

# How the Growth of Science Ended Theory Change

Fahrbach, Ludwig (2009) How the Growth of Science Ended Theory Change. In *[2008] Theoretical Frameworks and Empirical Underdetermination Workshop (Düsseldorf April 10-12, 2008)*.

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## Abstract

This paper outlines a defense of scientific realism against the pessimistic meta-induction which appeals to the phenomenon of the exponential growth of science. Here, scientific realism is defined as the view that our current successful scientific theories are mostly approximately true, and pessimistic meta-induction is the argument that projects the occurrence of past refutations of successful theories to the present concluding that many or most current successful scientific theories are false. The defense starts with the observation that at least 80% of all scientific work ever done has been done since 1950, proceeds with the claim that practically all of our most successful theories were entirely stable during that period of time, and concludes that the projection of refutations of successful theories to the present is unsound. In addition to this defense, the paper offers a framework through which scientific realism can be compared with two types of anti-realism. The framework is also of help to examine the relationships between these three positions and the three main arguments offered respectively in their support (No-miracle argument, pessimistic meta-induction, underdetermination).

**Keywords:** pessimistic meta-induction, no miracles argument.

**Subjects:** [General Issues: Theory Change](#)  
[General Issues: Realism/Anti-realism](#)

**Conferences and Volumes:** [\[2008\] Theoretical Frameworks and Empirical Underdetermination Workshop \(Düsseldorf April 10-12, 2008\)](#)

**ID Code:** 4654

**Deposited By:** [Votsis, Ioannis](#)

**Deposited On:** 28 May 2009