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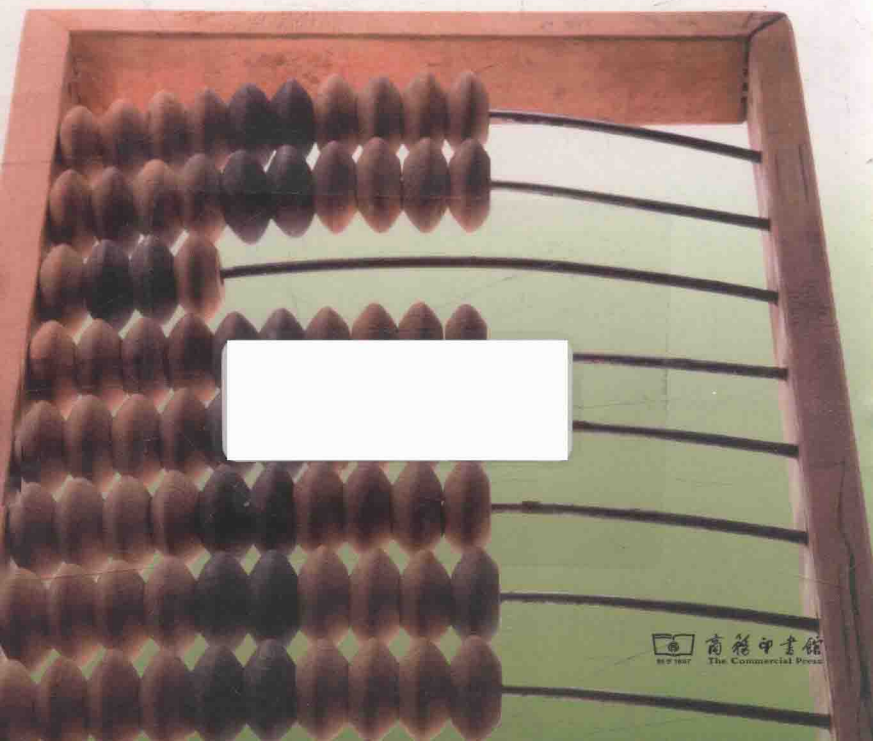
了不起的数学家

Amazing Mathematicians

[英] Anna Trewin 编

2级

英语注释



商务印书馆
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第2级

了不起的数学家(英语注释)

[英]Anna Trewin 编

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出版前言

商务印书馆自创立以来，始终以“昌明教育，开启民智”为己任，致力于翻译西学、沟通中外，坚持以高质量的出版物促进文化交流，以传播先进思想推动社会进步。近年来更是加大了外语学习读物的出版，如推出“莎翁戏剧经典”丛书、“阿加莎·克里斯蒂经典侦探作品集”系列等，此次引进“柯林斯名人故事集”系列是我馆开发英语学习读物的又一成果。

本系列丛书的英文原书由英国柯林斯出版社按照柯林斯 COBUILD 分级标准，邀请英国语言和文学专家改编而成，每一级均对照欧洲语言教学大纲（CEF）相应级别，是适合初级至中级水平英语学习者的英语读物。

本系列丛书分为四级，每级 5 册，共 20 册，每册集中介绍一个领域的 5—6 个著名人物。正文部分用简明清晰的英文以第一人称讲述人物生平故事，并以脚注形式提供重点词汇的词性和释义；文后附英汉对照的人物生平大事记；书后附英文词汇表，供读者了解本书重点词汇详细的英文释义。

此外，每本书均提供点读笔和二维码音频下载功能。

希望这套“柯林斯名人故事集”丛书能够帮助读者在学习英语的同时了解人类历史上各个领域最杰出、最有影响力的人物，在提高英语能力的同时，走出一条成功的人生之路。

商务印书馆编辑部

2016年9月

Introduction

引言

“柯林斯名人故事集”包含一系列简短的故事，每册介绍五至六个著名人物的生平，这些人的一生及他们的成就深刻地影响了今天的世界。所有故事都精心分级，以确保读者既可以享受阅读，又能从中受益。

你可以从头至尾阅读本书，也可以直接翻看自己喜欢的人物故事，每一个故事都是完全独立的。

每个故事后面都附有一个简短的年表，集中介绍该人物一生中最重要的事件，年表可以有效地帮助你复习刚才看过的内容。

超过本册阅读水平的单词第一次在每个故事中出现时都标有下画线，该书末尾的词汇表列出了所有画线单词的释义。第1级和第2级的释义来自 *Collins COBUILD Essential English Dictionary*，第3级和第4级的释义来自 *Collins COBUILD Advanced English Dictionary*。

为了给老师和学习者提供支持，以下网站提供了更多资料：www.collinselt.com/readers。

The Amazing People Worldwide

“柯林斯名人故事集”根据 The Amazing People Worldwide 出版的原始文本改编而成。The Amazing People Worldwide 是一个教育出版机构，于 2006 年由教育心理学家、管理学家查尔斯·马杰里森博士成立，出版纸质书、电子书、音频书、iBook 图书和视频内容，让读者可以“面对面”接触全世界各领域，如艺术、科学、音乐、政治、医学和商业等领域最鼓舞人心、最有影响力的人。

The Grading Scheme

分级标准

柯林斯 COBUILD 分级标准是根据当下最新语言使用信息设置而成，每一级都有全新的语法和词汇综合框架，确保本系列完全符合读者的英文水平。

		欧洲语言教学大纲 (CEF) 级别	页数	词汇量
第 1 级	初级	A2	64	约 700
第 2 级	中级初阶	A2-B1	80	约 900
第 3 级	中级	B1	96	约 1,100
第 4 级	中级进阶	B2	112	约 1,700

欲知柯林斯 COBUILD 分级标准（包括每一级的完整语法结构）的更多信息，请参见：www.collinselt.com/readers/gradingscheme。

在线资料还包括：通过在线测试英语水平，了解自己的分级，测试网站：www.collinselt.com/readers/levelcheck。

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Galileo

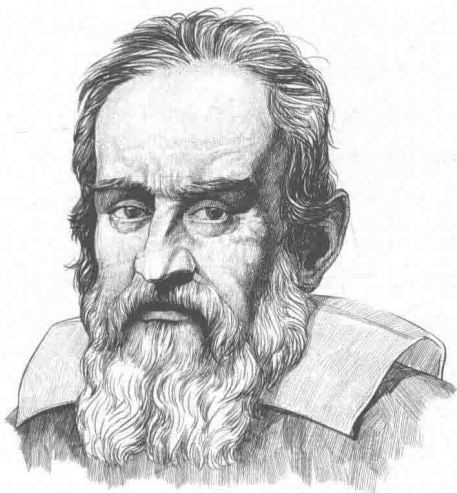
伽利略

1564—1642

the man who believed the Earth went around the Sun
坚信地球围绕太阳运动的人



本节朗读音频



I believed that the Earth orbited^① the Sun. People were afraid of my theories^② at the time and called me a heretic^③. But now they call me ‘The Father of Modern Science’.

I was born in Pisa, Italy, in 1564. I was the oldest of six children, but unfortunately, only three of us survived^④ childhood. My father, Vincenzo Galilei, was a well-known musician and he called me Galileo. When I was 8 years old, my family moved to Florence. But they left me behind in Pisa, in the care of a relative. In 1574, I joined my family. When I was 11 years old, I was sent to the Camaldosee Monastery school in the town of Vallombrosa,

① orbit *v.* 围绕…运动, 沿着轨道运动 ② theory *n.* 理论 ③ heretic *n.* 异教徒 ④ survive *v.* 生存, 存活, 幸存

just outside Florence.

My father wanted me to be a doctor. So, after I finished school, I went on to study medicine at the University of Pisa. However, I soon decided that medicine was not the right career for me. I was much more interested in mathematics, physics and the arts^①. So I spoke to my father and he let me change my course to mathematics and natural philosophy^②.

One day, while I was at the university, I noticed something interesting. I was looking up at the ceiling and watching a lamp swinging – or moving from side to side. The length of the lamp's swing from side to side changed with the wind coming through the open window. I noticed that the lamp always took the same number of seconds to complete its swing from one side to the other.

When I returned home, I set up two pendulums^③ and carried out^④ some experiments. Soon I realized that I had discovered a truth – that all things swing at the same speed. This was later called ‘the law^⑤ of the pendulum’ and it was used to make clocks.

I left university in 1585 without a degree and began working as a teacher in mathematics. I also taught drawing to students at the Academy of the Arts of Drawing in Florence. By now, I loved ‘the beauty of numbers’. I was also very interested in how the weight^⑥ of an object could be measured^⑦ using a balance^⑧. I created^⑨ a thermoscope – an instrument^⑩ which shows changes in temperature^⑪. This was later developed into the thermometer^⑫,

① art *n.* 艺术 ② philosophy *n.* 哲学 ③ pendulum *n.* 钟摆 ④ carry out 实施 ⑤ law *n.* 定律 ⑥ weight *n.* 重量 ⑦ measure *v.* 测量 ⑧ balance *n.* 天平, 秤 ⑨ create *v.* 创建, 创造 ⑩ instrument *n.* 仪器 ⑪ temperature *n.* 温度 ⑫ thermometer *n.* 温度计

which measured changes in temperature. In 1586, I wrote my first book. It described the design for a ‘hydrostatic balance’ – a device^① which weighed objects using air and water. I called the book *The Little Balance*.

Life was going well for me. But I wasn’t earning a lot of money from private teaching. I needed to get a university job that paid a good salary. So I applied for teaching jobs at Sienna, Padua and Bologna universities. But I wasn’t successful – probably because I didn’t have a degree. Then, in 1589, I was offered the job of Chair^② of Mathematics at the University of Pisa.

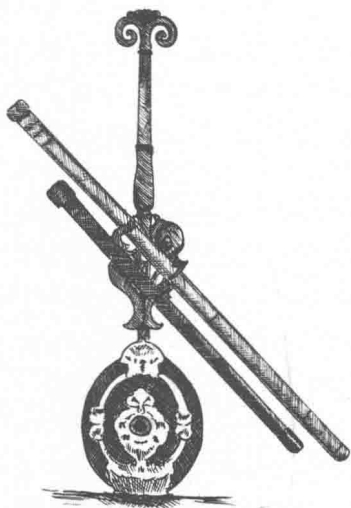
At Pisa, I began to doubt Aristotle’s theories about objects which fall. Aristotle – a Greek philosopher^③ – believed that the weight of an object decided^④ its speed when it fell. So I decided to carry out a simple experiment. I climbed to the top of the Leaning Tower of Pisa and I dropped balls of different weights to the ground. The balls were of different weights, but the same size. They all hit the ground at the same time. After this, I wrote my book called *On Motion*. In it, I said that the speed of objects which fall depends on their shape and size, not on their weight as Aristotle said. In the future, I said, a theory had to be tested before it was accepted.



In 1591, my father died. I had to look after my brothers and sisters because I was the oldest child. This meant I needed to find work which paid a better salary. So from 1592 until 1610, I was

① device *n.* 设备, 装置 ② chair *n.* (大学的)系主任 ③ philosopher *n.* 哲学家 ④ decide *v.* 决定

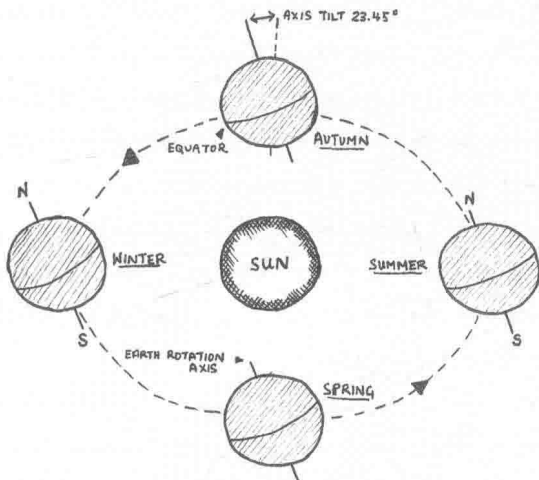
Professor of Mathematics at Padua University. The job allowed me to teach, think and do many experiments.



Galileo's telescope

During my time at Padua, I invented^① a water pump. I also invented a military compass – a device used by the army to plan battles. In 1609, the Italian scientist Paolo Sarpi wrote to me. He told me about a new invention^② in Holland called a ‘telescope’. It was a device which magnified things – it made them look much bigger. The telescope allowed astronomers^③ to look much more closely at the stars and planets in the sky. In a short time, I had developed its design. I called my telescope, ‘Perspicillum’. Perspicillum could make the planets look eight times bigger than their normal size.

① invent *v.* 发明 ② invention *n.* 发明 ③ astronomer *n.* 天文学家



Galileo believed that the Earth orbited the Sun

In 1610, I wrote a book called *Starry Messenger* about the discoveries that I'd made with my telescope. It described the mountains of the moon, as well as Jupiter's brightest four moons. In that same year, I also discovered the 'Phases of Venus' – the changes of Venus's light caused^① by the Sun. As I continued to use Perspicillum to study the planets, I began to ask questions about an important religious^② belief^③. In the 17th century, everyone believed the Earth was the centre of the universe. People thought that the planets and the Sun orbited around us. But my telescope showed me that the Earth and other planets orbited the Sun.

In 1611, I became Chief Mathematician at the University of Pisa. There, I wrote my *Discourse on Floating Bodies* and *Letters on*

① cause *v.* 使发生, 导致 ② religious *adj.* 宗教的 ③ belief *n.* 信仰

Sunspots^①. I also described my theories about the Earth and Sun to the Grand Duchess Christina of Tuscany. The letter was sent to Christina in 1615 but not published until 1636. When they read my letter, the priests of the Catholic^② Church in Rome became very angry. I agreed with the beliefs of the great mathematician and astronomer, Copernicus. Like Copernicus, I was asking questions about the belief that the Earth was the centre of the universe and not just a small part of it. My theories soon brought me terrible trouble.

In 1632, I published my book *Dialogue Concerning the Two Chief World Systems*. It had taken me six years to write it. But the book was banned^③ by the pope^④ as soon as it was published. All my other writings were banned, too. At first, I was charged^⑤ with heresy^⑥ and sentenced^⑦ to death. Later this sentence was changed to house arrest^⑧.

I spent the rest of my life locked in my house. But I continued with my writing and experiments. In 1638, I wrote another book called *Discourses and Mathematical Demonstrations Concerning Two Sciences*. It was about my work in physics and my studies on gravitation^⑨. The book was banned in Italy but published later in Holland.

By now, I was getting old and I was often sick and in great pain. But I wasn't allowed to see doctors or take medicine. In 1636, I started to lose my eyesight. By the following year, I'd gone blind

① sunspot *n.* 太阳黑子 ② Catholic *adj.* 天主教 ③ ban *v.* 禁止 ④ pope *n.* 教皇 ⑤ charge *v.* 控告 ⑥ heresy *n.* 异端 ⑦ sentence *v.* 宣判, 判刑 ⑧ house arrest *n.* 软禁 ⑨ gravitation *n.* 引力