

Reconfiguring the Domain:

Meta-empirical Evidence in Support of Realism

Havelok Symes

How can the Scientific realism debate inform our definition of the virtual?

Scientific realism explains the success of science by appealing to its approximate truth.

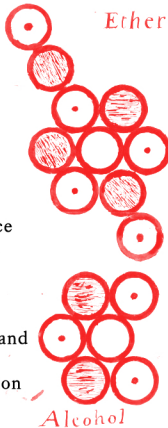
Stanford (2006) has argued scientists repeatedly fail to conceive theoretical alternatives equally supported by empirical evidence.

Conclusion: Scientific theories will always be underdetermined by the available evidence and scientists should not believe in the truth of putative entities.

Philosophers have begun to explore the use of evidence taken from beyond the domain of confirmation to rule out alternative theories.

Dawid (2020) suggests such evidence helped develop trust in atomism at the start of the twentieth century and can also be used to support a belief in string theory.

Conclusion: Reliable assessments of underdetermination are possible across the history of science, and can be used to endorse realism about entities.



Hofer (2020) advocates realism towards the coarse grained features of mid-twentieth century science.

There are no alternatives to the arrangement of elements in the periodic table, our understanding of chemical bonding, or the life cycle of stars. Fundamental physics, and the history of science are too unstable - they should be quarantined.

Conclusion: Reliable assessments of underdetermination can only be used to endorse realism about coarse grained features of science. Not about strings, and not about historical entities.

Given these drastically different conclusions, how should philosophers view the use of meta-empirical evidence? Can it be used to reliably endorse realism, and does this inform the distinction between virtual and material entities?

References:

Dawid, R. "The Role of Meta-Empirical Theory Assessment in the Acceptance of Atomism."

<<http://philsci-archive.pitt.edu/18163/>>. 2020.

Hofer, C., Marti, G. Realism, Reference & Perspective. EJPS 10, 38 (2020).

Stanford, K. Exceeding Our Grasp. Oxford: OUP. 2006