SUPER SCIENTISTS

中学生双语阅读

Heavens Above:
The Story of Galileo Galilei

望远天际：
伽利略的故事

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[英] 彼得·布尔艺术工作室 (Peter Bull Art Studio) 绘
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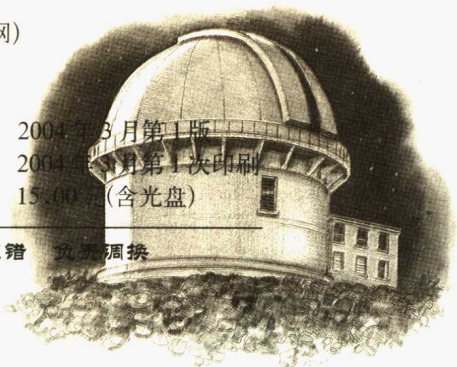
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Galileo cuts short his holiday

It was July 1609. Galileo Galilei, the **famous inventor**, was in **Venice** — on holiday. He'd only been there a day and already somebody was **spoiling** it for him.

"Tell me again," he said **grimly**.

His old friend Paolo Sarpi, who had a very important job with the **government** of Venice, was **explaining** the news.

伽利略提前结束假期

时间是1609年7月。著名的发明家伽利略·伽利烈正在威尼斯渡假。他才刚到一天，美好的假期就被人破坏了。

"你再说清楚一点，"他一脸严肃地说。

他的老朋友——在威尼斯政府担任要职的保罗·萨皮，详细地告诉了他一个消息。

famous [`feiməs] 形 著名的

inventor [in`ventə] 名 发明家

spoil [spɔil] 动 弄糟，破坏

grimly [`grimli] 副 严肃地

government [`gʌvənmənt] 名 政府

Venice [`venis] 名 威尼斯

explain [iks`plein] 动 说明

3

"Hans Lippershey. He's a **spectacle**-maker from Holland," explained Paolo. "He's put a couple of spectacle **lenses** into a **tube**. And when you look through the tube, things that are **miles** away seem to be right in front of you."

Galileo wished he'd thought of the idea first. The Venetian government would pay a **fortune** for something like that. Their **army** and **navy** would fall over themselves to get their hands on it. And Galileo needed the money.

"有个荷兰的眼镜制造商，叫作汉斯·利珀希，"保罗说："他把两个镜片装在一根管子上，然后从管子里看出去，几英里外的东西一下子全跑到眼前了。"

伽利略真希望自己早一步想到这个点子。威尼斯政府一定愿意付一大笔钱买这东西的，陆军和海军也一定会为了这东西抢破头。伽利略正需要这笔钱。

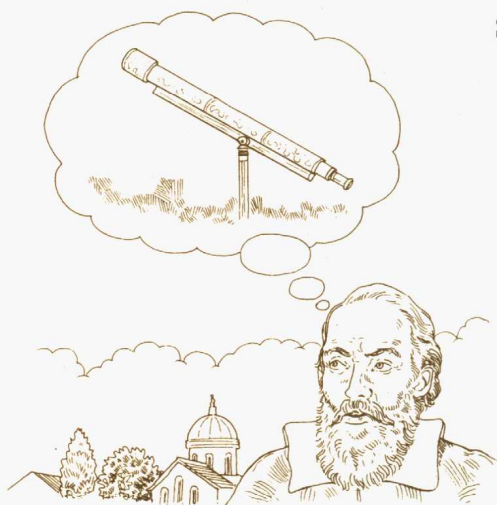spectacle [ˈspektəkl] 名 眼镜

lens [lenz] 名 透镜

tube [tjuːb] 名 管子

mile [mail] 名 (数英里的)长距离(常 miles)

fortune [ˈfɔːtʃən] 名 财产

army [ˈɑːmi] 名 陆军

navy [ˈneivi] 名 海军

"Now look," he said **sternly**, "if this Lippershey **turns up** here, say you're too busy to see him. **In the meantime** I'll make one for you — I'll call it a **telescope**." And cutting his holiday short, Galileo promptly dashed back home to Padua.

"听着，"他口气非常严肃，"如果这个叫利珀希的人来了，你就说你没空见他。我会趁这段时间先做一个出来给你。我替这东西取了一个名字，叫望远镜。"

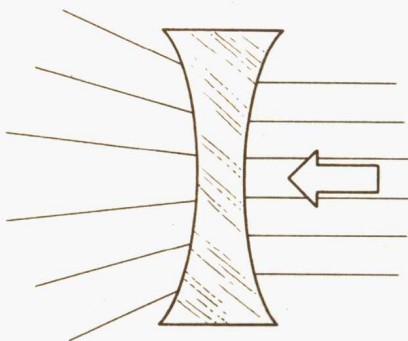伽利略立刻结束假期，火速赶回帕多瓦。

sternly [`stə:nli] 副 严肃地
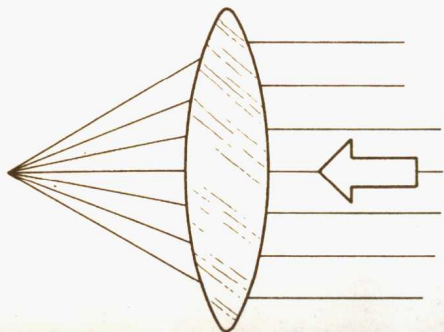turn up 出现
in the meantime 同时
telescope [`teliskoup] 名 望远镜

Working it out

The trouble was, Galileo had very little idea of how a telescope might work. So he **picked up** a piece of **lead tubing** and looked at it.

Hans Lippershey had used two spectacle lenses, which probably meant there was one at each end. A **concave** lens, which **curves inwards** like the inside of a spoon, makes things look smaller. Galileo knew that. A **convex** lens, which curves **outwards**, makes things look bigger. Now **supposing** he took one of each...

解决困难

问题来了。伽利略对望远镜的原理所知十分有限。于是他找来一根铅管研究。

汉斯·利珀希使用两个镜片，他可能是在铅管的两端各装一个。凹透镜片的中间往下凹陷，像汤匙的凹面，会让东西看起来比较小。这点伽利略知道。而凸透镜片的中间往外凸，会把东西放大。现在假设他两种镜片各拿一个……

pick up 弄到

lead [led] 名 铅

tubing [`tju:biŋ] 名 (集合用法)管子

concave [kɔn`keiv] 形 凹下的

curve [kə:v] 动 弯曲

inwards [`inwədz] 副 向内地

convex [kɔn`veks] 形 中央凸起的

outwards [`autwədz] 副 向外地

suppose [sə`pouz] 动 假设

He went to see a **glassmaker**.

"I want you to make lots of glass balls," he said, "then cut lenses of all different **thicknesses** and shapes out of them."

As soon as the glassmaker had made them, Galileo started trying out all **sorts** of different concave and convex lenses, one at each end of a tube.

Before long, after many **experiments**, he found that two of the lenses made **distant objects** come three **times** closer. He changed the shape of them a little and tried again. And again.
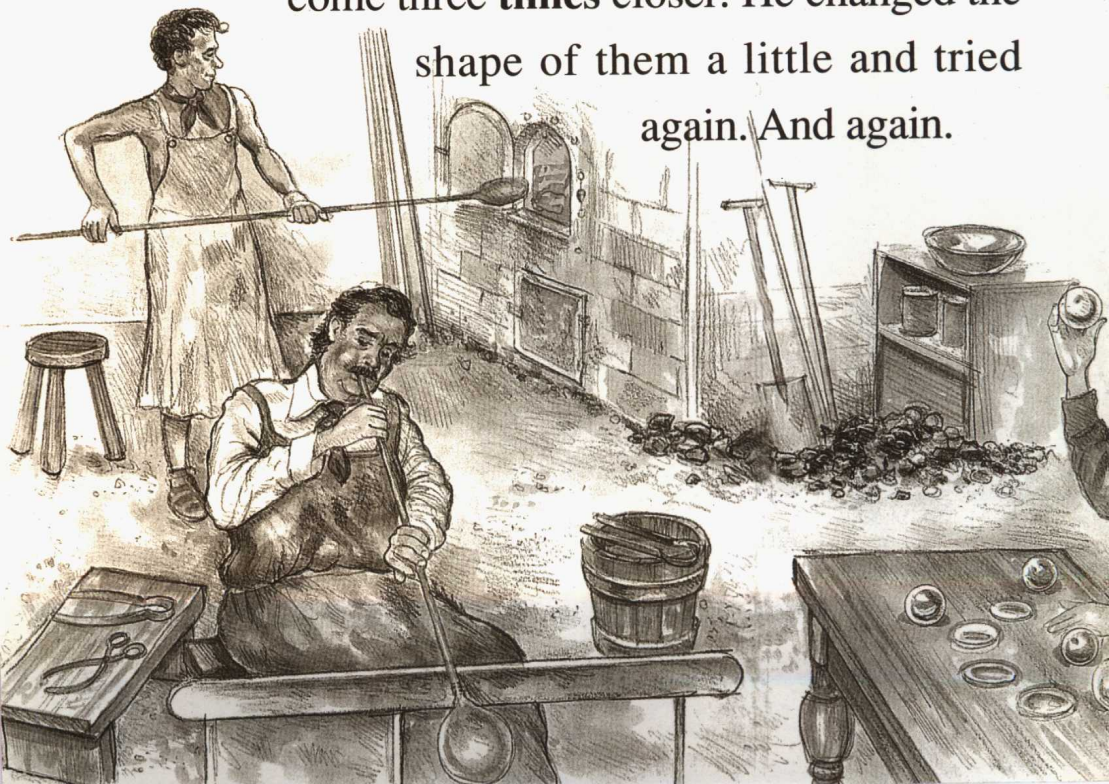
他跑去找一位做玻璃的师傅。

"我想请你帮我做很多个玻璃球，"他说："然后再将玻璃球切割成不同形状、不同厚度的镜片。"

等到玻璃师傅一做好，伽利略就立刻将各种不同的凹透镜片和凸透镜片——装在铅管的两端。

没多久，经过多次的实验之后，他发现其中有两个镜片可以将距离很远的东西拉近三倍的距离。他再把镜片的形状稍微修改一下，然后试了又试。

glassmaker [ˈglɑːsˌmeikə] 名 制造玻璃者
thickness [ˈθiknis] 名 厚度
sort [sɔːt] 名 种类
experiment [iksˈperimənt] 名 实验
distant [ˈdistənt] 形 远的
object [ˈɔbdʒikt] 名 物体
time [taim] 名 倍

Finally, "Got it!" he shouted. "Sixty times closer than they really are!"

Astonishingly it had taken him only twenty-four hours of **trial** and **error** to make his telescope. But he still needed to hurry. He had heard a **rumor** that Hans Lippershey was already on his way to Venice.

终于，他大叫一声："成功了！可以把远距离的东西拉近60倍！"

真想不到前后只经过了短短24个小时的尝试与错误，他就做好了一支望远镜。

不过他还是得加快脚步。他听说汉斯·利珀希已经出发前往威尼斯了。

astonishingly [əsˋtɔniʃiŋli] 副 令人惊讶地
trial [ˋtraiəl] 名 试验
error [ˋerə] 名 错误
rumor [ˋrumə] 名 谣传

Galileo sent an **urgent message** to Paolo Sarpi. "I have a **secret**," was all it said.

Sarpi knew exactly what he meant, and the **Dutchman** never got past his door. And it was no use trying to show his **invention** to anyone else in Venice. After all, Paolo Sarpi was the **scientific adviser** to the Venetian government.

伽利略急忙给保罗·萨皮捎去了一封信，里面只有短短一句话："我有一个秘密。"

萨皮知道这句话是什么意思，那个荷兰人也还没有上门来找他。而且即使那个荷兰人想把新发明拿给在威尼斯的其他人看也没有用，因为保罗·萨皮是威尼斯政府的科学顾问。

urgent [`əːdʒənt] 形 紧急的
message [`mesidʒ] 名 消息
secret [`sikrit] 名 秘密
Dutchman [`dʌtʃmən] 名 荷兰人
invention [in`venʃən] 名 发明
scientific [ˌsaiən`tifik] 形 科学的
adviser [əd`vaizə] 名 顾问