



畅销全球的人文主义经典之作
里程碑式的世界史著

中英双语 · 人文典藏

世界史纲

THE OUTLINE OF HISTORY

[英] 韦尔斯 / 著 张春光 / 译

江西人民出版社



中英双语 · 人文典藏

世界史纲

江西人民出版社

图书在版编目(CIP)数据

世界史纲 / (美) 韦尔斯著: 张春光译. —南昌: 江西人民出版社, 2005. 12

ISBN 7-210-03300-9

I. 世… II. ①韦… ②张… III. 世界史—普及读物 IV. K109

中国版本图书馆 CIP 数据核字 (2005) 第 145120 号

世界史纲

(美) 韦尔斯 著

张春光 译

江西人民出版社出版发行

北京市北七家印刷厂印刷 新华书店经销

2006 年 3 月第 1 版 2006 年 3 月 第 1 次印刷

开本: 787×1092 毫米 1/16 印张: 24.5

字数: 400 千字

ISBN 7-210-03300-9/K·415 定价: 39.80 元

江西人民出版社 地址: 南昌市三经路 47 号附 1 号

邮政编码: 330006 传真: 6898893 电话: 6898893 (发行部)

E-mail: jxp-ph@163.net web@jxp-ph.com

(凡购本书, 如有缺页、倒页、脱页、请随时向承印厂调换)

PREFACE

This A SHORT HISTORY OF THE WORLD is meant to be read straightforwardly almost as a novel is read. It gives in the most general way an account of our present knowledge of history, shorn of elaborations and complications. It has been amply illustrated and everything has been done to make it vivid and clear. From it the reader should be able to get that general view of history which is so necessary a framework for the study of a particular period or the history of a particular country. It may be found useful as a preparatory excursion before the reading of the author's much fuller and more explicit Outline of History is undertaken. But its especial end is to meet the needs of the busy general reader, too driven to study the maps and time charts of that Outline in detail, who wishes to refresh and repair his faded or fragmentary conceptions of the great adventure of mankind. It is not an abstract or condensation of that former work. Within its aim the Outline admits of no further condensation. This is a much more generalized **History**, planned and written afresh.

H. G. WELLS

序 言

这部《世界史纲》可以当作一本小说供读者细细品味,该书剥离繁琐乏味的理论,以最大众化的手法描述当今历史的渊源。书中大量地采用描述的方法,语言生动、鲜明,思路清晰完整。通过阅读该书,相信读者能够对历史形成一个整体的印象,这对您学习某一特定时期的历史或者某一国家的历史是大有裨益的。该书也可以作为对“历史概要”详尽而细致地掌握之前的预备知识。对于那些时间匆忙的读者,不能详细地研究“历史概要”中的每一个插图和表格,而只想复习和弥补一下自己对人类历史的模糊而残缺的概念,该书中特殊编排的结尾就是用来满足这种需求的。该书不是缩写先前出版的“历史概要”,因为“历史概要”已经对人类历史作了最大程度的浓缩,所以本书只是重新编排和记述一个更为通俗易懂的**历史**。

韦尔斯

CONTENTS

Preface	I
1 The World in Space	1
2 The World in Time	4
3 The Beginnings of Life	7
4 The Age of Fishes	10
5 The Age of the Coal Swamps	15
6 The Age of Reptiles	20
7 The First Birds and the First Mammals	24
8 The Age of Mammals	29
9 Monkeys, Apes and Sub-men	33
10 The Neanderthaler and the Rhodesian Man	38
11 The First True Men	43
12 Primitive Thought	48

CONTENTS

目 录

1

目 录

序 言	I
1 空间世界	1
2 时间的世界	4
3 生命的起源	7
4 鱼类时代	10
5 石炭纪沼泽期	15
6 爬行动物时代	20
7 鸟类和哺乳类动物的诞生	24
8 哺乳动物时代	29
9 猿、类人猿和原始人	33
10 尼安德特人和罗得西亚人	38
11 最初的真人	43
12 原始的思想	48

13	The Beginnings of Cultivation	52
14	Primitive Neolithic Civilizations	57
15	Sumeria, Early Egypt and Writing	62
16	Primitive Nomadic Peoples	67
17	The First Sea-going Peoples	71
18	Egypt, Babylon and Assyria	76
19	The Primitive Aryans	83
20	The Last Babylonian Empire and the Empire of Darius ...	88
21	The Early History of the Jews	92
22	Priests and Prophets in Judea	98
23	The Greeks	103
24	The Wars of the Greeks and Persians.....	109
25	The Splendor of Greece	114
26	The Empire of Alexander the Great	118
27	The Museum and Library at Alexandria.....	122
28	The Life of Gautama Buddha	128

2 A Short History of the World

世界史纲

13	农业的开端	52
14	原始新石器文明	57
15	苏美尔、古埃及和文字.....	62
16	最初的游牧民族.....	67
17	最早的航海者.....	71
18	埃及、巴比伦、亚述.....	76
19	原始的雅利安人.....	83
20	最后的巴比伦帝国和大流士一世的帝国.....	88
21	犹太人的早期历史.....	92
22	犹太人的教士和先知.....	98
23	希腊人.....	103
24	希腊人和波斯人的战争.....	109
25	希腊的繁荣.....	114
26	亚历山大的帝国.....	118
27	亚历山大城的博物馆和图书馆	122
28	释迦牟尼的生涯.....	128

29	King Asoka	134
30	Confucius and Lao Tse.....	136
31	Rome Comes into History	142
32	Rome and Carthage	148
33	The Growth of the Roman Empire	153
34	Between Rome and China	164
35	The Common Man's Life under the Early Roman Empire.....	169
36	Religious Developments under the Roman Empire.....	176
37	The Teaching of Jesus	183
38	The Development of Doctrinal Christianity.....	190
39	The Barbarians Break the Empire into East and West	194
40	The Huns and the End of the Western Empire	198
41	The Byzantine and Sassanid Empires	204
42	The Dynasties of Suy and Tang in China	209
43	Muhammad and Islam	212

CONTENTS

目 录

3

29	阿育王	134
30	孔子和老子	136
31	罗马登上历史舞台	142
32	罗马和迦太基	148
33	罗马帝国的发展	153
34	罗马与中国	164
35	罗马帝国早期的平民生活	169
36	罗马帝国的宗教	176
37	耶稣的教义	183
38	基督教教义的发展	190
39	野蛮民族的入侵使帝国分裂为东西两部	194
40	匈奴人的振兴与西罗马的灭亡	198
41	拜占庭帝国和萨桑帝国	204
42	中国的隋唐时代	209
43	穆罕默德和伊斯兰教	212

44	The Great Days of the Arabs	216
45	The Development of Latin Christendom	220
46	The Crusades and the Age of Papal Dominion	229
47	Recalcitrant Princes and the Great Schism	239
48	The Mongol Conquests	248
49	The Intellectual Revival of the Europeans	253
50	The Reformation of the Latin Church	263
51	The Emperor Charles V	268
52	The Age of Political Experiments of Grand Monarchy and Parliaments and Republicanism in Europe	277
53	The New Empires of the Europeans in Asia and Overseas ...	288
54	The American War of Independence	293
55	The French Revolution and the Restoration of Monarchy in France	299
56	The Uneasy Peace in Europe That Followed the Fall of Napoleon...	308

4 A Short History of the World 世界史纲

44	阿拉伯人的黄金时代	216
45	拉丁语基督教世界的发展	220
46	十字军远征与教皇统治的时代	229
47	王侯反抗和教会的分裂	239
48	蒙古人的征服	248
49	欧洲的文艺复兴	253
50	拉丁教会的改革	263
51	皇帝查理五世	268
52	君主政体、议会政体和共和政体在欧洲实验的时代	277
53	欧洲人在亚洲和海外的新帝国	288
54	美国独立战争	293
55	法国革命和君主制复辟	299
56	拿破仑失败以后欧洲不稳定的和平局面	308

57	The Development of Material Knowledge.....	313
58	The Industrial Revolution	323
59	The Development of Modern Political and Social Ideas.....	328
60	The Expansion of the United States	340
61	The Rise of Germany to Predominance in Europe.....	349
62	The New Overseas Empires of Steamship and Railway	351
63	European Aggression in Asia and the Rise of Japan.....	358
64	The British Empire in 1914	364
65	The Age of Armament in Europe, and the Great War of 1914-18	367
66	The Revolution and Famine in Russia	372
67	The Political and Social Reconstruction of the World	378

CONTENTS

目 录

5

57	物质知识的发展.....	313
58	工业革命.....	323
59	近代政治思想和社会思想的发展.....	328
60	美利坚合众国的扩张	340
61	德国在欧洲之崛起	349
62	拥有轮船和铁路的海外新帝国.....	351
63	欧洲入侵亚洲及日本的崛起.....	358
64	1914年的英帝国	364
65	欧洲武器时代和第一次世界大战.....	367
66	俄国革命.....	372
67	世界政治和社会的改造	378

1 The World in Space

THE STORY of our world is a story that is still very imperfectly known. A couple of hundred years ago men possessed the history of little more than the last three thousand years. What happened before that time was a matter of legend and speculation. Over a large part of the civilized world it was believed and taught that the world had been created suddenly in 4004 B.C., though authorities differed as to whether this had occurred in the spring or autumn of that year. This fantastically precise misconception was based upon a too literal interpretation of the Hebrew Bible, and upon rather arbitrary theological assumptions connected therewith. Such ideas have long since been abandoned by religious teachers, and it is universally recognized that the universe in which we live has to all appearances existed for an enormous period of time and possibly for endless time. Of course there may be deception in these appearances, as a room may be made to seem endless by putting mirrors facing each other at either end. But that the universe in which we live has existed only for six or seven thousand years may be regarded as an altogether exploded idea.

The earth, as everybody knows nowadays, is a spheroid, a sphere slightly compressed, orange fashion, with a diameter of nearly 8,000 miles. Its spherical shape has been known at least to a limited number of intelligent people for nearly 2,500 years, but before that time it was supposed to be flat, and various ideas which now seem fantastic were enter-

1 空间世界

我们生活的这个世界对我们来讲还是一个谜。几百年以前,人们所掌握的有关世界的知识至多不超过 3000 年,至于更早时期的事情也只能依赖于传说和猜测。关于我们文明世界的起源,很大一部分的人还深信世界是在公元前 4004 年突然诞生的。至于世界是产生于明媚的春天还是收获的秋季,学者们争论不休。这个荒谬的见解既是对希伯来经典《旧约》的教条解释基础之上,也是来自于神学的任意推断。现在,神学家们早已抛弃了这个荒谬的想法,大家一致赞同我们生活的这个世界在很早以前就出现了,甚至可以追溯到无限遥远的过去。当然,也有不确定的地方,就像在房间的两端各安一面镜子,两个遥相对应的镜子使整个房间看起来好像无边无际。但是,那种认为我们生存的宇宙只有六七千年历史的谬论已被彻底推翻了。

正如现在我们所知道的,地球是一个略扁、橙色、直径约为 1.28 万公里的椭圆形球体。大约 2500 年前,有一些知识分子就已经知道地球是圆的了。但在此之前,人们把地球假想为一个平面,并用各种各样今天看来是十分可笑的理论来解释地球与天空、恒星、行星的关系。现在我们已经知道,地球每 24 小时以地轴(约比赤道直径短

tained about its relations to the sky and the stars and planets. We know now that it rotates upon its axis (which is about 24 miles shorter than its equatorial diameter) every twenty-four hours, and that this is the cause of the alternations of day and night, that it circles about the sun in a slightly distorted and slowly variable oval path in a year. Its distance from the sun varies between ninety-one and a half millions at its nearest and ninety-four and a half million miles.

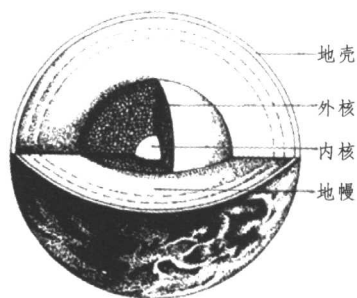
About the earth circles a smaller sphere, the moon, at an average distance of 239,000 miles. Earth and moon are not the only bodies to travel round the sun. There are also the planets, Mercury and Venus, at distances of thirty-six and sixty-seven millions of miles; and beyond the circle of the earth and disregarding a belt of numerous smaller bodies, the planetoids, there are Mars, Jupiter, Saturn, Uranus and Neptune at mean distances of 141, 483, 886, 1,782, and 1,793 millions of miles respectively. These figures in millions of miles are very difficult for the mind to grasp. It may help the reader's imagination if we reduce the sun and planets to a smaller, more conceivable scale.

If, then, we represent our earth as a little ball of one inch diameter, the sun would be a big globe nine feet across and 323 yards away, that is about a fifth of a mile, four or five minutes' walking. The moon would be a small pea two feet and a half from the world. Between earth and sun there would be the two inner planets, Mercury and Venus, at distances of one hundred and twenty-five and two hundred and fifty yards from the sun. All round and about these bodies there would be emptiness until you came to Mars, a hundred and seventy-five feet beyond the earth; Jupiter nearly a mile away, a foot in diameter; Saturn, a

39公里)为中心自转一周,由此形成了昼夜更替,地球沿略有变化的椭圆形轨道绕太阳公转一周是一年。地球与太阳的最近距离是1.47亿公里,最远距离为1.52亿公里。

一个更小的球体——月球,环绕在地球的周围,它与地球的平均距离为38万多公里。除了地球和月球之外,还有很多的星球在围绕太阳旋转,比如水星和金星距离太阳分别约为5800万公里和1亿多公里。除了地球和无数小的星体之外,还有火星、木星、土星、天王星和海王星,它们与太阳的距离分别为2.27亿公里、7.77亿公里、28.6亿公里、44.95亿公里和67.42亿公里。这些遥远的星体远在人们的掌握之外。如果我们把太阳和各行星都缩小成模型,这样也许会有助于我们更清晰地把握和了解太阳系。

如果我们假定地球是一个直径为2.5厘米的小球,那么太阳就是一个直径为2.7米的大球,两者相距323米,大约需要走四五分钟的路程;而月球则是一个距离地球



地球的内部结构

little smaller, two miles off; Uranus four miles off and Neptune six miles off. Then nothingness and nothingness except for small particles and drifting scraps of attenuated vapour for thousands of miles. The nearest star to earth on this scale would be 40,000 miles away.

These figures will serve perhaps to give one some conception of the immense emptiness of space in which the drama of life goes on.

For in all this enormous vacancy of space we know certainly of life only upon the surface of our earth. It does not penetrate much more than three miles down into the 4,000 miles that separate us from the centre of our globe, and it does not reach more than five miles above its surface. Apparently all the limitlessness of space is otherwise empty and dead.

The deepest ocean dredgings go down to five miles. The highest recorded flight of an aeroplane is little more than four miles. Men have reached to seven miles up in balloons, but at a cost of great suffering. No bird can fly so high as five miles, and small birds and insects which have been carried up by aeroplanes drop off insensible far below that level.

只有 0.76 米的小豌豆。地球和月球之间还有两个星体——水星和金星，它们与太阳的距离分别是 114 米和 213 米。这些星体的周围什么也没有。然而在离地球 160 米和 1.6 公里的地方分别有一颗火星和一颗直径约为 30 厘米的木星，而土星更小，离地球 3.2 公里，天王星在 6.4 公里以外，海王星在 9.6 公里处。在遥远的数千公里处，除了细小的尘埃和稀薄的气体外什么也没有。就是以这种微小的模型来计算，最近的恒星距离地球也在近 8 万公里之外。

这样的模型也许有助于人们在头脑中形成这样一个概念：人类行走在广阔无垠的空间里。

我们应该知道，在这辽阔无垠的空间范围内，人类也仅仅是占据着地球表面这一席之地。生物深入地表下也不过 5000 米（离地心还差着 6000 多公里呢），高于地面也不到 8000 米，其余的地方显然是没有生命的茫茫空间。

最深的海沟也不过 8000 米深，飞机飞行最高的纪录也不过 6000 米。虽然人类乘坐热气球到达过 1 万多米的高空，但都是冒着极大的生命危险。任何鸟类也不会到达 8000 米的高空，即使用飞机把小鸟和昆虫带到比这样的高度还低一些的高空，然后再抛下去，它们也都没有能飞翔的感觉了。

2 The World in Time

IN the last fifty years there has been much very fine and interesting speculation on the part of scientific men upon the age and origin of our earth. Here we cannot pretend to give even a summary of such speculations because they involve the most subtle mathematical and physical considerations. The truth is that the physical and astronomical sciences are still too undeveloped as yet to make anything of the sort more than an illustrative guesswork. The general tendency has been to make the estimated age of our globe longer and longer. It now seems probable that the earth has had an independent existence as a spinning planet flying round and round the sun for a longer period than 2,000,000,000 years. It may have been much longer than that. This is a length of time that absolutely overpowers the imagination.

Before that vast period of separate existence, the sun and earth and the other planets that circulate round the sun may have been a great swirl of diffused matter in space. The telescope reveals to us in various parts of the heavens luminous spiral clouds of matter, the spiral nebula, which appear to be in rotation about a center. It is supposed by many astronomers that the sun and its planets were once such a spiral, and that their matter has undergone concentration into its present form. Through majestic times that



仙女座旋涡星系

2 时间的世界

在过去的 50 年里,科学家们对地球的年龄和起源进行了很多细致而有趣的研究。这里很难阐述这些研究,因为其中包含了很多高深的

数学和物理学问题。我们现在的物理学和天文学还不够发达,对很多事物还只能进行推测。目前的趋势是把地球的年龄越算越长。根据现在估计,地球作为一颗独立围绕太阳运行的行星已经有 20 多亿年的历史了。地球的年龄也许还会更长,长得以至于我们都无法想象。

在地球独立存在之前的漫长时间里,太阳、地球以及围绕太阳旋转的其他行星可能是一个由分散物质组成的巨大旋涡。通过天文望远镜观察,我们可以看到天空中发光的螺旋状物质云像是正在绕着一个中心旋转,这就是所谓的“涡状星云”。因此,许多天文学家设想,太阳和围绕太阳旋转的行星在凝聚成现在的形态之前,也是这种螺旋状的形态。经过长时间的反复凝结,地球和月亮才变得可以分辨。那时,它们自转比

concentration went on until in that vast remoteness of the past for which we have given figures, the world and its moon were distinguishable. They were spinning then much faster than they are spinning now; they were at a lesser distance from the sun; they traveled round it very much faster, and they were probably incandescent or molten at the surface. The sun itself was a much greater blaze in the heavens.

Slowly by degrees as one million of years followed another, this fiery scene would lose its eruptive incandescence. The vapours in the sky would rain down and become less dense overhead; great slaggy cakes of solidifying rock would appear upon the surface of the molten sea, and sink under it, to be replaced by other floating masses. The sun and moon growing now each more distant and each smaller, would rush with diminishing swiftness across the heavens. The moon now, because of its smaller size, would be already cooled far below incandescence, and would be alternately obstructing and reflecting the sunlight in a series of eclipses and full moons.

And so with a tremendous slowness through the vastness of time, the earth would grow more and more like the earth on which we live, until at last an age would come when, in the cooling air, steam would begin to condense into clouds, and the first rain would fall hissing upon the first rocks below. For endless millenia the greater part of the earth's water would still be vaporized in the atmosphere, but there would now be hot streams running over the crystallizing rocks below and pools and lakes into which these streams would be carrying detritus and depositing sediment.

At last a condition of things must have been attained in which a man might have stood

现在快得多,离太阳的距离也比现在近,绕太阳的公转也比现在快得多,并且地球和月亮的表层都在燃烧着或者处于熔融状态,而太阳本身则是天空中一只耀眼的大火球。

数百万年慢慢地过去了,地球上炽热的景象失去了原来的温度。由于天空中的水蒸气凝结成雨滴降落到地面,因此空中的大气密度降低,已经凝固的巨大的岩石在熔岩的海面上反复地浮沉,并且相互撞击。太阳和月亮距离地球越来越远,因此它们也变得越来越小,而且在天空出现的频率也越来越少了。因为月亮体积较小,失去炽热的景象更快,所以它可以阻断或者反射日光,这样就出现了残月和满月交替变更的现象。

这样的现象又维持了一段漫长的时光之后,地球变成了现在的模样。终于,蒸气在冷空气中密集成云,第一滴雨水降落在最早的岩石表面上。在以后悠久的岁月中,水还主要存在于湿润的空气中,但在那些已经成形的岩石表面上有热流流过,形成池沼和湖泊,热流把碎石和沉淀物带入了池沼和湖泊中。

最后,终于有了人类能繁衍生息的条件。如果我们能回到那个时候的地球上,我们一定会处在头顶狂风暴雨、脚踏满地熔岩,没有泥土、没有一草一木的环境中,还有

up on earth and looked about him and lived. If we could have visited the earth at that time we should have stood on great lava-like masses of rock without a trace of soil or touch of living vegetation, under a storm-rent sky. Hot and violent winds, exceeding the fiercest tornado that ever blows, and downpours of rain such as our milder, slower earth today knows nothing of, might have assailed us. The water of the downpour would have rushed by us, muddy with the spoils of the rocks, coming together into torrents, cutting deep gorges and canyons as they hurried past to deposit their sediment in the earliest seas. Through the clouds we should have glimpsed a great sun moving visibly across the sky, and in its wake and in the wake of the moon would have come a diurnal tide of earthquake and upheaval. And the moon, which nowadays keeps one constant face to earth, would then have been rotating visibly and showing the side it now hides so inexorably.

The earth aged. One million years followed another, and the day lengthened, the sun grew more distant and milder, the moon's pace in the sky slackened; the intensity of rain and storm diminished and the water in the first seas increased and ran together into the ocean garment our planet henceforth wore.

But there was no life as yet upon the earth; the seas were lifeless, and the rocks were barren.

比龙卷风更可怕的灼热狂风,而且还有我们今天温和的地球上难以想象的暴雨。那倾泻的水流带着碎石奔腾而过,冲出山谷和深沟,把沉积物冲进原始的海洋。透过云层,我们能够看到天空中移动着巨大的太阳。随着太阳和月亮的运动,不断发生地震和其他地壳运动。现在的月亮总是把一面朝向地球,而那时候月亮则是明显地自转着,有时把如今羞于见人的另一面朝向我们。

数百万年又过去了,随着地球的年龄不断地增大,白昼越来越长,地球与太阳的距离也越来越远,太阳的光芒也显得柔和起来,月亮转动的速度日趋缓慢,狂风暴雨也变小了,原始海洋中的海水不断增加,最终汇成汪洋大海覆盖了我们的星球。

但是,这个时候地球上是没有生命的,海洋中也没有生命,岩石则是贫瘠的不毛之地。

3 The Beginnings of Life

AS everybody knows nowadays, the knowledge we possess of life before the beginnings of human memory and tradition is derived from the markings and fossils of living things in the stratified rocks. We find preserved in shale and slate, limestone, and sandstone, bones, shells, fibers, stems, fruits, footmarks, scratchings and the like, side by side with the ripple marks of the earliest tides and the pittings of the earliest rainfalls. It is by the sedulous examination of this Record of the Rocks that the past history of the earth's life has been pieced together. That much nearly everybody knows today. The sedimentary rocks do not lie neatly stratum above stratum; they have been crumpled, bent, thrust about, distorted and mixed together like the leaves of a library that has been repeatedly looted and burnt, and it is only as a result of many devoted lifetimes of work that the record has been put into order and read. The whole compass of time represented by the record of the rocks is now estimated as 1,600,000,000 years.

The earliest rocks in the record are called by geologists the Azoic rocks, because they show no traces of life. Great areas of these Azoic rocks lie uncovered in North America, and they are of such a thickness that geologists consider that they represent a period of at least half of the 1,600,000,000 which they assign to the whole geological record. Let me repeat this profoundly significant fact. Half the great interval of time since land and sea were

3 生命的起源

如同大家现在所知道的那样，我们拥有的关于人类诞生以前的生命起源知识来源于层状岩中的生物遗迹和遗物化石。我们发现在页岩、板岩、石灰石和砂岩中保存着骨头、贝壳、纤维、树干、果子、足迹、抓痕等，是与早期的潮汐冲击而成的裂缝和早期的暴雨冲刷而成的坑洼同时存在的。关于地球上生命的历史也正是通过不断考察这些岩石记录来编写的。今天大家几乎都知道，沉积岩并不是一层挨一层整齐地排列着的，而是呈现褶皱、弯曲、错层、扭曲并且相互掺混，就像被反复洗劫焚烧过的图书馆里的书页一样，所以需要花费许多人毕生的精力才能将记录编辑整理好，以供阅读。据估计，岩石所记录的整个历史大约有 16 亿年。

地质学家把记录中最早期的岩石叫做无生岩石，因为其中没有显示任何生命的踪影。在北美洲存在着大面积的无生岩石区域，地质学家认为，这些岩石的厚度代表整个地质记录（大约 16 亿年）一半以上的时间。让我们强调这个有深远意义的重大事实：自从陆地和海洋分开之后很长的一段时间里没有生物存在，这是因为在无生岩里只有潮汐和暴雨的遗痕，而没有生物的遗迹。

first distinguishable on earth has left us no traces of life. There are rippings and rain marks still to be found in these rocks, but no marks nor vestiges of any living thing.

Then, as we come up the record, signs of past life appear and increase. The age of the world's history in which we find these past traces is called by geologists the Lower Paleozoic age. The first indications that life was afoot are vestiges of comparatively simple and lowly things: the shells of small shellfish, the stems and flowerlike heads of zoophytes, seaweeds and the tracks and remains of sea worms and crustacea. Very early appear certain creatures rather like plant-lice, crawling creatures which could roll themselves up into balls as the plant-lice do, the trilobites. Later by a few million years or so come certain sea scorpions, more mobile and powerful creatures than the world had ever seen before.

None of these creatures were of very great size. Among the largest were certain of the sea scorpions, which measured nine feet in length. There are no signs whatever of land life of any sort, plant or animal; there are no fishes nor any vertebrate creatures in this part of the record. Essentially all the plants and creatures which have left us their traces from this period of the earth's history are shallow-water and intertidal beings. If we wished to parallel the flora and fauna of the Lower Paleozoic rocks on the earth today, we should do it best, except in the matter of size, by taking a drop of water from a rock pool or scummy ditch and examining it under a microscope. The little crustacean, the small shellfish, the zoophytes and alga we should find there would display a quite striking resemblance to these clumsier, larger prototypes that once were the crown of life upon our planet.

It is well, however, to bear in mind that the Lower Paleozoic rocks probably do not

然而，当我们沿着岩石的记录看下去，古代生物的痕迹开始出现并且逐渐增加。地质学家把这个有了古代生物痕迹的时代叫做初期古生代。有生命存在的第一征兆是相对简单低级的生物痕迹，比如：贝类的壳、植虫花状的头和躯干以及海藻、海虫和甲壳动物的形骸。最早出现的是一种形似蚜虫的三叶虫，它能像蚜虫一样地爬行和自行收缩。此后历经约数百万年，又出现一种海蝎，它比以前的任何海中动物都要灵活和有力。

这些生物的体积都不是很大，即使是体积最大的生物——海蝎子，身长也不过9英尺。这时的记录中，没有任何陆地生物——动物或植物的痕迹，也没有任何鱼类和脊椎动物，实际上，在这段历史时期只有浅水区和潮汐涨落区留下过生命的踪影。今天，如果我们希望具体知道地球上那些动物和植物的模样，只要从岩洞或水沟中取一些水放在显微镜下，我们会发现，视



三叶虫漫画