



红杉树

名人风景线

[英汉双语]

Galileo
伽利略



Paul Mason (英) 著
郎崧 译

GALILEO

伽利略

外语教学与研究出版社

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FOREIGN LANGUAGE TEACHING AND RESEARCH PRESS

科学巨人传记系列
伽利略



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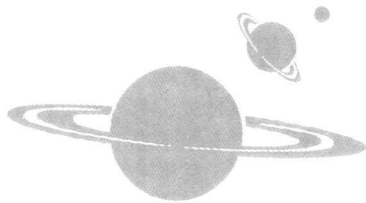
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北京 BEIJING

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名人风景线

[英汉双语]

前言

这套书中的“名人”，是那些在各自的领域中创造出不平凡业绩的人。

他们是怎样进入这些领域的？

他们奋斗不已的源泉何在？

他们的成就对社会产生了什么影响？

他们又有着怎样的成长经历？

他们当中，有文豪，有发明家，还有旅行家，每一个人的故事，都是一道亮丽的“风景线”！

本套“名人风景线”丛书以英汉双语形式出现，书中附有大量的历史资料和珍贵照片。对于有一定难度的单词、短语，还添加了简要注释，适合有一定基础的英语学习者阅读。

Who Was Galileo?

The ideas of this ancient Greek philosopher, Aristotle, dominated the universities of the seventeenth century. Galileo was one of the first scientists to move from just discussing theories, as Aristotle did, to carrying out experiments to test whether those theories are correct.

古希腊哲学家亚里士多德的理论统治着17世纪的高等学府。伽利略是最早改变的科学家之一，他不像亚里士多德那样仅对理论进行讨论，而是通过实验来检验这些理论的正确性。



Science as we know it barely existed when Galileo Galilei was born in 1564. At that time, universities were filled with learned people called philosophers, who followed the teachings of ancient Greeks such as Plato and Aristotle. Philosophers spent their time discussing ancient theories about how things might work, rather than performing experiments to prove how things truly worked.

Testing theories

Galileo rejected the traditional approach. He believed that before an idea could be accepted as true, it had to be tested and proven. This was one of his greatest contributions to modern science. Galileo's search for the truth involved him in some spectacular experiments. It is said that he once dropped balls of different sizes and weights from the top of a tower to demonstrate that the speed at which objects fall does not depend on their weight.

伽利略是谁？

1564年伽利略·伽利雷出生的时候，我们今天所熟知的科学才刚刚萌芽。那时，高等学府里充斥着人称哲学家的学者，他们信奉柏拉图和亚里士多德等古希腊先哲的教义。这些哲学家用很多时间来讨论前人关于事物如何运转的理论，而没有通过实验去证明事物究竟如何运转。

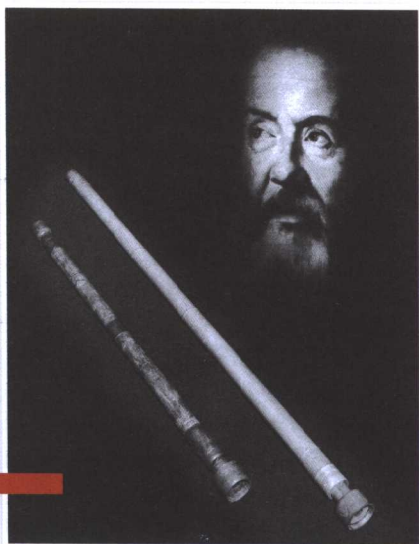
对于理论的检验

伽利略拒绝遵循传统的方法。他相信，在把某个理论当作真理接受之前，必须先对它进行检验和证明。这也正是他对现代科学最大的贡献之一。为了探究真理，伽利略进行了一系列引人注目的实验。据说他曾经从一座塔的顶部往下抛掷大小、重量不同的球，以此证明物体下落的速度与它们的重量无关。

philosopher *n.* 哲学家
 reject *v.* 拒绝
 approach *n.* 方法
 spectacular *a.* 引人注目的
 demonstrate *v.* 证明
 dominate *v.* 统治

Telescopes led Galileo to some of his greatest scientific discoveries. He made his own, which were more powerful than any others available at the time.

望远镜使伽利略获得了他最重要的一些科学发现。他自己设计的望远镜，比当时所有的望远镜都要好。



Famous in his lifetime

Galileo was as famous in his own time as he is today. He was a highly entertaining speaker, making his audience laugh at the same time as he made his opponents look foolish. He published many popular scientific books and performed public experiments, and his fame grew throughout his life. Galileo was also a great inventor. His inventions included powerful telescopes and early versions of the pocket calculator and pendulum clock.

Galileo was also known for his attempts to show that the earth moved around the sun. Today this sounds obvious, but in the seventeenth century, this theory challenged what nearly everyone believed. By making the claim, Galileo angered many people. He faced the threat of imprisonment and torture; he made a bitter enemy of the pope, the head of the Catholic Church; and he even risked being sentenced to death.

一世英名

在他那个时代伽利略就已经和现在一样出名了。他是一个非常风趣的演讲者，能给听众带来欢乐，同时让对手显得愚蠢。他出版了许多广受欢迎的科学著作，并公开地进行实验，他一生中声名与日俱增。伽利略还是一个伟大的发明家。他的发明包括高倍望远镜、早期的便携式计算器以及摆钟。

另一使伽利略知名的事情是他试图证明地球围绕太阳旋转。这在今天看来是显而易见的，但在17世纪，这一理论却几乎与所有人的固有信念相违背。伽利略的这个论断激怒了许多人。他面临坐牢和刑讯的威胁，并成了天主教会领袖——罗马教皇的死敌，甚至有被判死刑的危险。

opponent *n.* 对手，敌人
pendulum *n.* 摆钟
imprisonment *n.* 关押；监禁
torture *v.* 折磨
bitter *a.* 充满仇恨的

In Galileo's words

One of Galileo's greatest scientific achievements was his determination to back up his theories with proof. He once said that anyone interested in truly understanding how the world worked should:

"Measure what is measurable, and make measurable what is not so."

伽利略最伟大的科学成就之一是他坚定不移地用实验来支持自己的理论。他曾经说过，任何想要真正理解世界运动方式的人都应该：“测量一切可以测量的东西，并把不可测量的东西变得可以测量。”

Galileo's Early Years

Galileo was born in Pisa, Tuscany, on February 15, 1564. He was the first son of Vincenzo and Giulia Galilei. The family was originally from Florence, the capital city of the Tuscany region, but Galileo's father worked in Pisa as a musician. He also did experiments on harmony.

Although the Galilei had once been one of the most powerful families in Florence, by the time Galileo was born, his parents were short of money. Members of a well-known family such as the Galilei were expected to dress well, eat well, and maintain a high standard of living and keeping up this lifestyle was expensive. Throughout Galileo's childhood, his family was constantly struggling for money.

In 1572, when Galileo was eight years old, his parents returned to their home city of Florence. Galileo stayed on with relatives in Pisa for two years. There is no record of why Galileo's parents left him in Pisa, but at the time it was not unusual for children to live with relatives for long periods. Galileo was finally reunited with his mother and father in Florence at the age of ten.



This was Galileo's birthplace in Pisa, where he and his family lived until he was eight years old.

这是位于比萨市的伽利略的出生地。他和他的家人一直在那里生活到他八岁。

早年的伽利略

伽利略于1564年2月15日出生在托斯卡纳区的比萨市。他是文森罗和朱莉娅·伽利雷的长子。这个家族来自托斯卡纳区的首府佛罗伦萨，但伽利略的父亲在比萨当乐师，他还做过和声方面的实验。

尽管伽利雷曾经是佛罗伦萨最有权势的家族之一，但到伽利略出生时，他的父母已经囊中羞涩。但在人们的心目中，像伽利雷这种名门望族的成员应该吃穿讲究，过着高水准的生活，维持这种生活需要很大的开销。在伽利略的童年时代，他的家人一直在为挣钱而辛苦劳碌。

1572年，伽利略八岁时，他的父母回到故乡佛罗伦萨。伽利略则继续留在比萨，和亲戚一起住了两年。关于伽利略的父母把他留在比萨的原因已无从考证，但在当时，把孩子长时间托付给亲戚照顾的情况也并不罕见。十岁的时候，伽利略终于回到了佛罗伦萨，和父母团聚。

harmony *n.* 和声
constantly *ad.* 不断地
relative *n.* 亲戚
reunite *v.* 使重聚

What's in a name?

Like many Italian parents at the time, Galileo's decided to give him a name that was similar to the family name. Galileo's name was important in another way: it remembered Galileo Bonaiuti, a famous doctor after whom the whole family had been renamed during the fourteenth century. Galileo's fame grew throughout his lifetime, and today he is known simply by his first name.

名字意味着什么？

和意大利当时的许多父母一样，伽利略的父母决定给他起一个和家族名字相似的名字。从另一个角度来讲，伽利略的名字也很重要：它是对著名的医生伽利略·博纳尤蒂的纪念，整个家族在14世纪时就是以他的名字命名的。伽利略一生声名卓著，今天人们却只记得他的名。

Education

When he arrived in Florence, Galileo began to attend a local school, where he improved his reading and writing as well as studying other subjects such as philosophy and history. When he was thirteen, Galileo's father arranged for him to go to a monastery run by a strict religious order. Here his higher education began, and Galileo had to study the subjects that were expected of a gentleman, including Greek, Latin, and logic. These would also be useful in the career Vincenzo had picked out for his son: medicine.

While at the monastery, Galileo decided that he wanted to join the order of monks, but his father would not allow it. Money was almost certainly the reason. For Galileo to join the monastery, Vincenzo would have had to make a large initial payment, and then continue to pay for Galileo's upkeep for the rest of his life. Galileo's father had two daughters and two sons to provide for. The Galilei family needed their oldest son to become a money-earning doctor, not a further drain on their funds.



This map shows the main states of Italy, which became one country in 1860-1861.

这张地图标明了意大利的各个主要城邦。这些城邦在1860到1861年间合并成一个国家。

教育

回到佛罗伦萨之后，伽利略进入一所当地的学校就读，他在那里提高了读、写技能，同时也学习哲学、历史等科目。13岁的时候，伽利略的父亲安排他进入一所严格按教规管理的修道院学习。伽利略的高等教育由此开始，他必须学习包括希腊语、拉丁语和逻辑学等在内的课程。人们认为这些是绅士的必修课。文森罗为儿子选定的职业是医生，这些课程医生也用得着。

在修道院学习期间，伽利略决心成为一名修道士，但父亲不同意他这样做。这多半是因为钱的缘故。因为如果伽利略加入修道院的话，文森罗一开始便不得不支付一大笔费用，并且还要继续支付伽利略以后生活的开销。而他还有两个女儿和两个儿子要抚养。伽利略一家需要长子去做一名能挣钱养家的医生，而不是一个需要不断花钱的无底洞。

The Italian states

Galileo's family came from Florence, the capital of Tuscany. Today, it is part of Italy, but in Galileo's time, Tuscany was one of several independent states that were loosely called Italy (in the same way that Italy today is part of a region known as Europe).

意大利的城邦：

伽利略的家族来自佛罗伦萨，托斯卡纳区的首府。今天，这一地区是意大利的一部分，但在伽利略在世时，托斯卡纳区是几个独立的城邦之一，这几个独立城邦被笼统地称为意大利（正如现在的意大利是欧洲的一部分一样）。

monastery *n.* 修道院

logic *n.* 逻辑学

monk *n.* 修道士

initial *a.* 最初的

A Change of Direction

In the fall of 1581, at the age of seventeen, Galileo left home to go to the University of Pisa. Here, he followed the wishes of his father and studied medicine for two years. While he was studying at Pisa, Galileo noticed a chandelier swinging like a pendulum. He used his pulse to time the swings. But it was not until much later that he realized the full potential of the pendulum's time-keeping properties.

In 1583, Galileo first came across the geometry studies of the Greek mathematician Euclid. Galileo fell in love with mathematics and abandoned his medical studies, much to his father's displeasure. Eventually, in 1585, Galileo returned home to his father's house with two years of medical studies and two years of mathematical studies behind him. But he had no degree, and he did not have any real job prospects, either.

Earning a living

Despite his lack of formal qualifications, Galileo taught mathematics to private students. He was unable to get a university teaching job. He wrote papers on geometry and gave public lectures. Galileo also took part in public discussions with other mathematicians and philosophers, and began to gain a reputation as a tough opponent in an argument.

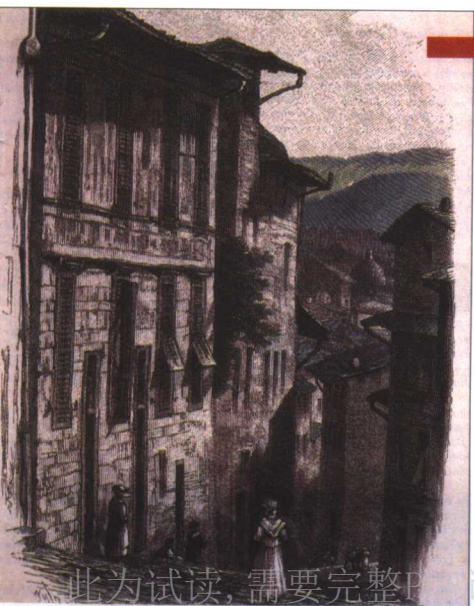
转变方向

1581年的秋天,17岁的伽利略离开家到比萨大学读书。在那里,他遵从父亲的意愿学了两年医学。在比萨学习的时候,他注意到枝形吊灯的晃动和钟摆很相似,还数着脉搏来给吊灯的摆动计时。但直到很久以后,他才意识到钟摆计时的巨大潜能。

1583年,伽利略第一次接触到了古希腊数学家欧几里德的几何学。他一下子迷上了数学,并因此放弃了医学,这让他的父亲很不高兴。结束了两年医学、两年数学的学习之后,伽利略最终在1585年回到了家乡父亲的家里。他没有拿到学位,也无法找到一份像样的工作。

谋生

尽管没有正式的学历,伽利略还是以私人授课的方式来讲授数学。他在大学里找不到教职。他撰写几何学的论文,并进行公开演讲。同时,他还和其他数学家、哲学家一起参加公开的讨论,并由于在一次辩论中扮演了一名强硬的反对者而崭露头角。



This was the Galilei family home in Florence. Galileo lived here from age ten to age seventeen, and again when he returned from the university.

这是伽利雷家族在佛罗伦萨的住宅。伽利略在这里从10岁一直生活到17岁,并在大学毕业之后回到了这里生活。

chandelier *n.* 枝形吊灯
potential *n.* 可能性; 潜能
property *n.* 性能; 属性
prospect *n.* 前景, 前途