**Kuhn, Thomas S(amuel)** (1922- ), American historian and philosopher of science, renowned for being the main contributor to the change of orientation of philosophy and sociology of science in the 1960s. He was born in Cincinnati, Ohio, and received a PhD from Harvard University in theoretical physics in 1949. He switched to history and philosophy of science, which he taught at Harvard, Berkeley, Princeton, and Massachusetts Institute of Technology (MIT).

In 1962, Kuhn published *The Structure of Scientific Revolutions,* which depicted the development of the basic natural sciences in a way that differed substantially from the then common view. According to Kuhn, the sciences do not uniformly progress by the application of some alleged scientific method. Rather, there are two fundamentally different phases of scientific development in the mature sciences. In the phase of *normal science,* there is a broad consensus in the scientific community about how to exploit the analogies to what has been achieved earlier, most notably to exemplary problem solutions that Kuhn called *paradigms.* In the phase of *extraordinary science,* new theories and research tools are sought as the old ones cease to function fruitfully. If a new theory can be shown to be superior to its competitors, it is accepted, and a *scientific revolution* takes place. Such revolutionary breakthroughs bring about a change of scientific concepts, problems, solutions, and methods. Although these changes are never total, they make scientific development at these junctures somewhat discontinuous; the older theory and the newer theory are said to be *incommensurable* with each other. Such incommensurability entails that the comparison of the two theories is more complicated than simply confronting mutually inconsistent predictions.

Kuhn's book has triggered a widespread, controversial discussion across many disciplines and has exerted an enormous influence. In response to criticism, he has corrected and refined his theory, and he continues to do so today.

Contributed by:
Paul Hoyningen-Huene

Further Reading



Hoyningen-Huene, Paul. *Reconstructing Scientific Revolutions: Thomas S. Kuhn's Philosophy of Science.* University of Chicago Press, 1993. Comprehensive exposition, with good bibliography.

Kuhn, Thomas S. *The Structure of Scientific Revolutions.* University of Chicago Press, 2d ed., 1970. Seminal work in unified science.

Kuhn, Thomas S. *The Essential Tension: Selected Studies in Scientific Tradition and Change.* University of Chicago Press, 1977.

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