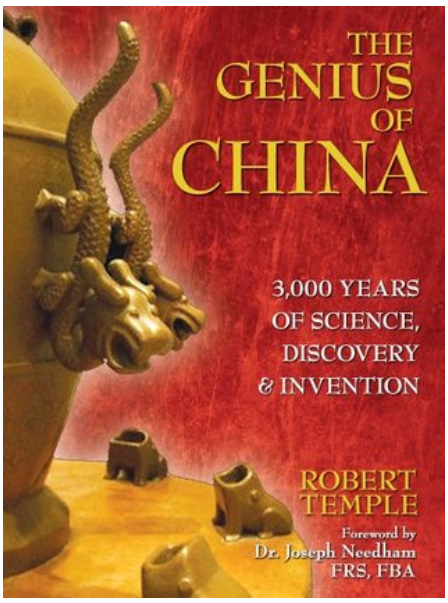

The Genius of China: 3000 Years of Science, Discovery and Invention

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Undisputed masters of invention and discovery for 3,000 years, the ancient Chinese were the first to discover the solar wind and the circulation of the blood and even isolate sex hormones. From the suspension bridge and the seismograph to deep drilling for natural gas, the iron plough, and the parachute, ancient China's contributions in the fields of engineering, medicine, technology, mathematics, science, transportation, warfare, and music helped inspire the European agricultural and industrial revolutions.

Since its original publication, *The Genius of China* has won five literary awards in America and been translated into forty-three languages. Its Chinese edition, *The Spirit of Chinese Invention*, was approved by the Chinese Ministry of Education for use in connection with the national secondary curriculum in China. Based on the immense, authoritative scholarship of the late Joseph Needham, the world's foremost scholar of Chinese science, and including a foreword by him, this revised full-color illustrated edition brings to life the spirit and excitement of the unparalleled achievements of ancient China.

ROBERT TEMPLE is a visiting professor of the history and philosophy of science at Tsinghua University in Beijing. He also is a fellow of the Royal Astronomical Society; member of the Egypt Exploration Society, Royal Historical Society, Institute of Classical Studies, and the Society for the Promotion of Hellenic Studies; and visiting research fellow of the University of the Aegean in Greece. He is the author of ten books, including *The Sirius Mystery* and *Oracles of the Dead*, and lives in England with his wife, Olivia.

NOTE: Original UK title was 'China: Land of Discovery and Invention'.

The Genius of China: 3000 Years of Science, Discovery and Invention Details

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From Reader Review The Genius of China: 3000 Years of Science, Discovery and Invention for online ebook

Ευθυμ?α Δεσποτ?κη **says**

Π?ρα πολ? αναλυτικ? και σε σημε?α βαρυφορτωμ?νο βιβλ?ο, με πλο?σια εικογρ?φηση. Οι με αδ?ναμη ?ραση να κρατο?ν μεγεθυντικ? φακ?, η γραμματοσειρ? ε?ναι εξ?ρα.

Πολλ? ε?ναι εκπληκτικ? διαφωτιστικ?, αλλ? ε?ναι και φορ?ς που ο συγγραφ?ας ρ?πει προς την υπερβολ?.

Yasmin says

A truly wonderful book! The information is concise and interesting and the proof to back up that the Chinese were one of the most advance people on earth is incredible. Here in the history of China before Europeans that there was hope for humanity, up to a certain point as their weapons of warfare were decidedly deadly.

Bill Leach says

Excellent book on inventions and discovery that originated in China by Robert Temple, a disciple of Dr Joseph Needham.

One question is whether these ideas originated in China and migrated to Europe, or whether they were independently developed in Europe. On the migration side, Temple provides numerous period records that support the migration. However, in some cases the link is not documented and it would appear that the idea was independent, but later.

The best part of the book is the detail. For example, printing started around 700, with many of the sets of blocks surviving today (one set is 81,258 blocks). Unlike today, the blocks were used for short runs with the blocks being stored until the demand supported a new run.

Also some amusing stories. Their first use of paper money lead to firsts in inflation and counterfeiting!

Much of the detail is fascinating and leads to further reading.

Lisa Smith says

Invaluable!!!! A must read.

Clint says

Let me start my one-star review by saying that this book can be pretty fun, and that there are good reasons to read it. If you like steampunk or are looking for inspiration for a role-playing game, go for it. Just don't use it to learn anything about the history of science. I know Joseph Needham says nice things about it, but I can't believe he actually read it. From what I've seen of Needham's *Science and Civilisation in China*, he tries to document and support all of his claims. Robert Temple does not. Let's look at some examples. Keep in mind that I read this in 1997, and I'm going from notes I made at the time.

In one chapter (page 84 of the copy I read), Temple claims that some ancient Chinese wheelbarrows carried sails and could travel at 40 miles per hour. That's a nice image, and it really needs to be in a movie or a video game. However, for documentation, Temple refers the reader to a later section (pages 195 and 196). Here, he admits that the sails probably just helped people carry heavy loads. So, no high-speed wheelbarrows.

On pages 144 and 145, he talks about the value of pi. He claims that a fifth-century father-and-son team of mathematicians managed to compute pi out to ten decimal places, or 3.1415929203. He compares this to Europe, where even 1,100 years later, the best calculation (also by a father-and-son team) only made it to 3.1415929. This would be really impressive, except for a couple of things. First, the first ten digits of pi aren't 3.1415929203. It's good up until 3.141592, but then, so is the European one. Second, Europe had a much more accurate (as in more correct digits) estimate for pi before 1600. I'm not arguing that the Chinese calculation isn't impressive. It is, but Temple isn't at all shy about editing the facts to make his story sound better.

On pages 127 through 131, Temple describes a really fantastic process by which Chinese chemists brewed amazing chemicals out of human urine. That also needs to appear in a movie. Maybe. However, at the very end of this section, he admits that he *doesn't have the faintest idea if they actually made any of those chemicals or not*. In other words, it sounded cool, so he wrote it down.

On pages 64 and 65, Temple explains how Chinese engineers invented the "essentials" of a steam engine centuries before anyone else. A steam engine is a device that converts the energy in steam into some more useable form. One would think, then, that the "essentials" of a steam engine would involve steam, and possibly using it to do something. Not according to Temple. For him, the "essentials" are a wheel and some pistons. There's water involved, but it isn't steam. It's a water wheel hooked up to some pistons to transfer energy. That's cool, and it would make a great background for one of the stages in an arcade fighting game, but it is by no means a steam engine.

There are just the examples I felt like making notes on. There are some chapters that I didn't find huge errors in, but those were the chapters on topics I knew nothing about.

I guess I can summarize by saying that Robert Temple has a very vivid imagination, and rather than writing about the history of Chinese science or how space aliens gave super-science to a group of people in Africa, he should be the art director for the next steampunk action film. If you are interested in the history of Chinese science, see if you can find a library that has Joseph Needham's books instead. In fact, you really should go find Needham's books. The things Chinese scientists and engineers actually did a thousand or more years ago will blow your mind and make you wonder why Robert Temple needed to make stuff up.

George says

Το ?να απ? τα π?ντε αστ?ρια το δ?νω στην εξαιρετικ? ?κδοση. Σκληρ?δετο εξ?φυλλο. Παν?μοφη μακ?τα στο εξ?φυλλο. Ιλουστρασι?ν χαρτ?. Εικονογρ?φηση πλο?σια. Διαγρ?μματα, χρονολ?για και πολλ? ?λλα διαφωτιστικ? στοιχε?α.
Τα 4 αστ?ρια πηγα?νουν στο περιεχ?μενο. Εξαιρετικ? ερμηνευτικ? προσ?γγιση. Αναλ?ει πρ?γματα που δεν τα γνωρ?ζει ο καθ?νας. Με λ?γα λ?για αναφ?ρει ?τι η δ?ση δεν θα ?ταν τ?ποτα χωρ?ς τις κιν?ζικες ανακαλ?ψεις. Χρ?σιμο σε ?λους τους σκεπτ?μενους ανθρ?πους που θ?λουν να εμπλουτ?σουν τις γν?σεις τους.

Matt says

Not the most elegant prose, but an eye-opening book nevertheless. Temple and Needham illustrate the enormous debt the modern world owes the ancient Chines.

Dr. Carl Ludwig Dorsch says

Joseph Needham says in his Foreward, "It is, in its own way, a brilliant distillation of my **Science and Civilization in China**, published by the Cambridge University Press, a work which will be complete in some twenty-five volumes and of which fifteen have now appeared or are passing through the press."

David Li says

Interesting read about the innovative ancient Chinese.

Jbondandrews says

An absolutely marvelous book. The pictures were amazing. The combined work of Robert Temple and Joseph Needham was fantastic. It just goes to show how little regard Western cultures have for other cultures and like to conveniently forget how achievements were made.

Eddie Hsu says

So the book is kinda outdated (the editors proudly assert that the abacus is still the primary form of number-crunching in the modern Chinese bank,) but it doesn't detract from the book. Apparently, almost everything worth inventing up until the 18th century, was invented by the Chinese. Undoubtedly, the authors have a

tendentious view of history, but nonetheless, it's amazing how the Chinese were able to maintain such a berth of technological superiority vis a vis the rest of the world for the better part of recorded human history.

Deirdre says

The perfect answer to knowing more of China's history of inventions without having to buy all of Needham's volumes.

Ken-ichi says

Only read the first chapter, but there were no citations and no analysis of *why* China as so innovative. Also, Game of Thrones began dominating my reading life. So. Back to the library.

Todd Stockslager says

Review title: What China did first
Iis pretty much everything, says Temple. This book pays tribute to the fruits of a large population over long periods of time with an empirical mindset.

First a bit of history (a subject the Chinese probably invented, although too broad to be cataloged here). Temple is a devotee of Joseph Needham, the scientist turned Sinologist made famous by Simon Winchester's biography The man who loved China. The Genius of China is in fact an authorized synopsis of the massive Science and Civilisation in China (13 volumes published in 1986 when Temple wrote, 24 at the time of Winchester's 2008 biography, and still in progress despite Needham's passing in 1995) of which Needham is the author/editor. Clearly, such a mass of data is not likely to be affordable or accessible to the average reader, so Temple performs a valuable service with his synopsis.

And the data is staggering. The endpapers show graphically not just the date of precedence for the Chinese inventions and discoveries in the various fields of science, engineering, medicine, technology, mathematics, transportation, exploration and warfare, but by horizontal bar graph the lag before adoption or reinvention in the west. The lag is typically measured in several centuries, even millennia. Arranged encyclopedicly, the book has an entry for each discovery or invention that documents the event, with the earliest date for reliable contemporary evidence, and pictures of the device or discovery, sometimes from contemporary sources, sometimes from photographs of current iterations of it.

If you have read Winchester's biography or otherwise know something of Needham's life, you can expect that this book isn't just a history of technology and discovery, but a history with a purpose, to show that China was and is superior to the West in its ways of thinking. The comments sometimes quoted from Needham and sometimes directly from Temple about the long lags and European deficiencies in understanding and applying the Chinese advances can be quite snarky, even inappropriate for a scholarly journal. But then this isn't a scholarly journal, is it? It is a popularization of a massive undertaking by a committed and confirmed apologist for Chinese supremacy in these areas, so take it with whatever dosage of

salt you feel is appropriate.

But you must in any case be impressed with the body of knowledge compiled here. As I said in my lead, it is a testimony to the incredible inventive power of large populations of people with an empirical mindset over long periods of time in a society with a stable language, culture, and government. As Temple points out, many of the Chinese inventions were empirically discovered and applied to solve specific problems without processing through rigorous scientific methods to understand or extend the implications to theory or other applications.

The introductory essays by Needham and Temple briefly address some key questions that the book will raise to the perceptive reader:

1. Why did it take so long for the West to rediscover or adopt these ideas?
2. Why were so many of these ideas lost or forgotten even within China so that the Western rediscovery seems to be unique and new, even to China?
3. Why did this inventiveness seem to reach a peak and then fade out sometime around the 14th century?
4. Might the answers to any of these questions be related to each other and to the increasing contact between China and the West starting around the time of Marco Polo?

This book doesn't undertake to answer these questions, just to dazzle with the breadth of Chinese precedence in science, discovery, and invention, and it serves nicely.
