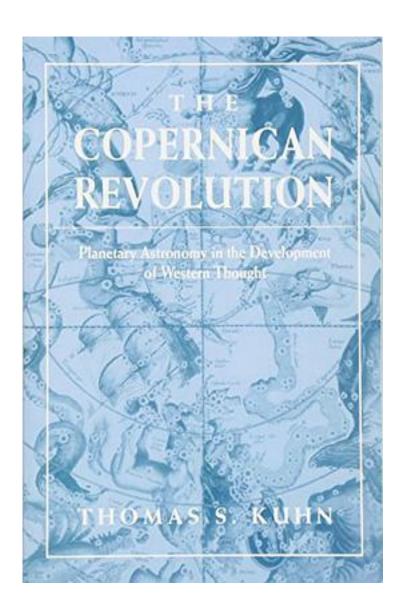
The Copernican Revolution



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For scientist and layman alike this book provides vivid evidence that the Copernican Revolution has by no means lost its significance today. Few episodes in the development of scientific theory show so clearly how the solution to a highly technical problem can alter our basic thought processes and attitudes. Understanding the processes which underlay the Revolution gives us a perspective, in this scientific age, from which to evaluate our own beliefs more intelligently. With a constant keen awareness of the inseparable mixture of its technical, philosophical, and humanistic elements, Thomas S. Kuhn displays the full scope of the Copernican Revolution as simultaneously an episode in the internal development of astronomy, a critical turning point in the evolution of scientific thought, and a crisis in Western man's concept of his relation to the universe and to God. The book begins with a description of the first scientific cosmology developed by the Greeks. Mr. Kuhn thus prepares the way for a continuing analysis of the relation between theory and observation and belief. He describes the many functions--astronomical, scientific, and nonscientific--of the Greek concept of the universe, concentrating especially on the religious implications. He then treats the intellectual, social, and economic developments which nurtured Copernicus' break with traditional astronomy. Although many of these developments, including scholastic criticism of Aristotle's theory of motion and the Renaissance revival of Neoplatonism, lie entirely outside of astronomy, they increased the flexibility of the astronomer's imagination. That new flexibility is apparent in the work of Copernicus, whose "De Revolutionibus Orbium Coelestium" ("On the Revolutions of the Heavenly Spheres") is discussed in detail both for its own significance and as a representative scientific innovation. With a final analysis of Copernicus' life work--its reception and its contribution to a new scientific concept of the universe--Mr. Kuhn illuminates both the researches that finally made the heliocentric arrangement work, and the achievements in physics and metaphysics that made the planetary earth an integral part of Newtonian science. These are the developments that once again provided man with a coherent and self-consistent conception of the universe and of his own place in it. This is a book for any reader interested in the evolution of ideas and, in particular, in the curious interplay of hypothesis and experiment which is the essence of modern science. Says James Bryant Conant in his Foreword: "Professor Kuhn's handling of the subject merits attention, for...he points the way to the road which must be followed if science is to be assimilated into the culture of our times.

作者介绍:

Thomas S. Kuhn's work is best described as a normative historiography of science. He was educated at Harvard University, where in 1949 he completed a doctorate in physics. As a student, he was impressed by the differences between scientific method, as conventionally taught, and the way science actually works. Before moving to the Massachusetts Institute of Technology in 1979, he taught at Harvard University, the University of California at Berkeley, and Princeton University. Kuhn's most celébrated contribution to the philosophy of science is his controversial idea of paradigms and paradigm shifts. A paradigm is understood as a widely shared theoretical framework within which scientific research is conducted. According to Kuhn, science normally develops more or less smoothly within such a paradigm until an accumulation of difficulties reduces its effectiveness. The paradigm finally breaks down in a crisis, which is followed by the formation of a radically new paradigm in a so-called scientific revolution. The new paradigm is accepted, even though it might neither resolve all of the accumulated difficulties nor explain the data better than the older paradigm that it replaces. We find examples of paradigm shifts in the work of Copernicus, Galileo, Isaac Newton, Charles Darwin, and others. Since its original publication in 1962, The Structure of Scientific Revolutions undoubtedly has been the single most influential

book in the philosophy of science.
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书评

还在读,跳过了较复杂的天文学入门章节。 大致上,这本书介绍了"哥白尼革命"之被称为"革命"的原因,论及传统天文学、信念等等对思想的束缚,也指出了其中为后来的变革所留下的缝隙;讨论了哥白尼本人所做的工作及后继的影响,指出革命并非只是天文学家或哥白尼本人的事。...

【摘要】科恩与库恩都对哥白尼进行了研究,但对于是否存在哥白尼革命持相互对立的观点。这种对立在于两人对哥白尼革命的界定、评价标准以及两人对科学史分析方式和研究目标上的差异。科恩不承认哥白尼革命的存在,因为它不能通过历史的实证,库恩眼中的哥白尼革命则是他运用其历史...

1543年,波兰天文学家哥白尼发表了《天球运行论》一书,提出了"日心说",取代了"地心说"登上了历史的舞台,这一过程被后世称为"哥白尼革命"。哥白尼革命不仅仅是天文学领域的重大变革,以它为导火索,生理学、物理学、化学等领域也先后发生了轰轰烈烈的革命,近代科学由...

建议大家去读读《吴国盛乱译《哥白尼革命》举例》,全文自己去搜索吧,我摘出一句:吴译:但这场革命也揭开了天文学研究中许多最晦暗和最隐秘的细节。方译:然而这场革命却取决于天文学研究中最晦涩隐秘的细微之处。(Yet the Revolution turned upon the most obscure...

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