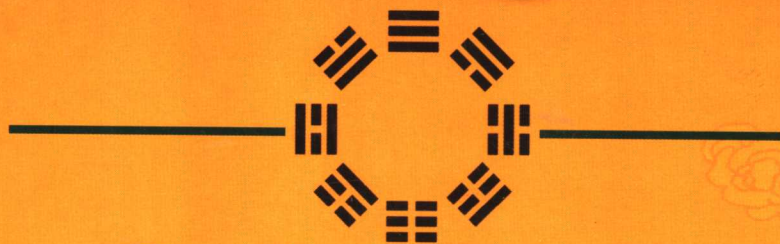


The Illustrated Book of Changes



易经图典



海豚出版社
DOLPHIN BOOKS

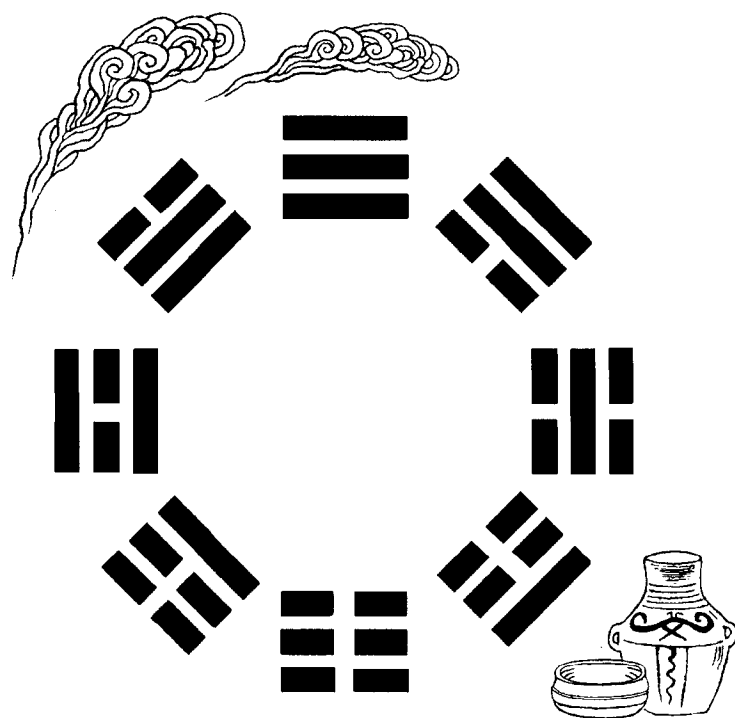
易经图典

The Illustrated Book of Changes

编 绘 周春才

翻 译 刘光第

审 订 Paul White



海豚出版社
DOLPHIN BOOKS

图书在版编目 (CIP) 数据

易经图典 / 周春才编绘; 刘光第译.

—北京: 海豚出版社, 2006.8

ISBN 7-80138-521-7

I. 易... II. ①周... ②刘...

III. 周易—图集 IV. B221.2-64

中国版本图书馆 CIP 数据核字 (2005) 第 157332 号

易经图典

编绘: 周春才

翻译: 刘光第

社址: 北京百万庄大街 24 号

邮编: 100037

印刷: 北京京师印务有限公司

开本: 16 开 (889 毫米 × 1194 毫米)

文种: 中英

印张: 19.25

版次: 2006 年 8 月第 1 版 2006 年 8 月第 1 次印刷

标准书号: ISBN 7-80138-521-7

定价: 45.00 元



前 言

就世界观而言,《易经》认为宇宙兴衰的功能,完全出于自然,人类作为其中的一份子,也应自觉地效法这一精神,而无出其外。

从方法论来说,《易经》就是以勾股定义为支点,用时间和空间将万事万物按其功能(而非具象结构)统一起来的一个逻辑体系。

在《易经》中,中国的先民通过河图、洛书从功能上完成了对自然谱系的实录,对宇宙时空的总体把握,构筑了用数学语言描述的“宏观与微观动力模型的最简单形式”,从逻辑上形成了自己的体系,建立了整个中国文化的解释系统和推理系统。

《易经》的魅力在于它运用了“公理化”的方法,即从最初的原始概念和少数不加证明的公理、公设出发,通过演绎推理,将人类与生俱来的固有命题在天人合一的宇宙观指导下全部推导出来,进而使其成为一套完备的逻辑体系。

Foreword

As far as its world outlook is concerned, *The Book of Changes* holds that all functions of the universe come from Nature. Hence, as an element of Nature, mankind should also follow such a spirit closely, without exception.

As far as methodology is concerned, *The Book of Changes* is a logical system using Gougu Theorem (the Pythagorean Theorem) as the pivot, and using time and space to unify all things in the universe in terms of their function (instead of their physical structure).

In *The Book of Changes*, the ancient Chinese used the River Map and Luo Writing to record the natural pedigree in function, constituting a general grasp of time and space of the universe, and forming the “simplest form of macro and micro power models” as is described in the language of mathematics. It has formed its own system in logic, and built up an explanation and deduction system for the whole of traditional Chinese culture.

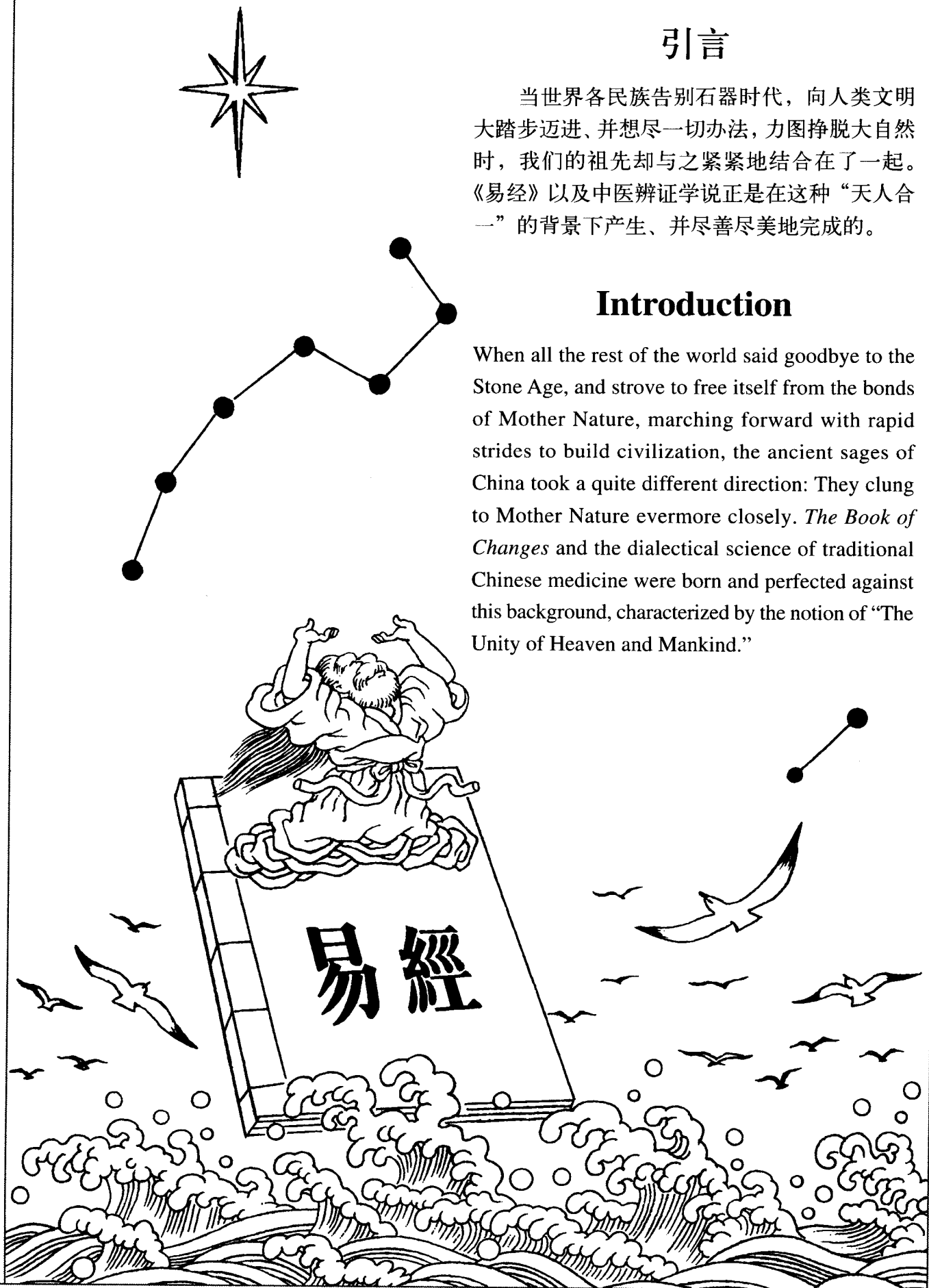
The great charm of *The Book of Changes* lies in the fact that, by using the “axiomatized” method, that is, starting from the earliest primitive concepts and a few self-evident axioms and postulates, by deductive reasoning, it has worked out all the inherent theorems of mankind under the guidance of the world outlook of the Unity of Heaven and Mankind, and made them into a self-contained system of logic.

引言

当世界各民族告别石器时代，向人类文明大踏步迈进、并想尽一切办法，力图挣脱大自然时，我们的祖先却与之紧紧地结合在了一起。《易经》以及中医辨证学说正是在这种“天人合一”的背景下产生、并尽善尽美地完成的。

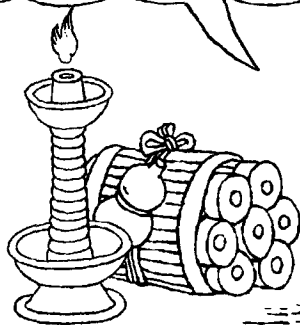
Introduction

When all the rest of the world said goodbye to the Stone Age, and strove to free itself from the bonds of Mother Nature, marching forward with rapid strides to build civilization, the ancient sages of China took a quite different direction: They clung to Mother Nature evermore closely. *The Book of Changes* and the dialectical science of traditional Chinese medicine were born and perfected against this background, characterized by the notion of "The Unity of Heaven and Mankind."



易经之“易”由古文“日”与“月”二字组成，日为阳，月为阴，充分揭示了其深奥的哲理。

The character “Yi”(易) in the *Yi Jing (The Book of Changes)* is composed of “Ri”(日, the sun) and “Yue”(月, the moon). “Ri” represents the positive (yang) while “Yue” stands for the negative (yin) — abstruse concepts arising at the dawn of Chinese philosophy.

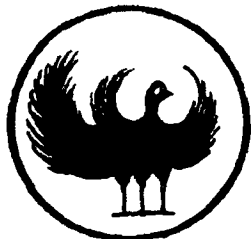


易

同时，易在这里又兼具“简易”、“变易”和“不易”之三种含义。

At the same time, “Yi” also has three meanings: “simple and easy,” “changing” and “unchanging.”

日
sun



太阳
taiyang

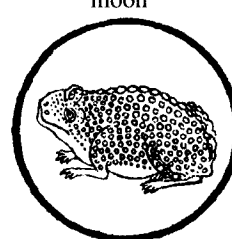
简易
simple and easy



变易
changing

不易
unchanging

月
moon



太阴
taiyin

宇宙万物时刻都在变化，人事也是如此，所以叫“变易”。

All things in the universe are changing all the time, and human affairs are no exception. So, we have the term “bianyi,” namely, “changing.”



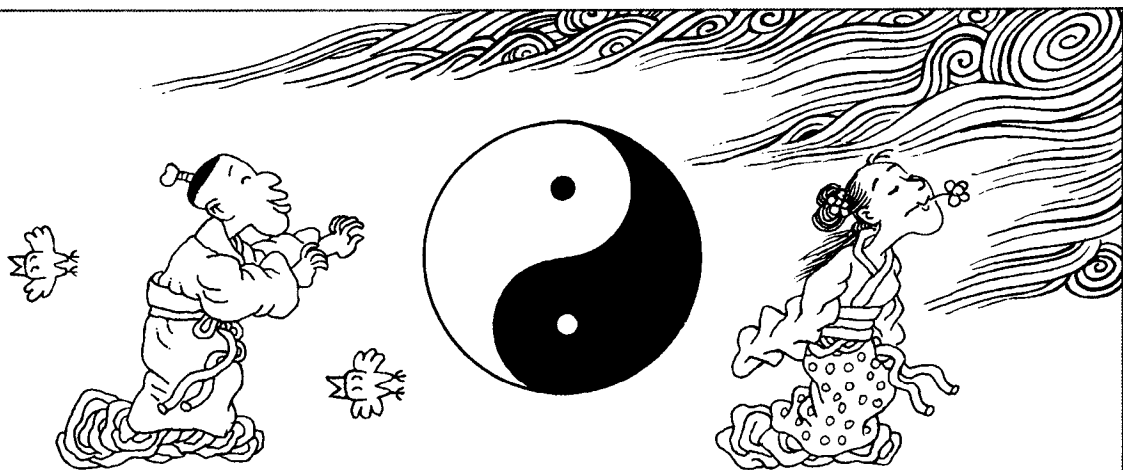
然而变化不息的宇宙，却具备恒常的法则，井然有序，循环不已，有一定的规律可循。

However, the ever-changing universe has its constant laws, so everything is in good order, circulating without ceasing and following fixed rules.

这个影子最短的时候，就是一年中最热的季节……

When the shadow is at its shortest, this is the hottest time of the year.

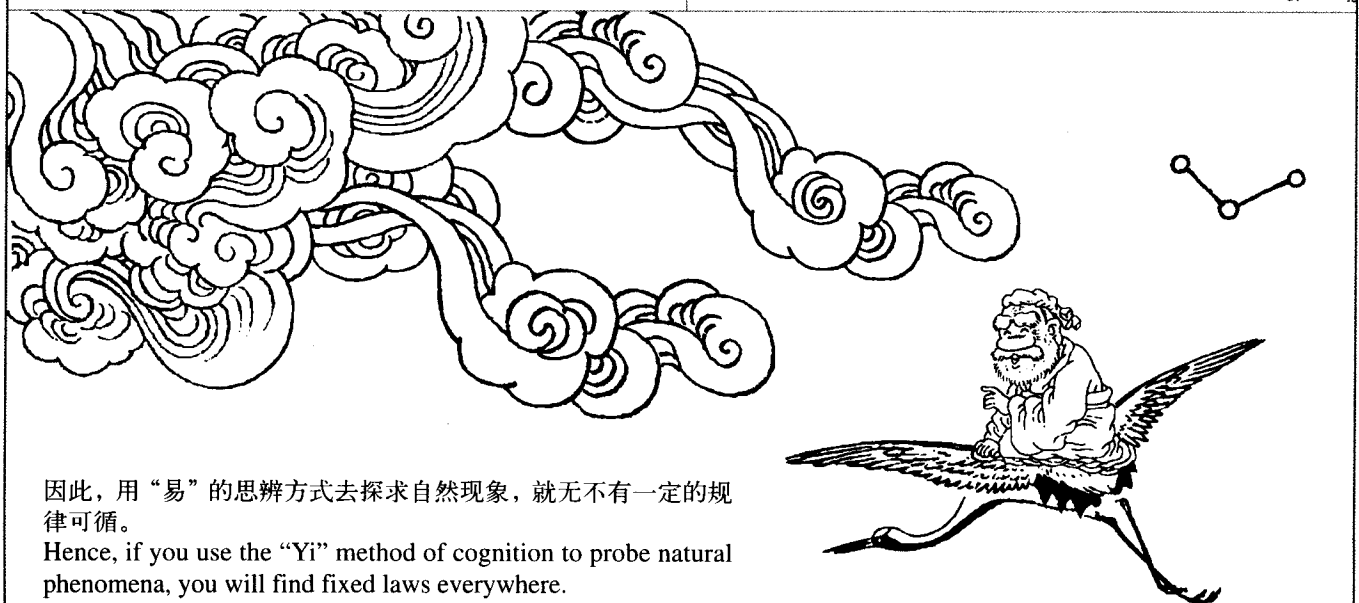


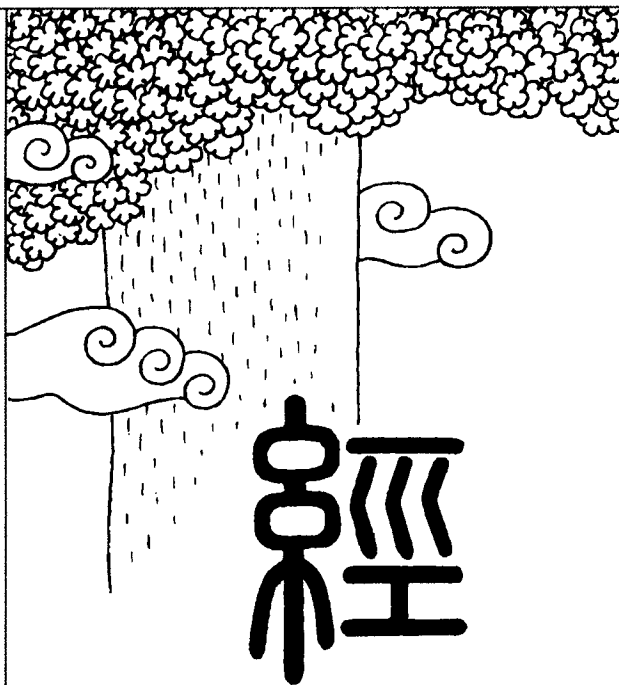


“宇宙大人身，人身小宇宙。”作为小宇宙的人，也同样具备这样的法则，所以说“不易”。
 “The universe is one big body, while the human body is a miniature universe.” As a small universe, man is governed by the same laws as the universe. Hence, he too is said to be “unchanging.”

了解了大宇宙的不易之法，就可以遵循其规律来效法了。
 Having grasped the changeless law of the great universe, you will be able to model your conduct in conformity with this law.

做为小宇宙的人，也同样有法可依了，所以说“简易”。
 As a miniature universe, man also has laws to abide by. Thus, we say “simple and easy.”



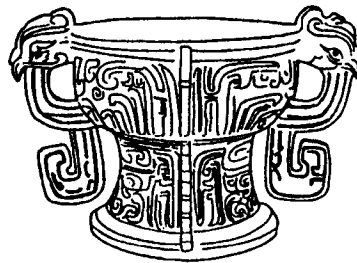


“经”即道、即理。阐明天理人道的书称作“经”，“经”是神圣和权威的大典。

“Jing” is Dao (way or principle), and Li (truth). A book which elucidates the truth of the universe and the principle of human behavior is called “Jing.” So “Jing” is a sacred and authoritative canon.

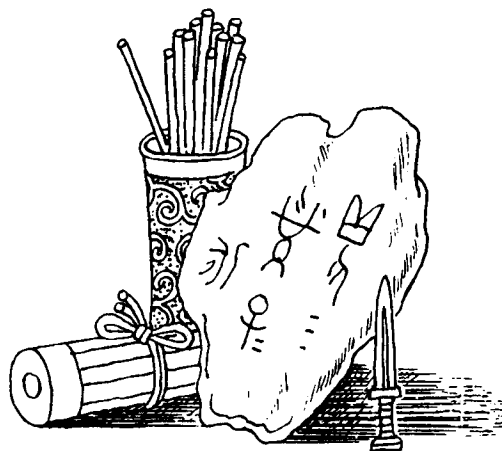
《易经》做为群经之首，为整个华夏文明提供了世界观和方法论，是传统政治、文化和道德权威的象征。

As the foremost of all the Jing (Chinese classics), *The Book of Changes* offers a world outlook and methodology for the whole of Chinese civilization, and stands as the symbol of China's traditional politics, culture and moral authority.



尽管它以占卜为形式，但“大易者不言占”，其真正的含义全赖于它对宇宙普遍规律的深刻揭示。

Although it is in the form of divination, yet, “A great master of Yi never talks about divination.” Yi's true significance lies in its profound revelation of the general law of the universe.



在《易经》中，我们的祖先通过河图洛书从功能上完成了对自然谱系的实录，对宇宙时空的总体把握，构筑了用数学语言描述的“宏观与微观动力模型的最简单形式”，从逻辑上形成了自己的体系，建立了整个中国传统文化的解释与推理系统。

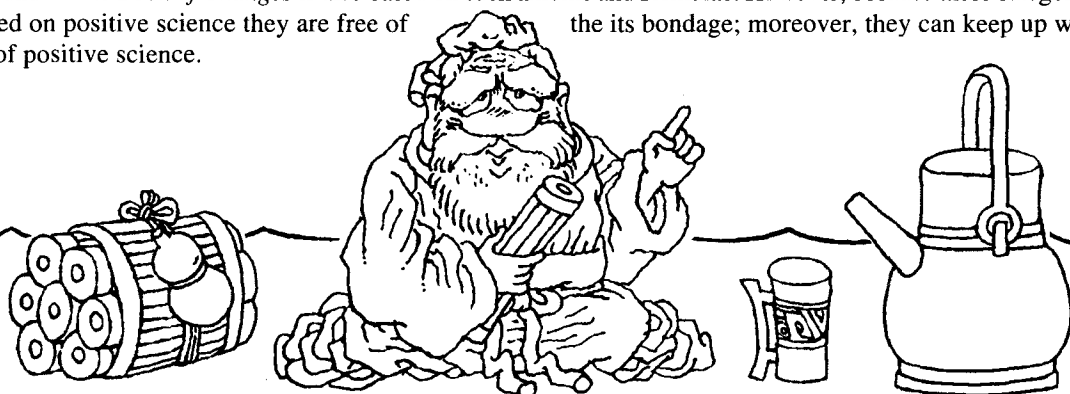
To compile *The Book of Changes*, our ancestors used two mystic diagrams, known as the River Map (河图) and the Luo Writing (洛书). Luo is the name of a river flowing through Shaanxi and Henan provinces. These diagrams were meant to show an overall concept of the time and space of the universe, being the “simplest forms of macro and micro power models,” described in the language of mathematics. They have their own logical systems on which are founded the explanatory and deduction system for the whole of traditional Chinese culture.



华夏文明的支点——勾股定义 The Pivot of Chinese Civilization: Gougu Theorem

就实证科学而言，宇宙这部著作是用数学语言写成的，其中的符号就是三角形、圆和其他几何图形。通观本章人们将会发现，《易经》的时空背景也是建立在这一公理和公式之上的。只是这些范畴不是基于实证科学，因此不受实证科学的束缚，更不会因实证科学的不断发展而显得落后。

So far as positive science is concerned, the huge book of the universe is written in mathematical language, whose symbols are triangles, circles and other geometrical figures. This chapter describes how the space-time background of *The Book of Changes* is also based on such axioms and formulae. However, because these categories are not based on positive science they are free of the its bondage; moreover, they can keep up with the march of positive science.

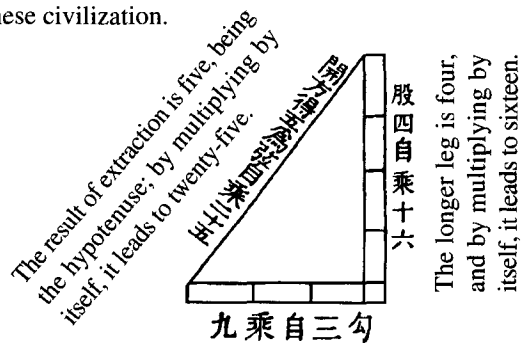


勾股定义是我们的祖先在“立竿见影，以正农时”，探索天地相对运动周期时捕捉到的数学原理。在形式逻辑与几何学的发展几近极致的今天，它似乎足以令人忽略了，但是对整个中华传统文化而言，它的意义则远远超过了纯粹数学的应用，始终具有独立性，并起着支点的作用。

The Gougu Theorem is a mathematical principle discovered by our ancestors in their explorations of the relative cycles of Heaven and Earth by “setting up a pole and measuring the shadow, so as to determine the farming seasons.” At the present day, when formal logic and geometry have nearly developed to their acme, this theorem is so unimportant as to be negligible. However, as far as the overall traditional culture of China is concerned, its significance goes far beyond its application in pure mathematics. The Gougu Theorem has held the unique position of the pivot of Chinese culture throughout the nation's history.

它所蕴含的“天道之数”，在远古有如“天机乍泄”，以其作为公理的巨大推动力，迅即被人们用以作为沟通天地、与自然对话的凭藉，最早被“放之四海”，构筑起整个中华文明的大厦。

The “Way of Heavenly Numbers” contained in the theorem were regarded as a “revelation from Heaven” in remote antiquity, and by virtue of their great driving force as axiom, they were seized upon by the ancients as the channel for communication between Heaven and Earth, and as reference for dialogue with Nature. The theorem was the first to be used throughout China to build the whole edifice of Chinese civilization.

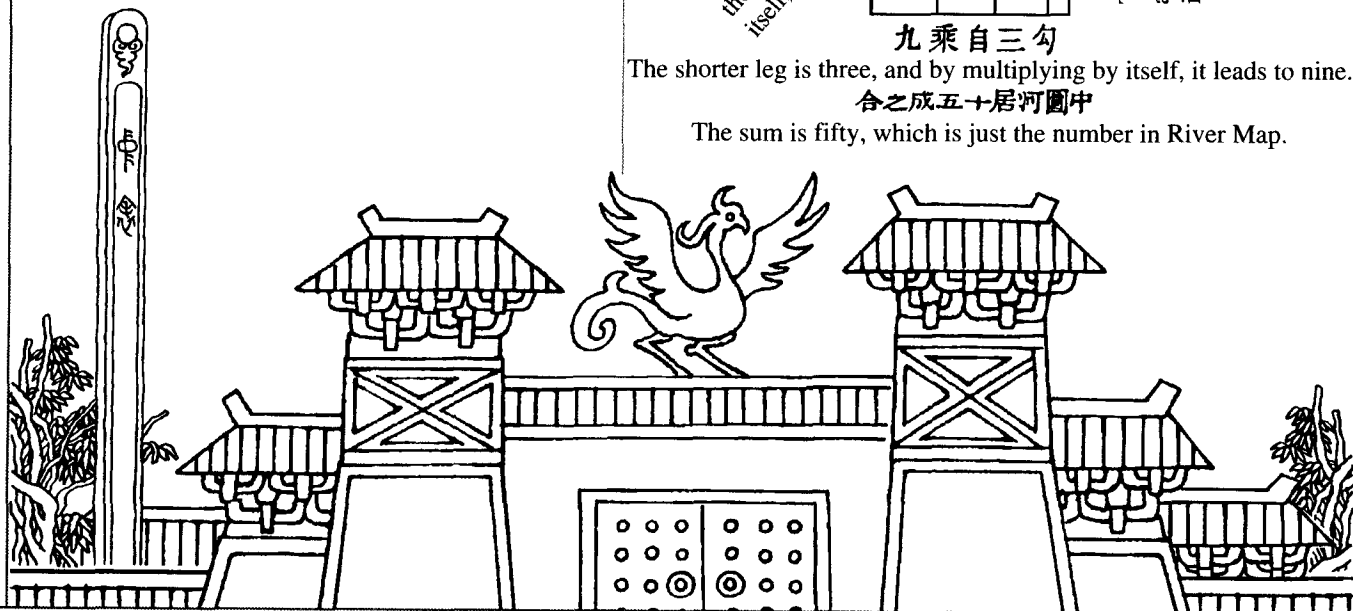


九乘自三勾

The shorter leg is three, and by multiplying by itself, it leads to nine.

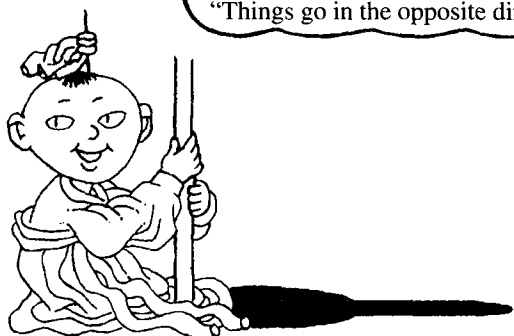
合之成五十居河圖中

The sum is fifty, which is just the number in River Map.



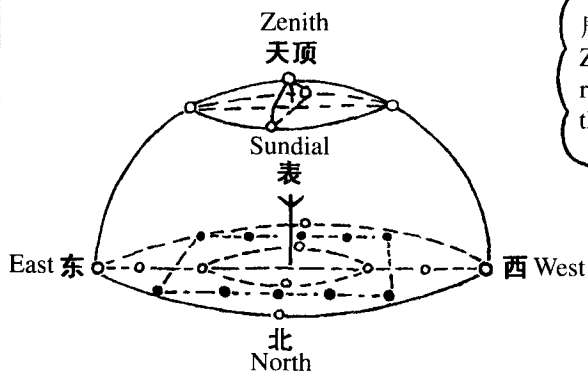
“易者，(圭)象也。”“卦者，圭也。”所以说到《易经》，就不能不提到圭表，因为正是圭表，将天地运行的规律法律，丝毫不差地表现出来。它向上可以反映天文，往下可以引证地理，在考察万物的始末时，使人们得以通晓盛衰兴亡和物极而返的道理。

“Yi means (gui)xian (image),” and “gua (divinatory symbol) refers to gui(ancient Chinese sundial).” Thus, speaking of the Yi Jing (*The Book of Changes*), we cannot but mention gui, the ancient Chinese sundial, for the sundial expresses the law of the motions of Heaven and Earth completely. Upwards, it can reflect astronomy; downwards, it can adduce geography. When you use it to seek the source and ending of everything in the universe, you will find the truth about ups and downs and about the rule “Things go in the opposite direction when they reach the extreme.”

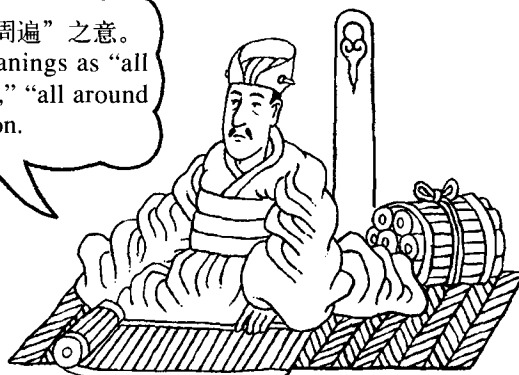


最早对此进行追述的是成书于西汉的中国第一部数学专著《周髀算经》，其理论依据为盖天说，盖天说传为伏羲为解释“周天圆道”所创，周公继承于殷商，所以叫“周髀”。髀，即股，这里指表。

The earliest-known work tracing the origin of the sundial is the *Zhou Bi Suan Jing* (*Mathematical Classic on the Sundial of the Zhou Dynasty*) written in the Western Han Dynasty (206 BC-25 AD). The book's argument is based on the Canopy-Heaven Theory, which was said to have been established by the legendary Fuxi to explain the “Way of the Round Sky.” The founder of the Zhou Dynasty (1046-256 BC), the Duke of Zhou inherited the theory, and so it was called “Zhou Bi.” Bi is the same as gu, referring to the sundial here.

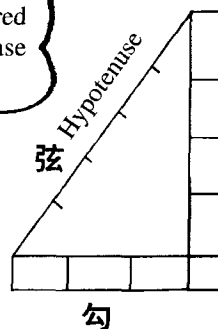
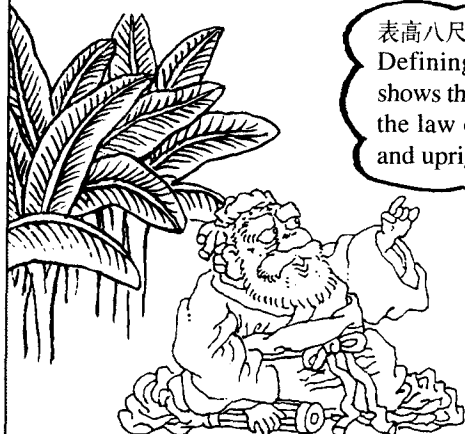


周，有“周普”、“周遍”之意。Zhou has such meanings as “all round the universe,” “all around the world,” and so on.



勾，即表竿的投影。弦是表顶至地面的斜边。为便于以勾股定义进行计算，古人以八尺（或八尺的倍数）作为表的高度。Gou indicates the shadow cast by the sundial. Xian(latus) is the hypotenuse completing the triangle formed by the sundial and its shadow. To simplify calculations in terms of the Gougu (Pythagorean) Theorem, the ancients used eight Chinese feet or a multiple thereof as the height of the sundial.

表高八尺，证明古人已经发现和掌握了勾股间规律。Defining the height of the sundial as eight Chinese feet shows that the ancients had already discovered and mastered the law of the relationship between gou and gu (the base and upright, respectively, of a right-angle triangle).

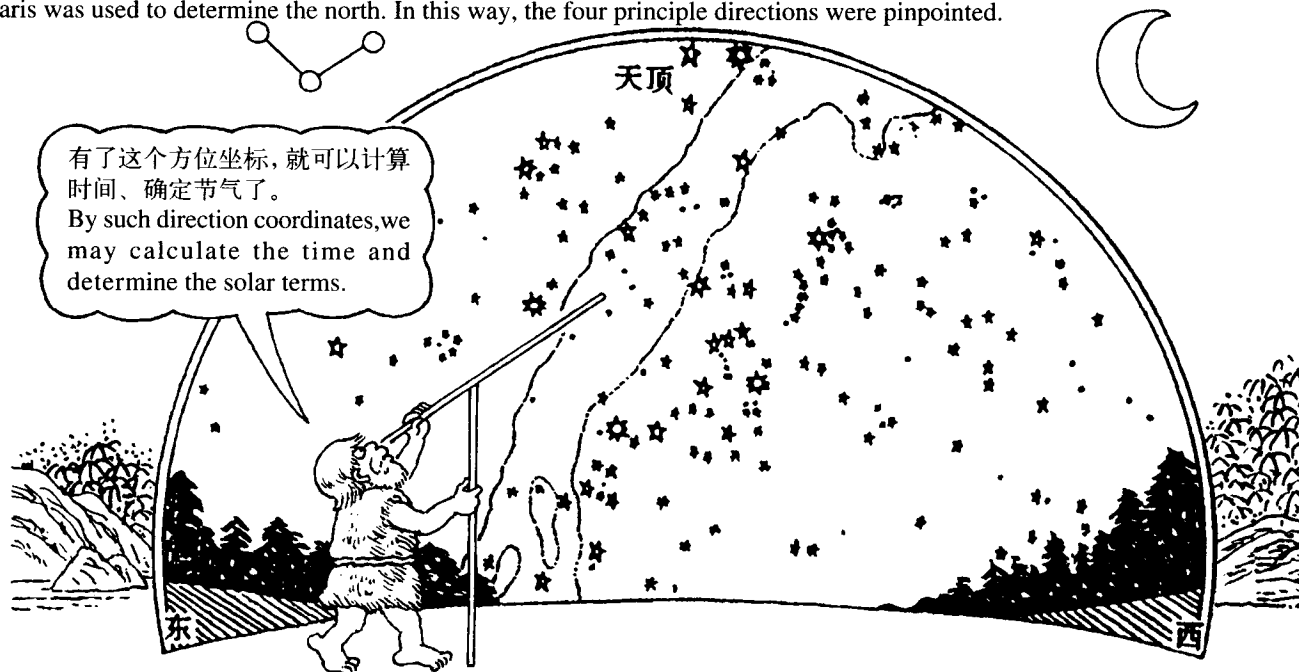


Gu (the longer leg of a right triangle)
八尺 Eight feet
股

Gou (the shortest leg of a right triangle)

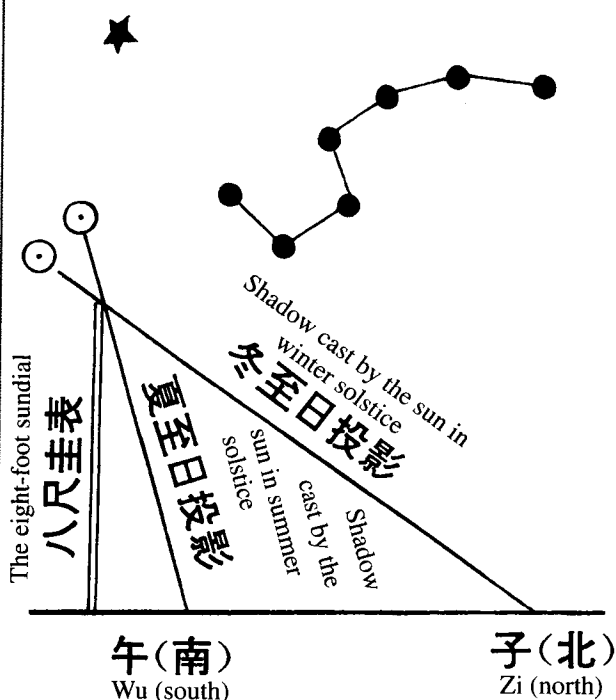
在《周髀算经》中，已非常精确地记录了先民们利用圭表确定方向、四季、二十四节气和回归年长度的方法：以日出日落确定东西，白天参照正午时最短的影子确定南方，夜晚以北极星确定北方，这样就求得了中央四方。

In the *Zhou Bi Suan Jing* there are very accurate records of how the ancient Chinese used the sundial to determine the directions, the four seasons, the twenty-four solar terms and the length of the tropical (or solar) year: Sunrise and sunset were used to determine the east and the west; in the daytime, the shortest shadow (at noon) was used to determine the south; at night, the star Polaris was used to determine the north. In this way, the four principle directions were pinpointed.

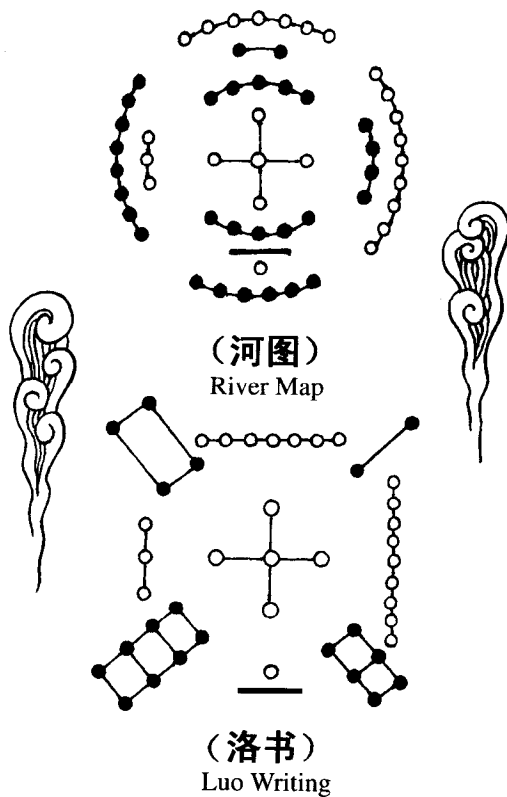


人们首先确定的是冬至和夏至。冬至这一日影最长，为一年的起算点。测定一个回归年为365.25日，再参照日月交会等自然现象，最终确立了历法。

First of all, people determined the winter solstice and the summer solstice. On the day of the winter solstice, the shadow cast by the sun is the longest, so it is the starting point in the calculation of the year. One tropical year was determined as 365.25 days, and then, by using some natural phenomenon such as the intersection of the sun and the moon, they finally established the calendar.



“河图”、“洛书”正是对这一过程的实录（参看下一章节）。River Map and Luo Writing are accounts of this process of determination (Please refer to the next section).



这也是成语“一元复始”的出处。And the phrase “Yi Yuan Fu Shi (The beginning has come again)” originated right here.

河图洛书的归纳可以作为中国文化“多起源，一中心”而不是“多中心”的最有力依据。因为整个中华文明提供了世界观和方法论的这两幅图（派生出先天八卦与后天八卦），只有在黄河中下游流域这块土地上、在温带季风性气候的条件下、农业耕作的生产方式中才能得以完成。

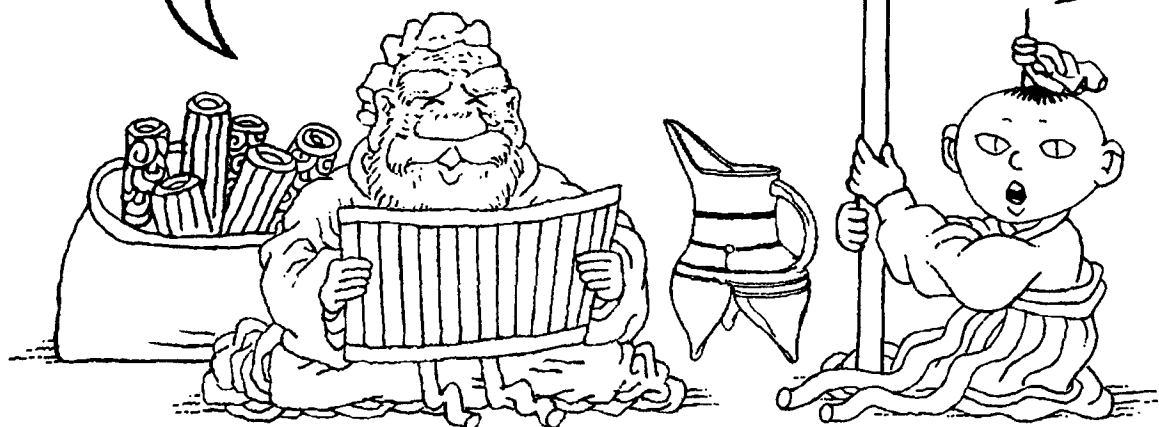
The River Map and Luo Writing are evidence that Chinese culture is characterized by “many sources and one center,” instead of “many centers.” The reason is that the two pictures providing the world outlook and methodology of Chinese civilization (from them the Earlier Eight Diagrams and the Later Eight Diagrams were derived), could have been devised only in the area of the middle and lower reaches of the Yellow River, in the monsoon climatic conditions of the temperate zone and by an agricultural people.



此为后天八卦及其所处环境的比照图。有学者根据它与先天八卦的体用关系，和由具象而抽象的一般规律，认为后天八卦和同样是讲流行、以用为主的洛书之产生，应该在更抽象的、已具有普遍意义的先天八卦之前。

It is the picture of a contrast between the Later Eight Diagrams and the environment where they are. According to its relation with the Early Eight Diagrams in system and function, and according to the general rule from specific image to abstract, some scholars believe that the Later Eight Diagrams and the Luo Writing, which also talks on the current things and regards function as the main, should have come into being before the Early Eight Diagrams that are more abstract, and have already got a universal meaning.

中国之“中”的本意亦源于此。
 The original meaning of “Zhong” in “Zhongguo (China)” also came from this story.



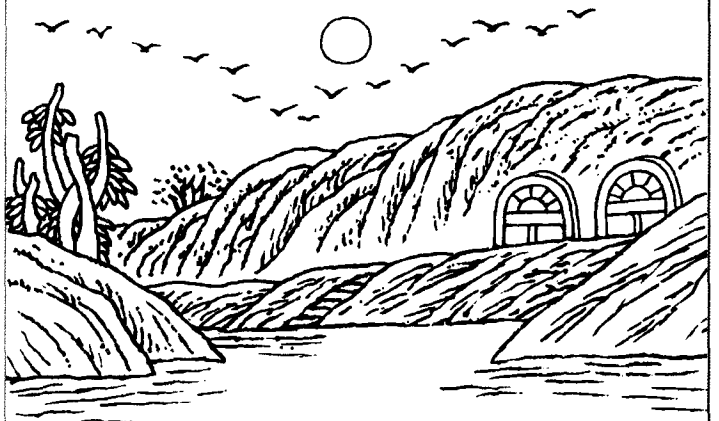
以此为中点，东方得日较早，所以中央的地方日当中午时，此处日影西斜多风。

Taking this as the midpoint, the east gets the sun earlier. So, when it is noon at the central place, the shadow cast by the sun here tilts to the west, and there is much wind.



西方得日较迟，所以中央之地日当正午时，此处还是朝日东升，而且多阴。

The west gets the sun later. So, when it is noon at the central place, the sun is just rising in the morning here, and the weather is usually cloudy.



南方日影短，而气候炎热。

In the south, the shadow cast by the sun is short. Hence, the climate there is hot.



北方日影长，而气候寒冷。

In the north, the shadow cast by the sun is long. So, the climate there is cold.

而中央之地则由于天地相合，四季相交，所以无多寒多暑之患；风雨相会，无多风多雨之患；阴阳相会，无多阴多阳之患；所以物产丰富，人民安逸。

In the central place, as Heaven and Earth join and the four seasons interchange here, there is no worry about too much cold or heat. Rain and wind meet here. So there is no trouble with windiness or raininess. Yin and yang meet here. So there is no trouble with too much yin or too much yang. Hence, there is abundance, and the people live at ease here.

中央的位置是以8尺长的圭表，夏至影长1.6尺的地方。
The central position is at the end of a shadow of 1.6 Chinese feet at the Summer Solstice thrown by a sundial of 8 feet.

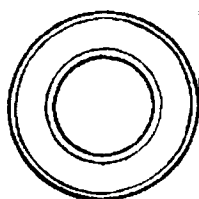


“天圆地方”不是在描述自然的结构

The theory of “Round Sky and Square Earth” is not a description of the natural structure.

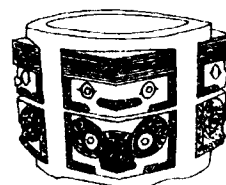
作者在《皇帝内经·素问图典》中已经论证过：龙山文化前后，以定制形式出现的琮和璧，标志着中华文明以功能作为取向的文化选择机制和“天人合一”的宇宙观已经形成。盖天说就是在这一文化背景下得以确立的。

In the chapter Su Wen of *Huangdi Neijing* (Classic of Internal Medicine), the author of this book puts forward the following view: The cong (琮) and bi (璧) appearing in a fixed form around the Longshan Culture period shows that the Chinese people's cultural choice mechanism characterized by taking function as the orientation and their world outlook characterized by “Unity of Heaven and Mankind” had already come into being. The Theory of Canopy-Heavens was established with just such a cultural background.



璧
Bi

天的功能是日夜周流不息，故称“圆”；地的功能是承载万物、养育万物，故为“方”（通平直）。
The sky revolves day and night without stopping. Thus, it is called “round.” The function of the Earth is to bear and nurture everything on Earth, thus, it is described as “square” (meaning “level and straight”).

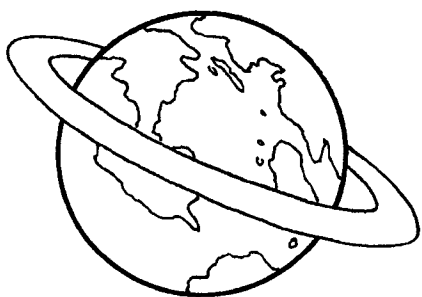


琮
Cong



“天圆地方”是有的，但其取向也是天地之于人的功能，而非结构。因而即使后来浑天说兴起，对大地子午线进行了实测，也丝毫没有动摇盖天说在整个中国传统文化中所具备的方法论地位。

The meaning of “Round Heaven and Square Earth” lies in the function of the sky and the Earth, and not their structures. Therefore, even if the theory of sphere-Heavens appeared later, and people actually measured the geodetic meridian, it did not shake the theory of Canopy-Heavens in Chinese traditional culture at all, as far as its unique methodology is concerned.



“勾（表影）之损益寸千里”
只是有限区域内所得数据。
“The gain or loss of gou (shadow of the sundial) by an inch may result in a difference of a thousand miles.” So this means that the data was obtained only in a limited region.

圭表

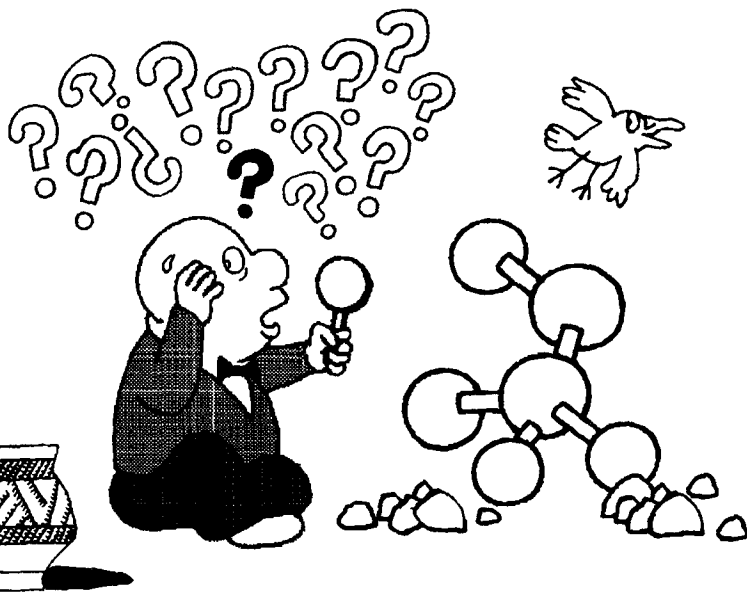
Sundial



这与中国传统哲学“有所不为、以用为主”的原则是一脉相承的。因为就条件而言，古人固然无从由结构认识宇宙，而由逻辑上看，现代人也无法从结构上最终找到构成物质的“基本粒子”。

Such a theory comes down in one continuous line with the principle of China's traditional philosophy: "Do nothing when it is unnecessary, and take function as the main." Of course, the ancients had no way to understand the universe in terms of structure, but even modern people are puzzled as to the "elementary particle" of matter.

一尺之棰，日取其半，万世不竭。
Cut a one-foot stick in half, and then every day cut the pieces in half, and you can never finish cutting.



所以中国的先哲们在极限思考之余，人力所及的尽头，自觉地停下脚步，放弃了以还原论为基础、从结构上认知和驾驭世界的尝试。在“天人合一”世界观的指导下，转而走上了一条以整体论为基础、从功能上把握世界和顺应自然的辩证科学之路。这一方法确保了人与自然间的均衡与和谐，数千年来有效地维护了人们心灵的宁静与完整。

Hence, the ancient Chinese sages stopped consciously at the point where their limited thinking came to an end and where they had reached the end of manpower, giving up trying to take reductionism as the base and to know and master the universe in terms of the structure. Guided by the world outlook of "Unity of Heaven and Mankind," they turned to dialectics: taking holism as the base, mastering the world in function and following Nature. Such a method ensured balance and harmony between man and Nature, and has effectively protected the serenity and integrity of people's souls for thousands of years.



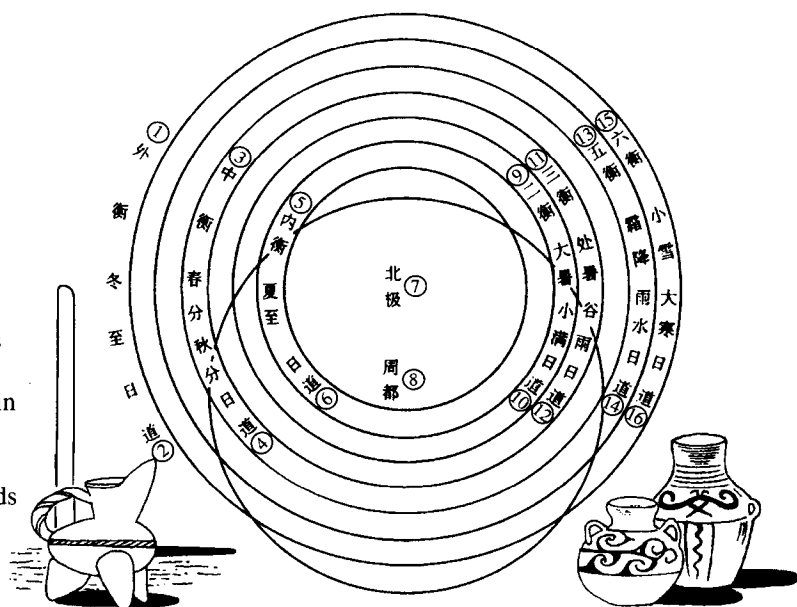
在辩证科学的统一场中，结构始终是缺省的，就像京剧舞台上的那匹马。
In the unified field of dialectics, the structure is forever incomplete, just like the horse on a Peking opera stage.



因而“勾（表影）之损益寸千里”一开始就是对黄河中下游平原的古“中国”之特指。将这一有限区域所得数据以“散点透视”的方式放之到“过此以往，未知或知”的大尺度空间，明显是一种假设，因为唯其如此，才能概括出盖天说的原始命题——从功能层面上阐释天地运行机制的“七衡图”。

Thus, in the first place, “Gou (shadow of the sundial)” refers to ancient China in the plains of the middle and lower reaches of the Yellow River. Taking the data obtained in this limited region and using it in a “cavalier perspective” way in the large-scale space described as “all times in the past, unknown or known,” it is clearly a hypothesis. For only by doing so, could they work out the primitive Theory of Canopy-Heavens — the “Picture of Seven Weights” that accounts for the mechanism of Heaven and Earth in terms of function.

- ① Outer weight
- ② The sun's orbit at the Winter Solstice
- ③ Middle weight
- ④ The sun's orbits at the Vernal and Autumnal Equinoxes
- ⑤ Inner weight
- ⑥ The sun's orbit at the Summer Solstice
- ⑦ Polaris
- ⑧ The capital of the Zhou Dynasty
- ⑨ Second weight
- ⑩ The sun's orbits at Great Heat and Grain Fills
- ⑪ Third weight
- ⑫ The sun's orbits at the Limit of Heat and Grain Rain
- ⑬ Fifth weight
- ⑭ The sun's positions at the Hoar Frost Descends and Rain Water
- ⑮ Sixth weight
- ⑯ The sun's positions at Light Snow and Great Cold

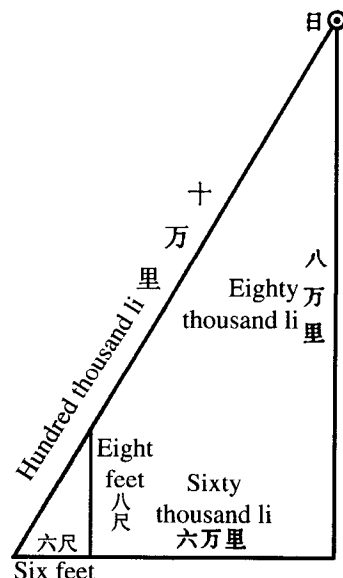
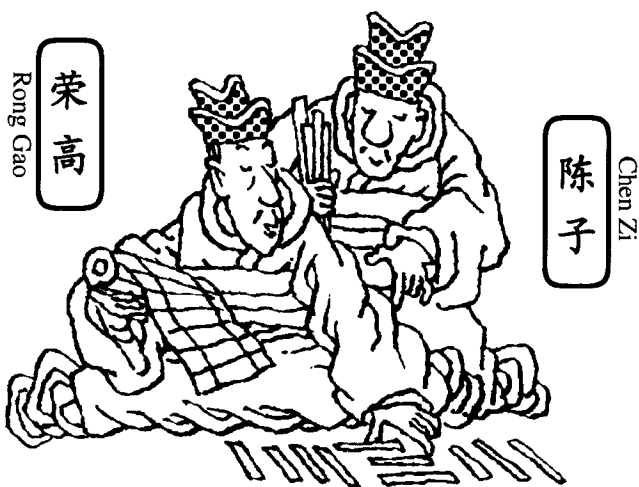


《周髀算经》之“七衡图”

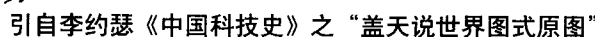
The “Picture of Seven Weights” in *Zhou Bi Suanjing*

通过陈子与荣高的对话，《周髀算经》假设太阳在一平面环绕北极旋转，这平面与地平行，而地乎不动，再把两个观测数据和相似直角三角形相当边比例的关系结合起来，论证“日之高远，光之所照，一日所行，远近之数，人望所见，四极之穷，列星之宿，天地之广袤”。

The *Zhou Bi Suan Jing* records the following dialogue between Chen Zi and Rong Gao: Suppose the sun rotates around the arctic pole in a plane. The plane is parallel to the Earth, and the Earth remains still. Then, by using the two observational data and the proportional relationship of the sides of a right-angle triangle in similar form, they come to the following conclusion: “The sun is so high and far, sunlight is so long and limitless, people’s vision is so limited, the four poles are so far away, the stars are so many and the Heaven and Earth are so wide.”

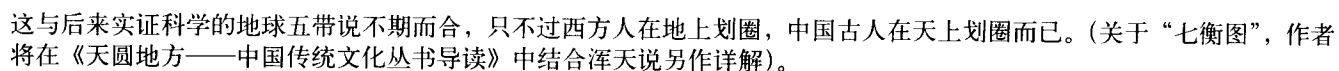


According to the “Picture of Seven Weights,” the ancients not only succeeded in explaining the natural phenomena in China’s central plains, but also inferred that “there is ice even in summer” and “you can see the sun for six months at a time and you cannot see it for another six months” in the area under the Arctic and Antarctic poles, “grass does not die in winter, and it grows again next year” in the area around the Equator, and so on.



至此，盖天说已经能够从理性的高度，即运用数学方法，把观测和理论结合起来，运用模型来描述自然现象，归纳自然规律。

The Theory of Canopy-Heavens was rational, as it used a mathematical method, combined observation and theory, and used models to describe natural phenomena and deduce the laws of Nature.



Such a theory coincides with the theory of the “five zones of the Earth” in the positive science that came later. While Westerners drew circles on the Earth, the ancient Chinese drew circles in the sky. (As for the “Picture of Seven Weights,” the author will give a detailed explanation in *Round Sky and Square Earth, A Guide to the Chinese Traditional Culture Series*, in combination with the theory of sphere-Heavens.)