The Shorter Science and Civilisation in China: Volume 4 "Discusses the conceptual framework of policy studies, the unfolding and widening horizons of science and technology in the global context and the Chinese historical evolution"--

China's Environmental Governing and Ecological Civilization The second volume of Dr Joseph Needham's great work Science and Civilisation in China is devoted to the history of scientific thought. Beginning with ancient times, it describes the Confucian milieu in which arose the organic naturalism of the great Taoist school, the scientific philosophy of the Mohists and Logicians, and the quantitative materialism of the Legalists. Thus we are brought on to the fundamental ideas which dominated scientific thinking in the Chinese middle ages. The author opens his discussion by considering the remote and pictographic origins of words fundamental in scientific discourse, and then sets forth the influential doctrines of the Two Forces and the Five Elements. Subsequently he writes of the important sceptical tradition, the effects of Buddhist thought, and the Neo-Confucian climax of Chinese naturalism. Last comes a discussion of the conception of Laws of Nature in China and the West.

This second part of the sixth volume of Joseph Needham's great enterprise is the first to be written by a collaborator. Francesca Bray, working closely with Dr Needham, has produced the most comprehensive study of Chinese agriculture to be published in the West. From a huge mass of source material, often confusing and obscure, and from first-hand study in China, she brings order and illumination to a crucial area of Chinese technological development. The main body of the book is an account of the technological history of agriculture, with major sections devoted to field systems, implements and techniques (sowing, harvesting, storing) and crop systems (what has grown and where and how crops rotated). The concluding section contrasts Europe's Agricultural Revolution with agrarian change in North China in the Han and with the 'Green Revolution' in South China in the Sung. In the theoretical analysis which concludes this section we find a vital contribution to the elucidation of the main question posed by Dr Needham's work: why did the Scientific Revolution which transformed the world take place in Europe and not in China?

Science and Civilisation in China: Volume 6, Biology and Biological Technology, Part 2, Agriculture

Science and Civilisation in China As Dr Needham's immense undertaking gathers momentum it has been found necessary to subdivide volumes into parts, each bound and published separately. The first two parts of Volume IV deal respectively with the physical sciences and with the diverse applications of physics in the many branches of mechanical engineering. The third deals with civil and hydraulic engineering and with nautical technology.

The Shorter Science and Civilisation in China: Volume 5 For contents, see Author Catalog.
Political Civilization and Modernization in China

Three previous volumes of this series by Colin Ronan are each available in hardback as well as paperback. Volume I introduces the reader to the country of China: its history, geography and language. The major part of this book is devoted to the history of scientific thought in China itself. In Volume II, the first section deals with mathematics, and this is followed by a section dealing with mathematics. Then follow sections on astronomy, meteorology and the earth sciences. The volume closes with a description of various aspects of Chinese physics. Volume III looks in some detail at one of the greatest contributions the Chinese made to physics - the discovery of the magnetic compass.

Science and Civilisation in China

The Grand Titration

Civilization and Empire Volumes I and II of the major series: China: its language, geography and history ; Chinese philosophy and scientific thought.

The Man Who Loved China The Tao of Love and Sex is a revealing and vivid account of the ancient Chinese sexual teachings and techniques banned by the invading Mongols in the 13th century. The book describes, through text and contemporary illustrations, the ways in which Taoist teachings about sexual love can be used as a means to achieving ecstasy and as a therapeutic and healing force. The modern Western reader can here discover the ancient Eastern methods of ejaculation control, types of thrust, love-making positions, erotic kissing, the conquest of impotence and about sex and longevity. Frank and explicit, yet inseparable from the Taoist spiritual tradition, The Tao of Love and Sex will enrich the variety, subtlety and sheer sexual pleasure of all who read it.

China and the West As Dr Needham's immense undertaking gathers momentum it has been found necessary to subdivide volumes into parts, each to be bound and published separately. The first part of Volume 4, already published, deals with the physical sciences; the second with the diverse applications of physics in the many branches of mechanical engineering; and the third will deal with civil and hydraulic engineering and nautical technology. With this part of Volume 4, then, we come to the application by the Chinese of physical principles in the control of forces and in the use of power; we cross the frontier separating tools from the machine. We have already noticed that the ancient Chinese concept of chi (somewhat similar to the pneuma of the Greeks) asserted itself prominently in acoustics; but we discover here that the Chinese tendency to think pneumatically was also responsible for a whole range of brilliant technological achievements, for example, the double-acting piston-bellows, the rotary winnowing-fan, and the water-powered metallurgical blowing-machine (ancestor of the steam-engine); as well as for some extraordinary insights and predictions in aeronautics.

Science and Civilisation in China: Volume 6, Biology and Biological Technology, Part 6, Medicine

For contents, see Author Catalog.

Catastrophe This collection of twenty-one articles represents some of the major writings by one of the United States' leading Sinologists, Derk Bodde. Originally published in 1982. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Essays on Chinese Civilization In sumptuous and illuminating detail, Simon Winchester, the bestselling author of The Professor and the Madman ("Elegant and scrupulous"—New York Times Book Review) and Krakatoa ("A mesmerizing page-turner"—Time) brings to life the extraordinary story of Joseph Needham, the brilliant Cambridge scientist who unlocked the most closely held secrets of China, long the world's most technologically advanced country. No cloistered don, this tall, married Englishman was a freethinking intellectual, who practiced nudism and was devoted to a quirky brand of folk dancing. In 1937, while working as a biochemist at Cambridge University, he instantly fell in love with a visiting Chinese student, with whom he began a lifelong affair. He soon became fascinated with China, and his mistress swiftly persuaded the ever-enthusiastic Needham to travel to her home country, where he embarked on a series of extraordinary expeditions to the farthest frontiers of this ancient empire. He searched everywhere for evidence to bolster his conviction that the Chinese were responsible for hundreds of mankind's most familiar innovations—including printing, the compass, explosives, suspension bridges, even toilet paper—often centuries before the rest of the world. His thrilling and dangerous journeys, vividly recreated by Winchester, took him across war-torn China to far-flung outposts, consolidating his deep admiration for the Chinese people. After the war, Needham was determined to tell the world what he had discovered, and began writing his majestic Science and
Biological Technology Part 5 Fermentations And Food Science

Civilisation in China, describing the country's long and astonishing history of invention and technology. By the time he died, he had produced, essentially single-handedly, seventeen immense volumes, marking him as the greatest one-man encyclopedist ever. Both epic and intimate, The Man Who Loved China tells the sweeping story of China through Needham's remarkable life. Here is an unforgettable tale of what makes men, nations, and, indeed, mankind itself great—related by one of the world's inimitable storytellers.

Science and Civilisation in China: Spagyrical discovery and invention : magisteries of gold and immortality A section of Volume IV, part 1 and a section of Volume IV, part 3 of the major series:

Bomb, Book and Compass This fifth volume abridgement of Joseph Needham's monumental work is concerned with the staggering civil engineering feats made in early and medieval China.

Heavenly Clockwork Joseph Needham, who died in 1995, was the greatest British historian of China of the last 100 years. His Science and Civilisation in China series caused a seismic shift in western perceptions of China, revealed as perhaps the world's most scientifically and technically productive country in pre-modern times. But why did the scientific and industrial revolutions not happen in China? Joseph Needham reflects on possible answers to this question in the concluding volume of this series and provides fascinating insights into his great intellectual quest.

Modern Notions of Civilization and Culture in China This book seeks to demystify the re-ascendancy of China as a civilization state. China's politics and society are examined in the light of its living civilization, which is the only one of the ancient civilizations that has survived to this day. The book also contrasts China's development with that of the West and Japan. By combining the impact of internal political and socio-economic developments in China and its external relations (from the silk routes, the tribute system, to the modern day), it unravels the existing myths, puzzles, and paradoxes surrounding China and questions the adequacy of most of the Western political theories (such as realism in international relations) in an attempt to explicate China's re-emergence as a world power. It attempts to tackle squarely the question: Is China a threat to world order? The book traces the rationale for contemporary developments in China in the roots of the country's tradition as well as foreign influences and seeks to unravel the puzzle about the unique China Model that defies conventional thinking in political economy, with its sustained and incredibly rapid economic growth over the past three decades. This study on China's second rise provides a broad background that includes a meaningful scrutiny of the country's behavior during its first rise (713–1820) and beyond. In comparing China's ongoing second rise with its first ascent, the book not only refocuses on and reinterprets the example set during its first rise, but also takes into account the crucial lessons it learned during its century in eclipse in the interregnum, for the effects they have on the country's current orientation and behavior. The book follows an interdisciplinary approach, combining the cultural, intellectual-historical, normative-ideological, and social-scientific perspectives, to lend a more solid grasp of the present-day China. It ends with an educated speculation, based on the foregoing analyses, on the contours of a Pax Sinica that is likely to result from the impact of China's second rise as a world power.

Civilization From the bestselling author of The Ascent of Money and The Square and the Tower Western civilization's rise to global dominance is the single most important historical phenomenon of the past five centuries. How did the West overtake its Eastern rivals? And has the zenith of Western power now passed? Acclaimed historian Niall Ferguson argues that beginning in the fifteenth century, the West developed six powerful new concepts, or “killer applications”—competition, science, the rule of law, modern medicine, consumerism, and the work ethic—that the Rest lacked, allowing it to surge past all other competitors. Yet now, Ferguson shows how the Rest have downloaded the killer apps the West once monopolized, while the West has literally lost faith in itself. Chronicling the rise and fall of empires alongside clashes (and fusions) of civilizations, Civilization: The West and the Rest recasts world history with force and wit. Boldly argued and teeming with memorable characters, this is Ferguson at his very best.

The Shorter Science and Civilisation in China: Volume 3 Capitalist globalisation since the 1980s has produced immense benefits in terms of technical progress, poverty reduction and welfare improvement. However, it has been accompanied by profound contradictions, including ecological destruction, global warming, inequality, concentration of business power, and financial instability. Regulation of global political economy in the interests of the majority of the world’s population is essential if the human species is to avoid a Darwinian catastrophe. This book explores China's rich history of regulating the market in the interests of the mass of the population. For over two thousand years the Chinese bureaucracy has sought pragmatically to find a Way in which to integrate the 'invisible hand' of market forces with the 'visible hand' of ethically guided government regulation. Instead of seeking confrontation with China, citizens and politicians in the West need to deepen their understanding of the contribution that China can make to globally sustainable development in the decades and centuries ahead.
Biological Technology Part 5 Fermentations And Food Science

Science and Civilisation in China: Volume 2, History of Scientific Thought Before fate intervened, Joseph Needham was a distinguished biochemist at Cambridge University, married to a fellow scientist. In 1937 he was asked to supervise a young Chinese student named Lu Gwei-Djen, and in that moment began the two greatest love affairs of his life - Miss Lu, and China. Miss Lu inspired Needham to travel to China where he initially spent three dangerous years as a wartime diplomat. He established himself as the pre-eminent China scholar of all time, firm in his belief that China would one day achieve world prominence. By the end of his life, Needham had become a truly global figure, travelling endlessly and honoured by all - though banned from America because of his politics. And in 1989, after a fifty-two year affair, he finally married the woman who had first inspired his passion. The Magnificent Barbarian is Simon Winchester at his best - at once a magnificent portrait of one man's remarkable life and a riveting exploration of the country that so engaged him.

Science and Civilisation in China: Volume 4, Physics and Physical Technology, Part 2, Mechanical Engineering This volume details the early Chinese contributions to various sciences. The first section deals with mathematics, showing that Chinese works were comparable with the pre-Renaissance achievements of the old world. Then the book goes on to cover astronomy and meteorology, Earth sciences and physics.

Science and Civilisation in China: Volume 1, Introductory Orientations

The Development of Iron and Steel Technology in China How were Chinese pots made, glazed and fired? Why did China discover porcelain more than 1,000 years before the West? What are the effects of China's influence on world ceramics? These questions (and many more) are answered in this history of Chinese ceramic technology, from the late Stone Age to the twenty-first century AD. The non-specialist reader will appreciate its unique coverage of research materials originally published in several languages.

Science and Civilisation in China, Vol. 4, Part 2

Science and Civilisation in China: Volume 7, The Social Background, Part 2, General Conclusions and Reflections

The Shorter Science and Civilisation in China: Volume 1 Joseph Needham's Science and Civilisation in China is a monumental piece of scholarship which breaks new ground in presenting to the Western reader a detailed and coherent account of the development of science, technology and medicine in China from the earliest times until the advent of the Jesuits and the beginnings of modern science in the late seventeenth century. It is a vast work, necessarily more suited to the scholar and research worker than the general reader. This paperback version, abridged and re-written by Colin Ronan, makes this extremely important study accessible to a wider public. The present book covers the material treated in volumes I and II of Dr Needham's original work. The reader is introduced to the country of China, its history, geography and language, and an account is given of how scientific knowledge travelled between China and Europe. The major part of the book is then devoted to the history of scientific thought in China itself. Beginning with ancient times, it describes the milieu in which arose the schools of the Confucians, Taoists, Mohists, Logicians and Legalists. We are thus brought on to the fundamental ideas which dominated scientific thinking in the Chinese Middle Ages, to the doctrines of the Two Forces (Yin and Yang) and the Five Elements (wu hsing), to the impact of the sceptical tradition and Buddhist and Neo-Confucian thought.--Publisher description.

The Shorter Science and Civilisation in China: Vol. 1 and 2 of the major series This book examines China's creative economy—and how television, animation, advertising, design, publishing and digital games are reshaping traditional understanding of culture. Since the 1950s China has endeavoured to catch-up with advanced Western economies. ‘Made in China’ is one approach to global competitiveness. But a focus on manufacturing and productivity is impeding innovation. China imports creativity and worries about its ‘cultural exports deficit’. In the cultural sector Chinese audiences are attracted to Korean, Taiwanese, and Japanese culture, as well as Hollywood cinema. This book provides a fresh look at China's move up the global value chain. It argues that while government and (most) citizens would prefer to associate with the nationalistic, but unrealized ‘created in China’ brand, widespread structural reforms are necessary to release creative potential. Innovation policy in China has recently acknowledged these problems. It considers how new ways of managing cultural assets can renovate largely non-competitive Chinese cultural industries. Together with a history of cultural commerce in China, the book details developments in new creative industries and provides the international context for creative cluster policy in Beijing and Shanghai.

China Into Its Second Rise This Key Concepts pivot examines the fundamental Chinese ideas of ‘Civilization’ and ‘culture’, considering their extensive influence both over Chinese society and East Asian societies. The pivot analyses the traditional connotations of those two concepts and their evolution in the Sino-Western exchanges as well as their renewed interpretation and application by contemporary Chinese scholars. It analyses how the years 1840-1900 which mark a period of major transition in China challenged these concepts, and highlights how the pursuit of innovation
and international perspective gave birth to new values and paradigm shifts, and culminated in the May Fourth New Culture Movement. Considering the underlying humanistic ideas in the key concepts of traditional Chinese civilization and culture, this pivot contributes to this series of Chinese Key Concept by offering a unique analysis of the conceptual evolutions brought about by the change of values in 21st century China.

Science and Technology in Contemporary China After two volumes mainly introductory, Dr Needham now embarks upon his systematic study of the development of the natural sciences in China. The Sciences of the Earth follow: geography and cartography, geology, seismology and mineralogy. Dr Needham distinguishes parallel traditions of scientific cartography and religious cosmography in East and West, discussing orbocentric wheel-maps, the origins of the rectangular grid system, sailing charts and relief maps, Chinese survey methods, and the impact of Renaissance cartography on the East. Finally-and here Dr Needham’s work has no Western predecessors—there are full accounts of the Chinese contribution to geology and mineralogy.

History of Scientific Thought Some readers will be drawn to this survey of traditional Chinese science by the idea that humanity has evolved more than one tradition of natural science that deserves to be taken seriously as a study in itself. Others will wish to explore the possibility that by reconstructing and imaginatively adopting the viewpoint of so different a culture, they might become more critical in judging what aspects of the West’s Scientific Revolution grew out of local pressures and prejudices rather than out of the inner necessities of science itself. The volume falls naturally into two complementary parts. The first provides the reader with perspectives on the work of Joseph Needham, whose monumental, multi-volume “Science and Civilisation in China” is so largely responsible for the growing awareness on the part of inquiring people everywhere that the Chinese technical traditions reached a high level, and that the birth of modern science and technology owes a great deal to them. Needham’s work has often been cited as the greatest one-man historical compilation of the twentieth century. Needham himself has contributed an opening “Meditation” to “Chinese Science,” in which he recapitulates the motive forces and ideals behind his life’s work—of which the historical study of Chinese science is only one aspect. Derek J. de Solla Price then provides biographical material on Needham and gives an account of the genesis and evolution of his “magnum opus.” Needham’s central concern with the effect of social and economic factors on the rate of scientific and technological change is examined by A. C. Graham. Shigeru Nakayama demonstrates through a study of all of Needham’s publications the presence of a connected philosophy of history and of science that Needham evolved as a young biochemist concerned with the organization and development of life. The more numerous essays in the second part of the book extend Needham’s work of mapping out the areas of Chinese science, venturing into provinces hitherto “terra incognita.” The contributors cover the Chinese world view, astronomy, optics, pharmacology, and medicine. In particular, they discuss the Chinese concept of nature (in an essay written by Mitukuni Yosida); the development, and limiting factors on the development, of Chinese astronomy (Kiyosi Yabuuti); the Mohist optics of ca. 300 B.C. (A. C. Graham and N. Sivin); the use of elixir plants, as described in the pharmaceutical manual of the adept Lu Ch’un-yang (Ho Peng Yoke, Beda Lim, and Francis Morsingh); “Man as a Medicine,” the traditional therapy using drugs derived from the human body (William C. Cooper and N. Sivin); and the early history of anesthesia in China and Japan (Saburo Miyasita). The book closes with a critical bibliography citing books and articles in Western languages (N. Sivin). The book is the second in The MIT East Asian Science Series.

Created in China

The Tao of Love and Sex First published in 1969. The historical civilization of China is, with the Indian and European-Semitic, one of the three greatest in the world, yet only relatively recently has any enquiry been begun into its achievements in science and technology. Between the first and fifteenth centuries the Chinese were generally far in advance of Europe and it was not until the scientific revolution of the Renaissance that Europe drew ahead. Throughout those fifteen centuries, and ever since, the West has been profoundly affected by the discoveries and invention emanating from China and East Asia. In this series of essays and lectures, Joseph Needham explores the mystery of China’s early lead and Europe’s later overtaking.

The Shorter Science and Civilisation in China: Volume 2 This book looks into the increasing conflict between the demand of economic growth and the already fragile ecological system condition in China. The prolonged urbanization process has escalated the erosion of natural environments and is increasing energy consumption. China’s role as a “world plant” is also demanding more and more resource supply as well as energy consumption. This book argues that to correctly respond to these emerging issues, apart from upgrading industry and improves environmental protection techniques, China needs to establish an “ecological civilization” that provides an ideological basis for the construction of a green low-carbon model of economic growth.

Chinese Science: Explorations of an Ancient Tradition This book critically examines the influence of International Society on East Asia, and how its attempts to introduce ‘civilization’ to ‘barbarous’ polities contributed to conflict.
between China and Japan. Challenging existing works that have presented the expansion of (European) International Society as a progressive, linear process, this book contends that imperialism – along with an ideology premised on 'civilising' 'barbarous' peoples – played a central role in its historic development. Considering how these elements of International Society affected China and Japan's entry into it, Shogo Suzuki contends that such states envisaged a Janus-faced International Society, which simultaneously aimed for cooperative relations among its ‘civilized’ members and for the introduction of 'civilization' towards non-European polities, often by coercive means. By examining the complex process by which China and Japan engaged with this dualism, this book highlights a darker side of China and Japan's socialization into International Society which previous studies have failed to acknowledge. Drawing on Chinese and Japanese primary sources seldom utilized in International Relations, this book makes a compelling case for revising our understandings of International Society and its expansion. This book will be of strong interest to students and researchers of international relations, international history, European studies and Asian Studies.


Science and Civilisation in China: Volume 3, Mathematics and the Sciences of the Heavens and the Earth It was a catastrophe without precedent in recorded history: for months on end, starting in A.D. 535, a strange, dusky haze robbed much of the earth of normal sunlight. Crops failed in Asia and the Middle East as global weather patterns radically altered. Bubonic plague, exploding out of Africa, wiped out entire populations in Europe. Flood and drought brought ancient cultures to the brink of collapse. In a matter of decades, the old order died and a new world—essentially the modern world as we know it today—began to emerge. In this fascinating, groundbreaking, totally accessible book, archaeological journalist David Keys dramatically reconstructs the global chain of revolutions that began in the catastrophe of A.D. 535, then offers a definitive explanation of how and why this cataclysm occurred on that momentous day centuries ago. The Roman Empire, the greatest power in Europe and the Middle East for centuries, lost half its territory in the century following the catastrophe. During the exact same period, the ancient southern Chinese state, weakened by economic turmoil, succumbed to invaders from the north, and a single unified China was born. Meanwhile, as restless tribes swept down from the central Asian steppes, a new religion known as Islam spread through the Middle East. As Keys demonstrates with compelling originality and authoritative research, these were not isolated upheavals but linked events arising from the same cause and rippling around the world like an enormous tidal wave. Keys's narrative circles the globe as he identifies the eerie fallout from the months of darkness: unprecedented drought in Central America, a strange yellow dust drifting like snow over eastern Asia, prolonged famine, and the hideous pandemic of the bubonic plague. With a superb command of ancient literatures and historical records, Keys makes hitherto unrecognized connections between the "wasteland" that overspread the British countryside and the fall of the great pyramid-building Teotihuacan civilization in Mexico, between a little-known "Jewish empire" in Eastern Europe and the rise of the Japanese nation-state, between storms in France and pestilence in Ireland. In the book's final chapters, Keys delves into the mystery at the heart of this global catastrophe: Why did it happen? The answer, at once surprising and definitive, holds chilling implications for our own precarious geopolitical future. Wide-ranging in its scholarship, written with flair and passion, filled with original insights, Catastrophe is a superb synthesis of history, science, and cultural interpretation.

Chinese Science A reissue with a foreword and supplement, of a modern classic published in 1960. The invention of the mechanical clock was one of the most important turning points in the history of science and technology. This study revealed six centuries of mechanical clockwork preceding the first mechanical escapement clocks of the West of about AD 1300. Detailed and fully illustrated accounts of elaborate Chinese clocks are accompanied by a discussion of the social context of the Chinese inventions and an assessment of their possible transmission to medieval Europe. For this revised edition, Dr Joseph Needham has contributed a new foreword on recent research and perceptions. In a supplement John H. Combridge details a modern reconstruction of Su Sung's timekeeping device, which together with textual studies modifies our understanding of this important early technology.

Science and Civilisation in China For contents, see Author Catalog.

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