precision of measurement, but the latter notions have the advantage that they are more general and easier to apply. In particular, the latter notions are more suited to help characterize the tremendous success that our current best theories enjoy.