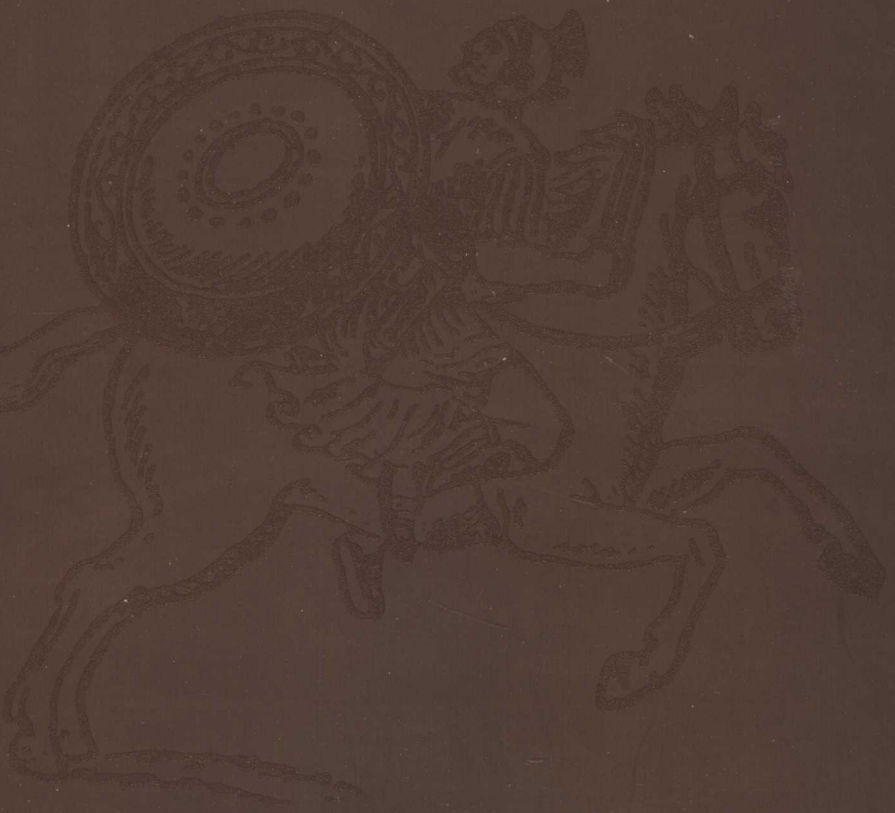
中英对照·图文版

A SHORT HISTORY OF THE WORLD

世界史纲

【英】H.G.威尔士 著
徐建萍 朱凤余 译



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I. 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

圣经中关于创世纪的传说

第 1 章　空间的世界

我们这个世界的历史仍然不完全为人所知。200 多年前，人们还仅仅知道在此之前 3000 年的历史。至于 3000 年以前发生的事情还只是一些传说或者猜测。相当一部分文明世界的人还认为这个世界是在公元前 4004 年被突然创造出来。这个说法还被一代代传承下去。当然，学者们对于这个世界到底是在那年的春天还是秋天被创造出来，意见并不一致，存在争议。很明显，这种见解十分荒谬，它既源于对希伯来经典《旧约》做出拘于字面上的简单解释，也源于对与此相关的武断的神学假设。如今，这些见解早已为神学家所抛弃。人们普遍认为，从各种现象来看，我们生存的这个世界早就存在，而且可能存在了无限久远的年代。当然像在房子两端各安

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 entertained 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,

一面镜子，房子就好像没有尽头一样，这些现象也可能是假象。尽管如此，那种认为我们生存的世界只有六七千年历史的观点，无疑可以看作是彻底被驳倒的谬论了。

现在我们都知道，地球是一个直径 8000 英里（1.28 万公里）的略微有点扁的椭圆形球体，就象橘子的形状。大约 2500 年前，至少有少数学者就已经知道地球是球形的。但是在此之前，人们都认为地球是一个平面，并且人们还用各种在今天看来十分荒诞的说法解释地球与天空、恒星、行星的关系。现在我们知道，地球每 24 小时以地轴（约比赤道直径短 24 英里〈39 公里〉）为中心自转一周，形成昼夜更替；与此同时，地球沿着微微倾斜的椭圆形轨道绕太阳公转，公转一周就是一年。地球与太阳的距离并不总是相同，最近时约为 9150,000 英里（1.47 亿公里），最远距离为 9450,000 英里（1.52 亿公里）。

距离地球 239,000 英里（38 万公里）处，还有一个小星球——月亮围绕着地球运行。围绕太阳运行的星球不止地球和月亮，还有距离太阳 360,000 英里（5800 万公里）和 670,000 英里（1 亿多公里）的水星和金星两颗行星。在地球公转轨道的外围，还有无数呈带状的小星体、小行星，此外，还有火星、木星、土星、天王星和海王星围绕太阳公转，它们和太阳的距离分别是 141 亿英里（2.27 亿公里），483 亿英里（7.77 亿公里），886 亿英里（28.6 亿公里），1,782 亿英

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 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.

从月球上看地球

These figures

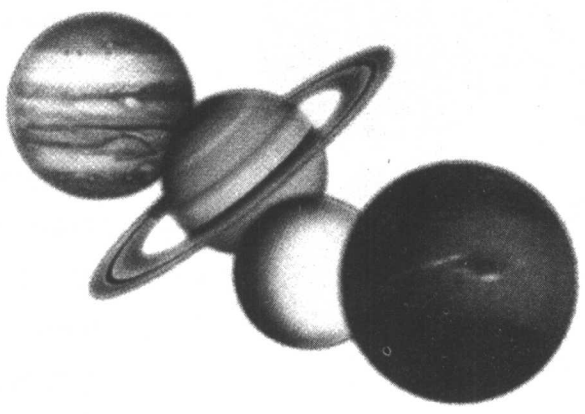
里（44.94 亿公里）和 1,793 亿英里（67.42 亿公里）。对于我们来说，要想理解这些动辄以百万英里计的数字是相当困难的。但如果我们把太阳和其它行星按照一定的比例缩小到可以接受的尺寸，可能会帮助读者更好地理解。

如果我们假定地球是一个直径 1 英寸（2.5 厘米）的小球，太阳就是一个 323 码（295 米）外的直径 9 英尺（2.7 米）的大球，两者相距也就是五分之一英里，步行大约四五分钟。而月球就是一粒离地球约 2.5 英尺（0.76 米）的小豌豆。在地球和太阳之间还有两颗行星，即水星和金星，它们离太阳分别是 125 码（114 米）和 250 码（213 米）。围绕这些星体的是茫茫无际的空间，直到距离地球约 175 码（160 米）外的火星。木星直径 1 英寸（30 厘米），距离地球约 1 英里（1.6 公里）。2 英里（3.2 公里）处有稍小的土星；天王星和海王星在 4 英里和 6 英里（6.4 公里和 9.6 公里）外。再远的数千里外的地方只有细微的尘埃和稀薄的气体。即使按照这种缩小的比例来计算，离地球最近的恒星也要远在 8 万公里之外。

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.



太阳系的九大行星

这些数字，或许会使人们对于生命之剧不断上演的茫茫无际的空间有一个概念。

在这个浩瀚的空间里，我们真正了解的只是生活在地球表面的生命而已。我们居住的地方距离地心有4000多英里（6400公里），而生物生活的空间深入地下不超过3英里（5000米），高出地面也不到5英里（8000米）。显然，其余的茫茫空间只是空洞、无生命的空间。

最深的海洋，其深度也只有5英里（8公里），飞机飞行的最高纪录也刚刚超过4英里（6.4公里）。虽然人们曾经乘气球上升到距离地面7英里（11公里）的高空，但是那是以遭受巨大痛苦为代价的。没有一种鸟类能飞到5英里（8公里）以外的高空，那些随飞机到高空的小鸟和昆虫，还不到这一高度时就会失去知觉。

II. 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

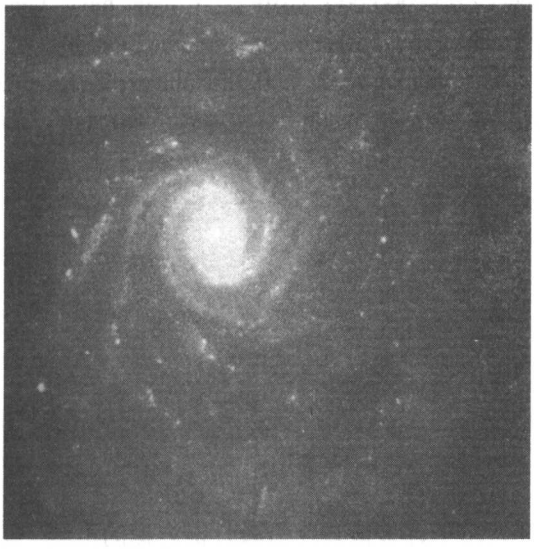
第2章 时间的世界

最近50年里，科学家对地球的年龄和起源已经做出了许多很有价值而且很有趣的推测。在这里，我们不能对这些推测妄加概括，因为其中包涵着许多最深奥的数学和物理学问题。实际上，就现有的物理学和天文学的发展程度而言，对于这些事物的科学研究成果还很难超越解释性的推断和猜想。就目前研究的总体趋势来看，对于我们的地球的估测年龄是越来越长。现在看来，地球在20亿年前就已经独立存在，在自转的同时围绕着太阳运转了。也许实际上地球存在的时间比这更久远，甚至久远得已经远远超出了我们的想象。

在地球分离出来独立存在之前的漫长时间里，太阳、地球及其它围绕太阳运行的其它行星可能是一些由空间中弥漫的物质组成的巨大漩涡。通过望远镜，我们可以看到天空中到处都有

reveals to us in various parts of the heavens luminous spiral clouds of matter, the spiral nebulae, which appear to be in rotation about a centre. 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 aeons that 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 travelled 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.

If we could go back through that infinitude of time and see the earth in this earlier stage of its history, we should behold a scene more like the interior of a blast furnace or the surface of a lava flow before it cools and cakes over than any other contemporary scene. No water would be visible because all the water there was would still be superheated steam in a stormy atmosphere of sulphurous and metallic vapours. Beneath this would swirl and boil an ocean of molten rock substance. Across a sky of fiery clouds the glare of the hurrying sun and moon would sweep swiftly like hot breaths of flame.



涡状星云图

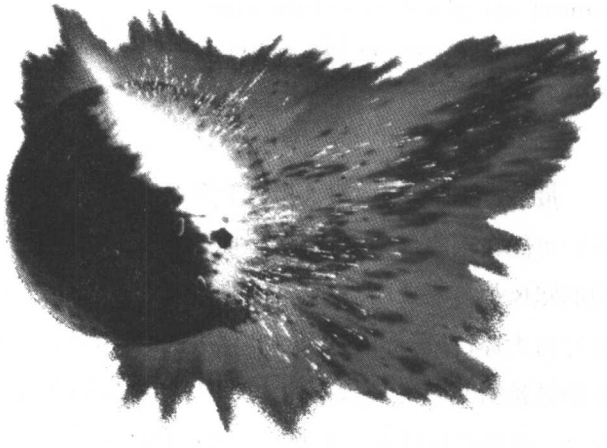
发光的螺旋形云状物质围绕着一个中心旋转，这就是所谓的“涡状星云”。许多天文学家都认为，太阳和它的行星曾经是一种涡状形体，后来慢慢聚结一团成为现在的状态。经过无数次的聚结，经历了极长的时期，也就是我们前面提到的大约 20 亿年前，地球和月球的形状才清晰可辨。那时，它们自转的速度比现在要快得多，离太阳的距离也更近，绕太阳公转的速度也更快，它们的表面可能都在炽热发光或不断熔解着。太阳本身在天空中是一个巨大火球。

如果我们能够回到非常遥远的过去，亲眼去看一下地球的最初状况，我们将看到与现在迥然不同的景象：那时的地球更象是熔炉的炉膛，或者遇冷结块前滚动的岩浆表层。当时还没有水，因为所有的水还只是混合在硫磺蒸汽和金属蒸气中的极热的水蒸气。在大气之下，是一片翻滚沸腾的熔岩的海洋。穿过弥漫着火云的天空，急速运转的太阳与月亮的炫目的光，犹如赤热焰火般飞掠而过。

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



原始地球被大量的行星冲撞，地球受巨大的陨石冲击，环境发生巨变

几百万年过去了，火海那股灼热慢慢地减退了。天空中的蒸汽凝结成雨降落到地面，高空中的气体也越来越稀薄；大块大块凝固的岩石在岩浆的海洋里时沉时浮，和其他漂浮物相互碰撞着。现在，太阳和月亮变得越来越小，它们之间的距离越来越远，它们在天空中运行的速度也渐渐变慢。由于月球体积相对较小，所以很早就从炽热状态冷却下来，它交替遮挡或反射太阳光线，从而形成了日蚀和满月的景象。

地球就这样以极其缓慢的速度变化着，在经历了漫长久远的年代以后，终于越来越接近了现在我们所居住的地球的形状了。当蒸汽遇冷凝结成云，降落在最初的岩石上的第一滴雨在嘶嘶作响。在此后不知多少千万年的岁月里，地球上大部分的水还是以蒸汽的形式存在于空气中；不过终于有一天，这些蒸汽凝结成滚烫的水流奔流在逐年凝固的岩石上，从而形成了池沼湖泊，并把岩石上的岩屑和沉淀物冲刷进去。

might have stood 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.

最后，地球上的一切事物终于都能够满足人类生存繁衍了。如果我们能够参观那时的地球，我们可能头顶急风暴雨，脚踩遍地熔岩，没有一点土壤，没有一草一木。灼热的风暴让今天最可怕的飓风都自叹弗如，当时的倾盆暴雨更是让我们难以想象。那倾盆暴雨夹杂着岩石碎屑，狂怒般冲向大地，冲出一道道深谷和巨大的沟壑，把沉积物冲进最初的海洋。穿过云隙，我们一定能很清楚地看见巨大的太阳驰过太空；随着太阳和月球的运行，地球上不断发生地震及其他地壳运动。而现在只以永久不变的一面对着地球的月球，那时也一定是很明显自转着，偶尔把如今羞于显露给我们的那一面对着我们。

一百万年接着一百万年过去了，地球老了。白天增长了，太阳也渐渐远去，并且变得温和而平静了。月球运行的速度也明显缓慢了；暴风雨的强度减弱了，最初的海里面的水不断增加，从而汇流到大海，成为了此后地球永远穿着的外衣。

然而，当时地球上还没有任何生物，海洋里也没有，岩石上更是一片不毛之地。

III. 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, fibres, 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.

第3章 生命的起源

现在，众所周知，在有记载和传说之前，人类拥有的那些生物知识是从层状岩的生物痕迹和化石中推论出来的。在页岩、板岩、石灰岩、砂岩中，我们发现了大量的骨骸、贝壳、纤维、根茎、果实、足迹和爪印等，它们与最早的潮汐留下的波痕以及最初的暴雨洗刷而成的洼坑同时并存。地球上生物过去的历史，就是通过持续不断地研究这些“岩石记录”而贯穿起来的。今天，这些发现已经成了一种人人皆知的常识。沉积岩并不是一层一层整齐地排列起来的，就象多次被抢劫焚毁后的图书馆的书页一样，它们被折皱、弯曲、挤压、扭曲，并混合在一起，所以需要花费许许多多学者毕生的精力，才能将这些记录整理好，供人阅览。据现在估计，这些岩石记录着大约16亿年的历史。

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 first distinguishable on earth has left us no traces of life. There are ripplings 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 Palaeozoic age. The first indications that life was astir 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

古生代早期的三叶虫化石

地质学家们称地质记录中最古老的岩石为原生岩，因为从这里看不到任何生命的迹象。北美洲有很多裸露着的原生岩，地质学家们认为它们的厚度至少可以向我们展现 8 亿年的历史，即全部地质记录 16 亿年的一半。现在让我再重申一下这个事实的重大意义：这说明自陆地和海洋分离至今的至少一半时间里，地球上没有出现过生物。因为，尽管这些原生岩上留有许多潮汐和暴雨的遗痕，但是却没有任何生物的痕迹或遗迹。

顺着记录追寻下去，我们看到先前生命的痕迹出现，并且逐渐增多。地质学家把这个能够看到古生物痕迹的时期叫做古生代早期。生命开始的最初迹象是比较简单的低等生物，如小贝壳、植物状动物（如珊瑚、海绵等无脊椎动物）的茎和花状头、海藻、海虫和甲壳类动物的足迹和遗骸。最早出现的动物是一种形态类似蚜虫的动物，它们能像蚜虫一样把身体蜷曲成球状，会爬