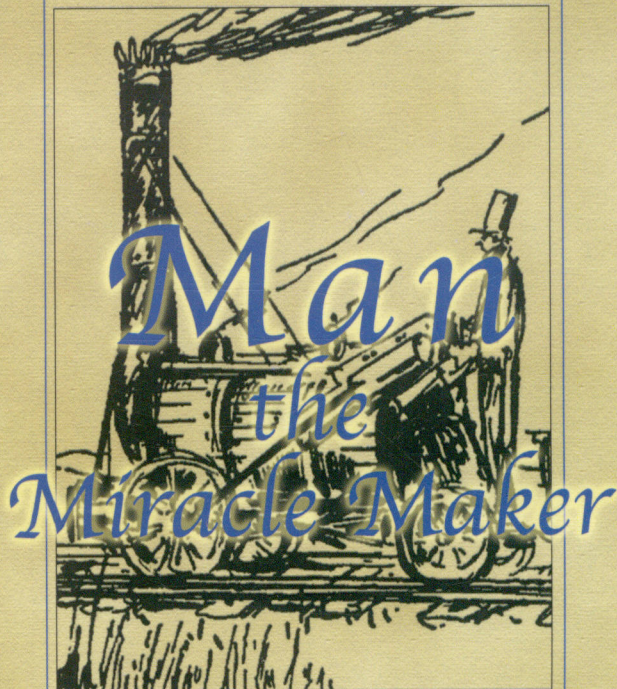


中英双语本



[美] 房龙 著 秦立彦 译

发明的故事

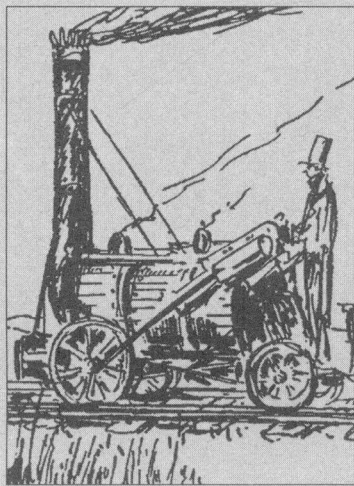


GUANGXI NORMAL UNIVERSITY PRESS

广西师范大学出版社

[美] 房龙 著
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Man The Miracle Maker



发明的故事



广西师范大学出版社

• 桂林 •

本书根据 Man the Miracle Maker
(HORACE LIVERIGHT·INC, 1928)译出。

图书在版编目(CIP)数据

发明的故事/(美)房龙著;秦立彦译. —桂林:广西师范大学出版社, 2006. 1

ISBN 7-5633-5823-4

I. 发… II. ①房… ②秦… III. ①人类学-普及读物
②世界史-普及读物 IV. ①Q98-49 ②K109

中国版本图书馆 CIP 数据核字(2005)第 136243 号

广西师范大学出版社出版发行

(桂林市育才路 15 号 邮政编码:541004)
网址:www.bbtpress.com

出版人:肖启明

全国新华书店经销

发行热线:010-64284815

山东新华印刷厂临沂厂印刷

(临沂高新技术产业开发区工业北路东段 邮政编码:276017)

开本:889mm×1 194mm 1/24

印张:8.25 字数:265 千字

2006 年 1 月第 1 版 2006 年 1 月第 1 次印刷

印数:0 001~7 000 定价:20.00 元

如发现印装质量问题,影响阅读,请与印刷厂联系调换。
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作者简介

房龙 (Hendrik Willem van Loon, 1882 - 1884), 裔美国著名通俗历史学家。善于用轻巧俏皮的文字, 撰写历史、文化、文明、科学等方面的通俗历史著作。向人类的无知与偏执挑战, 将知识与真理普及为人所共知的常识。一生中出版了三十余种书籍, 单枪匹马地将人类各方面的历史几乎全都复述一遍。其中《宽容》、《人类的故事》、《房龙地理》(即《人类的家园》)等畅销著作, 影响了几代人。

郁达夫曾说, 房龙的笔有一种魔力, 枯燥无味的科学常识经他那么一写, 无论大人小孩, 读他书的人都觉得娓娓忘倦了。

内容简介

一提到发明, 你可能立刻想到飞机、火车, 但本书要讲的是那些最基本的发明: 第一件衣服、第一根绳子、第一座桥、第一只碗等, 这些今天看来简单至极的东西, 最初却是最不容易被发明的。

普通动物也有简单的“发明”, 但人类的发明与之有天壤之别。在残酷环境的逼迫下, 人尽可能地运用大脑, 逐渐懂得把手、脚、嘴、眼、耳等身体器官中蕴藏的力量无限扩大, 如用棍棒扩大手的力量, 用轮子扩展脚的功能, 用飞行器将人的身体牵引到空中等, 这些发明创造实际是人的身体的延伸。从找到第一件兽皮、第一个洞穴遮体避寒, 到建造房屋、发明各种机械, 人是如何创造这些奇迹的?

房龙妙笔讲述人类发明的秘密。

简洁优美的英文和忠实流畅的中文对译, 再配上房龙亲手绘制的插图, 将给你的阅读带来无穷乐趣。

房龙经典作品双语版

宽容

[美]房龙 著 秦立彦 冯士新 译

人类的故事

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太平洋的故事

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发明的故事

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[美]房龙 著 秦立彦 译

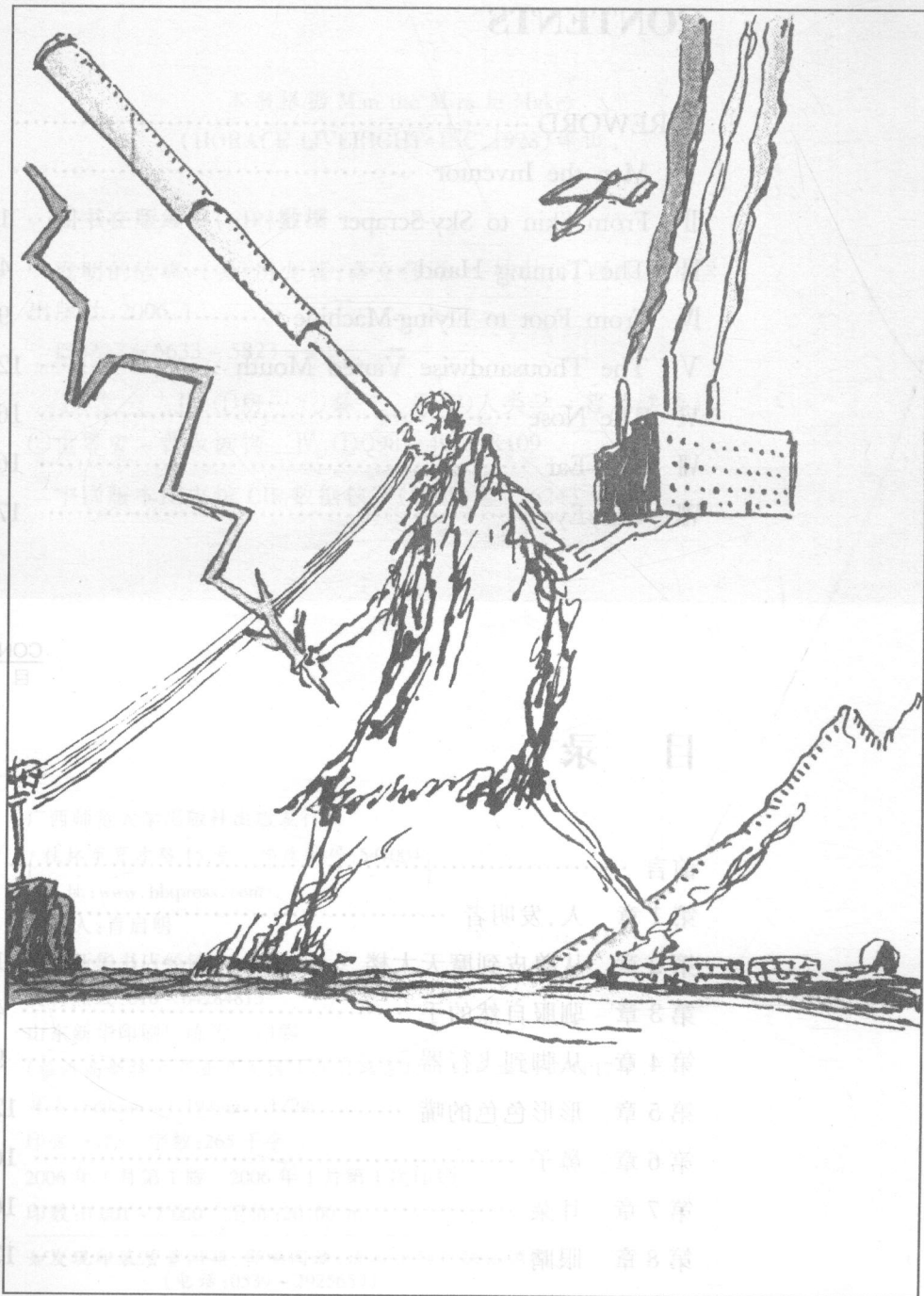
责任编辑 / 王 强

装帧设计 / 蔡立国

制 作 / 于 宁

杨 雷

<http://www.bbtbook.com>



万能的人

Foreword

In the beginning everything was very simple. The earth was the center of the universe. Heaven was a large dome of beautiful blue glass.

At night the little angels pricked holes through that dome and behold! There were the stars.

But one day a courageous man, armed with a threepenny telescope, climbed to the top of a tower and took a long and serious look.

From that moment on there was trouble.

First of all, the sun had to be requested to move to the center of the universe. Next it was discovered that our farfamed solar system was not a “universe” at all but a mere insignificant detail of a mysterious and vast project which in turn was an even more insignificant detail of an even more mysterious and vaster plan which was vaguely supposed to be an absolutely insignificant detail of an out-of-the-way corner of the Milky Way.

These revelations caused great perturbations not only among the theologians but also among the mathematicians and astronomers. Thus far they had been able to measure the distance between the earth and the moon and even that between the earth and the nearest planets with the help of kilometers and miles.

But now, when the famous old human “cosmos” had quite unexpectedly grown into something

前言

开始时,一切都很简单。地球是宇宙的中心,天是美丽蓝玻璃做成的巨大穹庐。

晚上,小天使在这穹庐上捅出洞洞儿。看哪,那就是星星。

但是有一天,一个勇者拿着一个三文钱的望远镜,爬上高塔,严肃地遥望了一眼。

从那一刻起,麻烦来了。

首先,得请太阳进驻宇宙的中心,然后人们又发现,我们著名的太阳系根本不是“宇宙”,只不过是某个神秘庞大系统的微不足道的局部,这个大系统反过来又是一个更神秘、更庞大的系统的更微不足道的局部,后者又似乎是银河系偏远一角极其微不足道的细节。

这些发现不仅在神学家中,也在数学家、天文学家中掀起了轩然大波。以前他们还能用公里、英里测量地球与月球的距离,甚至地球与最近的行星之间的距离。

但现在,著名而古老的人类“宇宙”蓦然扩大了,而不再只是某东方圣书某章中方便的

more important than a convenient stage-setting for a chapter in one of the holy books of the East; when it was gradually becoming evident that there existed stars of such incredible size that the greater part of our own solar system could be hidden inside their bellies without inconveniencing the patients in the least; when the zeros which had sufficed for the simple calculations of our great-grandfathers were multiplying themselves trillion-and quadrillion-fold; it was felt that the time had come to devise a new geometrical standard which should keep the astronomers from wearing out their elbows while handling their slide-rules.

For this purpose the so-called “astronomical unit” of 92,900,000 miles was established. It represented the mean radius of the earth’s orbit, and it was a handy enough yard-stick, as long as one did not venture too far away from home.

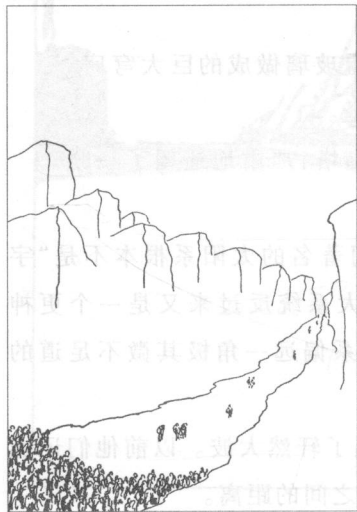
But once among the real stars (the big ones, not the little fellows which are our own neighbors) such “astronomical units” became mere trifles, and it was necessary to think of something a little more substantial than a paltry 92,900,000 miles.

Just then Albert Michelson was experimenting with light and had figured out that a ray of light (of course it is sheer nonsense to speak of “rays of light,” but I am using the word because we are still so hopelessly involved in the poetic nomenclature of the Romantic Period that centuries will have to elapse before we shall be able to think in the terminology of the Age of Science)—as I was saying, just then Michelson had discovered that light is a substance which moves at the rate

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MAN THE MIRACLE MAKER C

舞台布景。人们越来越明白,存在着大得难以置信的星球,太阳系大部分都能装进它们肚子里,它们却不会有丝毫不适。我们的祖先进行简单计算时用的那些“0”,现在要翻上万亿倍或者万万亿倍。这时,人们感到,应该制定一个新的几何级数标准,才能让天文学家在用计算尺时,不至于磨破胳膊肘。



于是确立了 9290 万英里这个所谓的“天文单位”。它代表地球公转轨道的平均半径。只要你离家不是太远,这就是个方便的标尺。

但一旦到了真正的星星中(即那些大星星,而不是我们周围这些小家伙),这个“天文单位”就变得一无是处了。必须得想出比可怜的 9290 万英里更实在点儿的东西。

当时,阿尔伯特·迈克耳孙正在做光学实验。他发现一条光线(当然,说“多条光线”纯粹没有意义,但我用这个词,是因为我们仍然绝望地纠缠在浪漫主义时代的诗

of speed of 299,820 km. per second, and this gave some one a bright idea. By multiplying 60 seconds with 60 minutes, the result with 24 hours and this result with 365 days, he came to the agreeable conclusion that light traveled something like 10,418,623,400,000 km. per year. This distance was then called a "light year" and became the tape-measure of the modern heavens.

At first it seemed that now everybody would be happy. Before the introduction of the "light year" Centaur, our nearest neighbor among the stars was 25,000,000,000,000 miles away from us. Afterwards it was possible to say offhand: "Centaur? Oh, yes, a mere 4.35 light years away from us. Almost too close for comfort!"

But alas, the appetite of the astronomers for distances was insatiable. They discovered nice little orbs situated at a distance of twenty or thirty thousand "light years." Then they made a bold dash for the nebulae, those luminous spots which remind us of microbes seen underneath a microscope, and they figured out that some of them were situated at distances which varied between two and three million light years.

Then, even the "light year" became just a trifle ridiculous.

But who would give us something better?

Now all this is not spread before your admiring eyes for the mere purpose of showing you that I am either a man of profound erudition or a person lucky enough to have acquired an Encyclopædia Britannica on the installment plan. I am playing these few chords on the instrument of eternity to

意用语中,恐怕要过几个世纪,才能用科学时代的术语来思考)——我说的是,当时,迈克耳孙发现,光这种物质是以每秒 299,820 公里的速度传播的。他灵机一动。60 秒乘以 60 分钟,再乘以 24 小时,再乘以 365 天。他得出了一个漂亮结论:光每年能走大约 10,418,623,400,000 公里。这个距离就被称为“光年”,成了衡量现代天空的尺度。

一开始似乎皆大欢喜。在引入“光年”之前,星群中我们最近的邻居半人马座,离我们有 25×10^{12} 英里远。今后我们就可以满不在乎地说:“半人马座?啊,对了,不过离我们 4.35 光年。近得几乎叫人不舒服!”

但是,哎,天文学家对距离的胃口是无法餍足的。他们发现了 2 万或 3 万“光年”远的漂亮小星球。然后他们勇敢地冲向星云(那是些发光的小点,让人想起显微镜下看到的微生物)。他们发现,有些星云距我们是 200 万到 300 万光年。

于是,甚至“光年”也变得有点荒谬可笑了。

但谁又能给我们更好点儿的东西?

我把这些摆在你莫名惊诧的目光前,可不光是为了向你显示我学识渊博,或者我刚通过分期付款,幸运地买到了一套《大不列颠百科全书》。我在“永恒”这件乐器上弹出这几条和

sound a note of warning in regard to the rest of this book.

When the earth was rudely deprived of her favored position as the "center of the universe" there were those who thought that man, too, was about to be pushed from that high pedestal upon which, by right of eminent arrogance, he had placed himself as soon as he had ceased to walk on all fours. Surely within a universe composed of tens of thousands of nebular spots, each of them bigger than a couple of millions of square light years, man would feel himself reduced to such infinitesimal proportions of insignificance that he would cease to boast about his divine origin and would begin to see himself as what he is—a fairly clever animal and nothing else.

But soon it became evident that such a change in his mental attitude was impossible, that a fire in his own back yard would always be of much greater importance to him than a disastrous volcanic eruption on reddish Antares (which has a diameter of 640,000,000 km.), and that a suspicious knock emanating from the cylinder of his own car meant vastly more to him than the rumor that Betelgeuse (the only fixed star that ever succeeded in breaking into the Sunday supplements, through sheer weight and bulk) was threatened with extinction. Not to forget that dreadful throb in his wisdom tooth which would fill him with a much more profound apprehension for the immediate future of the human race than the information that the faithful old moon was about to join her five former, sisters in oblivion.

And perhaps that was just as well.

For while the astronomers were extending and enlarging the universe until it threatened to

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MAN THE MIRACLE MAKER C

弦,是为了提醒你注意本书的余下内容。

当地球被粗鲁地剥夺了“宇宙中心”的优越位置,有人觉得人也要被从高位上推下来了(自从人不再爬行,他就以极端的傲慢,把自己放到了这高位上)。宇宙中有几万个星云,每个星云都有200万平方光年那么大。在这样一个宇宙中,人当然会觉得自己无比渺小,不会再自吹是出自神造,而是会开始看出自己的本来面目——他不过是个比较聪明的动物而已。

但很快人们就明白了,要让人的精神状态发生这一变化是不可能的。他自己后院的火灾,比发红的天蝎座心宿二上的火山爆发之灾(该星球直径有6.4亿公里),要重要得多。从他汽车汽缸传来的可疑响动,比猎户座参宿四也许会毁灭的谣言(这是唯一一颗进入周日报纸副刊的恒星,因为它又重又大),要重要得多。也不要忘了,他的智齿的可怕一跳,会让他对人类即将面临的未来忧心忡忡,他听说忠诚的月球老人,也要像她以前的五姐妹一样沦入虚无时,也不会如此忧心忡忡。

也许就该如此。

当天文学家让宇宙伸张、扩大,直到它无边无际,甚至显得诡异,这时,还有一些科

become grotesquely infinite, other scientists were tackling the atom and by reducing that hapless mite to smaller and ever smaller proportions, they finally discovered a world of infinitesimally small particles which on a scale of $1/100,000,000,000,000$ of a millimeter disported themselves with the regularity and precision of so many full-fledged, ultramicroscopic solar systems and performed such marvels of abbreviated balancing and counterbalancing that the average brain, in ever increasing whirls of dizziness, was forced to refuse to believe such things possible or go stark mad.

No, it was just as well that man should remain the center of the universe. At least, until that day when he shall have acquired a real brain.

Nevertheless revelations of this sort were bound to have some influence, however slight, upon the attitude of the human race towards the problems of life, and the hero whom you will meet within the pages of this book will prove very different from the patriarch of ancient days, who considered that he had been appointed chief beneficiary of all creation and as such could slay and murder and maim all his neighbors of the animal kingdom and that the universe had no other purpose than to cater to his wants and supply his manifold needs.

He may be the beginning and the end of all things (as he has been told for thousands of years) but in his heart of hearts he is beginning to doubt it, and he is gradually commencing to suspect that there is no beginning and no end, that the "here and now" of a million years ago was pretty much the same as the "here and now" of to-day or the "here and now" of a billion years hence.

学家则在对付着原子,把那可怜的小不点分割得越来越细,最后发现了一个由极小的粒子构成的世界。这些粒子在 $1/100,000,000,000,000$ 毫米的尺度上嬉戏,就像很多成熟的、望远镜都看不见的太阳系那么规则、那么准确。这些粒子还表演着在瞬间平衡、再平衡的绝技。面对这些,一般人的头脑会越转越晕,只能拒绝承认有这种事,或者干脆发疯。

不,还是让人仍作宇宙的中心吧,至少到他具备真正大脑的那一天。

但这类发现注定会影响人类对生活问题的态度,不论这影响多么微小。你在本书中要遇到的主人公,跟古代的长老截然不同。那些长老觉得万物都是供人驱使,因此人可以屠杀、伤害动物界的所有邻居;宇宙只是为了满足人的需求,供应人的各种需要,此外别无目的。

人也许是万物之根本(千万年来人们一直是这样告诉他的)。但在内心深处,人开始怀疑了。他开始逐渐觉得时间是无始无终的,100 万年前的“当下”,跟今天的“当下”、10 亿年后的“当下”差不多。

他也许是一切生物中完美度的最高峰,但他宁愿暂时不下结论,而先去看看在其他

He may be the highest summit of perfection among all living matter, but he prefers to suspend judgment until he shall have discovered what sort of life has developed on some of the other billions of stars which keep him company on his voyage through space.

In short, after a detour of several thousand years, he dares once more to be conscious of that noble classical ideal which summed up the philosophy of the desirable life in the magnificent words:

"We are all of us merely human beings and nothing pertaining to the universe we think foreign to us or unworthy of our attention."

Basing his right of inquiry upon the patent royal of an almost sublime curiosity (that was bestowed upon him on the day of his birth), the hero of this book intends to pry into every corner, to explore every region, to investigate the hidden meaning of every phenomenon which comes within the reach of human reason and to do this without respect for anybody or anything beyond the limits laid down by that demonstrable truth which shall be the corner-stone of our future development.

If he prove to be successful in his search, he shall let his neighbors know without pride. If (for the moment) he find himself baffled by the difficulties that confront him, he shall confess his defeat without shame and shall leave it to others, better equipped than himself, to try again.

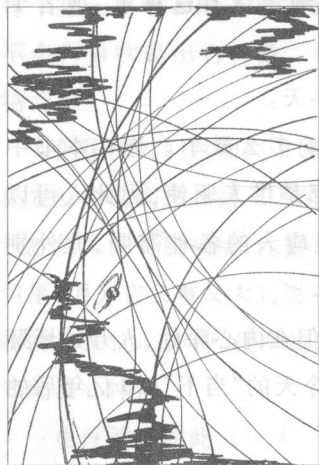
Above all things, he shall say "yes" to Life and, armed with patience and forbearance and good-natured humor, he shall relentlessly push forward into the realm of the unknown until the little drop of energy which he has borrowed for a short space of time shall be needed for some other purpose,

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MAN THE MIRACLE MAKER ©

数以亿计的星球上有怎样的生命(那些星球是他在太空旅程中的伴侣)。

简言之,经过几千年的迂回之后,他敢于再次体会那崇高的古典理想,它庄严地总结了理想人生的哲学:



太 空

“我们都只是人。我们认为,与宇宙有关的一切,都与我們有关,都值得我们关注。”

他把探索的权利建立在与生俱来的崇高好奇心这一“皇家专利”上。本书的主人公试图挖掘每个角落,探索每个地区,研究人类理性范围内每一现象的深藏意义。他将不盲信任何人、任何事,除了可证实的真理所立下的那些规矩,这些规矩是我们未来发展的基石。

如果他探索成功,他将谦逊地让邻居们知道。如果(暂时)他发现被面临的困难所阻,他将无愧地承认失败,把这留给比他更有本领的人再去尝试。

首要的是,他肯定生活,以耐心、隐忍、善意的幽默,无畏地踏

when he expects to surrender the loan without a single word of regret, as he has learned that both life and death are but expressions of one and the same idea and that nothing really counts in this world except the courage with which the individual dares to attack the one problem to which there is no definite solution, the problem of existence.

All this, I know, sounds rather complicated.

But it is not half as complicated as you think, if you will only read it rather slowly and try it again a couple of times.

Those who find that job too much for them had better drop the book right here. They would soon be bored and annoyed and they would wonder what it was all about and why it was ever written and they could employ their time much more profitably by going to the movies.

But as for the others, those who have already guessed what I am driving at, they too are not in need of any further introduction. They will understand that while I may not have solved any problems definitely, I have tried very, very hard to show them how certain things happened to happen the way they actually happened because that was the only way they could possibly happen, and along which lines we may hope for the ultimate emancipation of mankind from that cruel tyranny which for so many hundreds of thousands of years has turned this earth into a shambles and which was the direct and inevitable outcome of man's cowardice when face to face with his prejudices and his ignorance.

人未知王国,直到他借用了一刹那的那一小滴能量,要被用在别的用途上了。那时他将毫无怨言地退还这借来的生命,因为他明白,生与死都只是同一思想的表达。实际上,在这个世界上一切都不重要,重要的只是个人敢于面对一个问题的勇气,这就是存在的问题,它没有明确的答案。

我知道,这一切听起来有点儿复杂。

但如果你慢慢读,并再试着读几次,实际它不及你设想的一半复杂。

如果谁觉得这个任务太重了,那他最好现在就放下这本书。他们将很快觉得无聊、恼火,并且会想,这说的都是什么,为什么写这么一本书。他们可以去看电影,更好地消磨时间。

但对另外一些已猜到我用意的人,他们也无须进一步的介绍了。他们明白,我也许没有明确解决什么问题,但我非常、非常努力地告诉他们,为什么一些事情那样发生,因为那是唯一可能发生的方式。沿着这些路线,我们可以指望最终解放人类,为他推翻那可怕的“暴政”。多少万年来,这一“暴政”让地球乱成一团,它的必然而直接的原因,就是人不能勇于直面自己的偏见和愚昧。

And now one final word.

The great work of delivery will never be accomplished without steadfast and unselfish service on the part of a small band of chosen pioneers.

Some of my readers may even suspect that I want them to be among the leaders whose praises are sung within the pages of this volume.

Their suspicions would be correct.

For that, on the whole, is why I wrote the present book.

H.v.L.

Veere. August 31, 1928.

最后说一句。

如果没有一小群先驱者坚毅、无私的奉献，这一伟大解放事业将永不会成功。

有些读者甚至会觉得，我想让他们成为本书中歌颂的那种先驱。

他们猜对了。

因为，总的来说，我撰写此书的用意正在于此。

亨德里克·威廉·房龙

威尔 (Veere) 1928 年 8 月 31 日

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Man the Inventor

The event did not cause much of a stir in Heaven, for the new recruit for stellar honors was so hopelessly insignificant that none of the older stars, which lived in a distant and more respectable part of the universe, were able to notice the arrival of their little brother, unless their inhabitants (as seems hardly likely) were possessed of better telescopes than those which to-day stand in our own observatories.

I do not, mean to imply that we shall never be able to venture forth into space and pay an occasional visit to other parts of the firmament. But it is doubtful whether any of the other planets

第1章 人,发明者

这件事在天空中没有引起什么波澜，因为这个新近荣升的星球实在渺小得可怜，那些比较老资格的住在宇宙“贵人区”的遥远的星星，根本没注意到这个小兄弟的出场——除非它们那里的居民所拥有的望远镜，比我们今日天文台中的更先进，而这似乎不太可能。

我并不想暗示说,我们永不会踏入太空,偶尔拜访一下天空中别的地方。但很难说那些星球是否都适于人类永久居住。因为,它们或者根本无法居住(我们太阳系的大部分恒星似

would lend themselves for the purpose of permanent settlement by denizens of the earth. For either they are altogether uninhabitable (as most of the planets of our solar system seem to be) or if they have developed a life of their own, it must be much older than that which exists on our own floating prison and we should be very much out of place in a country which had started to learn the rudiments of civilization one or two million years before ourselves.

And that reminds me of something that has puzzled me for a long time.

Why are people so tremendously interested in detective stories?

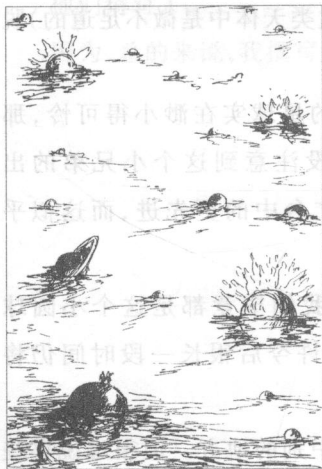
"It is the mystery that attracts them," is the usual answer, or "It is the fascination of watching a single vague clew develop into an iron chain of incontrovertible evidence."

For all I know, that may be the true reason. But in that case I wonder why more of them don't take up the study of geology, for the story of our planet is one endless series of the most magnificent riddles and only a few of them have thus far been solved. The others obstinately refuse to divulge their secrets, but in all fairness to them it should be said that there is not a single one among all these various puzzles to which there is not a key.

The people of ancient times knew this and they forced the rocks and the plains which were their home to tell them a great many things about their origin and their early past, which were of tremendous importance. But their successors, the humble folk of the Middle Ages, although they were great heroes on the field of battle, were terrible cowards within the Realm of Reason. They asked no

乎都是如此),或者,如果它们已出现自己的生命形式,那必定比我们这漂浮监狱上的生命古老得多。也许在我们之前一两百万年,它们就已有文明的萌芽,在那种地方我们是格格不入的。

这让我想起令我长期困惑的一件事。



我们漂浮的牢狱

人们为什么如此热衷侦探小说?

通常的回答是,“是那谜团吸引着他们”,或者“是看着一条模糊的线索发展成一连串铁证,所以着迷”。

据我所知,也许的确如此。但我在想,为什么没有更多人来研究地质学,因为我们这个星球的故事,就是一长串最引人入胜的谜。迄今为止只有几个有了答案,剩下的仍固守着秘密。但我们对它们要公平。我们要说,这些各种各样的谜团中,没有一个是全无线索的。

古人就知道这一点。他们迫使自己居住的岩石、平原,说出关于人类起源和早期历史的很多事情,这些都是至关重要的。但他们的后人——谦恭的中世纪人——尽管作战