

QUOTATION

ON SUCCESS AND THE ATTRACTIVENESS OF THEORIES

Scientists' aesthetic preferences respond inductively to the empirical performance of theories. More precisely, scientists attach aesthetic value to an aesthetic property roughly in proportion to the degree of empirical success scored by the set of theories that exhibit that property. If a property is exhibited by a set of empirically very successful theories, scientists attach great aesthetic value to it, and thus see theories that exhibit that property as beautiful. If a property has no association with empirical success, either because theories exhibiting that property have been demonstrated inadequate, or because such theories have as yet no empirical track record, scientists attach no aesthetic value to it, and thus feel no aesthetic attraction for theories that exhibit it.

This inductive procedure greatly influences the development of science. If a given theory scores notable empirical success, its aesthetic properties win increased favor among scientists' aesthetic preferences. Scientists will consequently tend to prefer theories that show these properties to theories that do not, and will strive to formulate further theories that satisfy this preference. As long as such theories remain successful, their aesthetic properties will acquire greater and greater favor. When such theories cease to demonstrate empirical success, the properties that they exhibit will lose favor relative to any other properties whose correlation with empirical success appears stronger.

Because of this inductive mechanism, if there exists an aesthetic property that is a sign of truth, then scientists' aesthetic preferences will converge on it. Suppose that, by chance, scientists one day formulate a theory that exhibits such a property. Since any such theory must be true, it will score great empirical success. Scientists will attach aesthetic value to the property in question, and will seek to formulate further theories exhibiting it. Since these further theories must likewise be true, the aesthetic value attributed to the aesthetic property will increase without limit. Beauty will indeed have become the splendor of truth.

From: McAllister, James W. (1998). Is beauty a sign of truth in scientific theories? *American Scientist*, March–April, pp. 177–178. The article is based upon the author's 1996 book, *Beauty and revolution in science*, Ithaca & London: Cornell University Press. His address is Faculty of Philosophy, University of Leiden, P.O. Box 9515, 2300 RA Leiden, The Netherlands (E-mail: mcallister@rullet.leidenuniv.nl).

Contributed by Iver H. Iversen, Psychology Department, University of North Florida, Jacksonville, Florida 32224-2645.