阅读空间 · 英汉双语主题阅读

高中和大学低年级适用

冲突：科学的助力

Feuds: The Fuel of Science

中国教育学会外语教学专业委员会推荐

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庞丽霞 译

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原著：**Leif J. Robinson** 等

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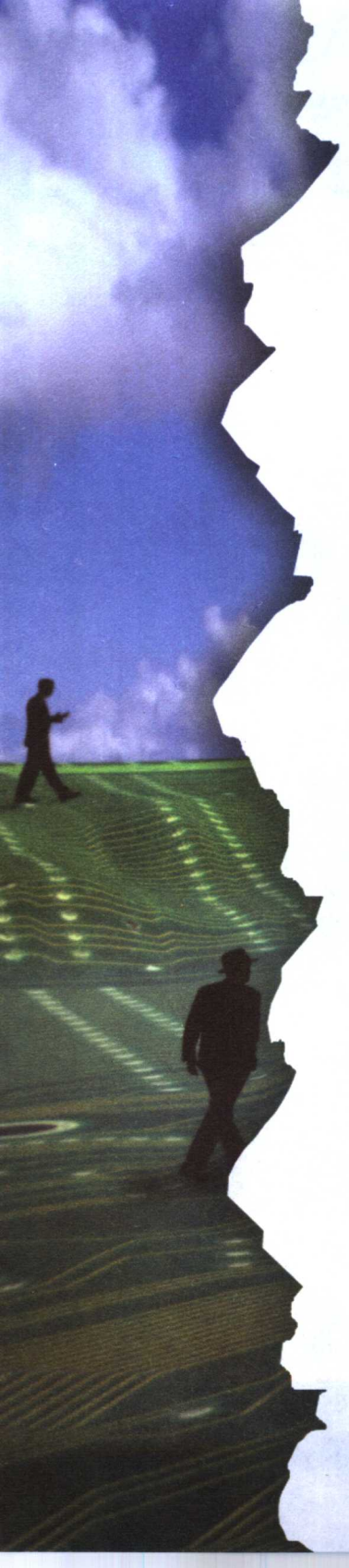

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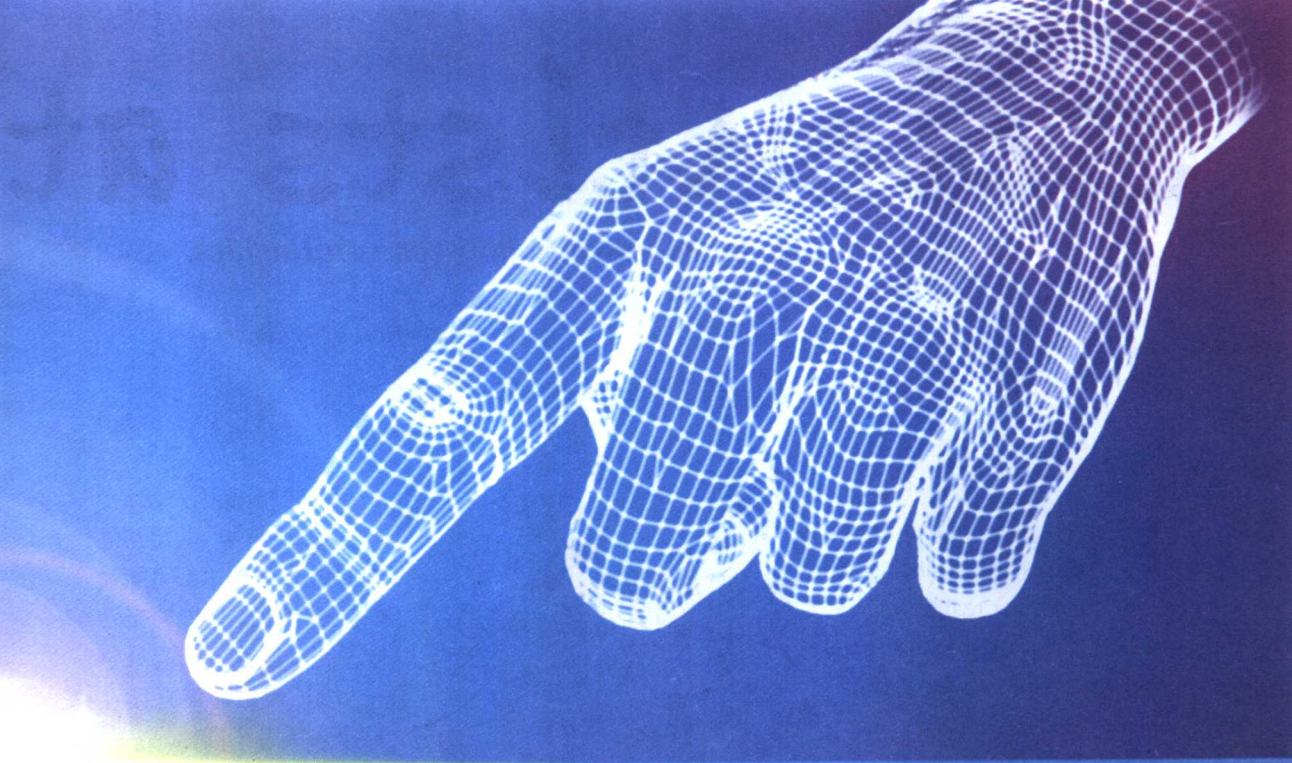
Editor's Message 编辑手记

在1840年，科学家（scientist）这个词发明之前，对于有关“自然哲学”的新发现的激烈争论在伦敦皇家学会一直持续着。这些冲突引发了几十年甚至几百年的怨恨。如今，类似的冲突在科技杂志、会议和互联网上仍如火如荼。有些冲突甚或成了非常个



人化的冲突，自我和诽谤扮演了重要角色。

单单科学家喜欢争论吗？他们天生脾气坏吗？这些诸多问题留待你读完本书后自己来判断吧。

但是，关于科学家，有一点是可以肯定的，那就是他们是真理的寻求者。激烈的辩论将会引向更深更精确的研究……直至真理。这些当然很好，是大受欢迎的。

Scientists at

Feud: ***A bitter, prolonged hostility between two families, individuals, or clans.***

– American Heritage Dictionary

冲突：两个家族、个人或部落之间长期的剧烈的敌对状态。

——《美国传统词典》

Feuds happen for many reasons. Politics, religion, "getting even", and other real or imagined causes have all sparked feuds. Sometimes they envelop entire nations (as during a war), but usually they involve just two people or small groups.

you might think that scientists wouldn't become engaged in such disputes. After all, when you read about science history, doesn't it seem that one scientist simply builds on the work of his or her predecessors? But textbooks give only the "big picture" – as they should. (If all the details were included, the textbook would become so big that you wouldn't want to read it!) And you don't often hear about scientific feuds in the media, because the points of contention are usually highly technical and, frankly, boring – except to a tiny band of specialists.

Yet scientists are just as likely to feud as anyone else – maybe even more so. Why? Be-

冲突有很多起因。政治、宗教、“算账”以及其他真实或想象的理由都可能触发冲突。有时，这些冲突会波及整个国家（如同战争一般），但是通常只涉及两个人或者小群体。

你或许认为科学家不会卷入这样的冲突。毕竟，在读科学史的时候，似乎一个科学家只把自己的工作建立在前人的基础之上就可以了，难道不是这样吗？但是，课本给出的仅是应该给出的“总体画面”。（如果课本里包括了所有的细节，那么书就会变得非常之厚，你根本不想读了！）媒体中，你也不经常听说科学冲突，因为矛盾的焦点经常非常专业，说白了，除了一小部分专家，其他人甚感乏味。

但是，科学家也像任何其他人一样可能产生冲突，也许更容易产生冲突。为什么？因为他们非常热衷于自己的工作，有时为了获得一个研究结果，会花上好几年的时间，甚至毕生的精力。他们想要维护自己的发现，这也就不足为怪了！科学家也趋于成为自我主义者；他们知道自己属于最聪明的行列。而且，

War

illustration by Mike Phillips

by Leif J. Robinson

不和的科学家

cause they are very passionate about what they do, and sometimes they have spent years, or even careers, reaching a research result. It's no wonder that they want to defend their findings! Scientists also tend to be egoists; they know their minds are among the best and brightest. And, like medical doctors, they have spent many, many years in training. So they have a lot at stake.

Of course, scientists also carry all the ordinary foibles of human nature: jealousy, a desire for status and advancement, greed, and so on. When scientists become embroiled in an emotional topic, such as global warming or cloning – whether it's part of their specialty or not – their thinking can become as clouded as that of nonscientists.

This is especially true when they harbor strong beliefs about such issues as the environment, religion, social justice, or war. For example, the "father of the atomic bomb," J. Robert Oppenheimer, was banned from government-sponsored research less than a decade after the first explosion in 1945. The reason: He opposed the development of even stronger weapons, and had political ghosts in his past that had become extremely unpopular.

Thus scientists are no different than people in other walks of life. They can harbor very strong nonscientific feelings and are just as susceptible as anyone else to petty behavior.

GETTING A GOOD FEUD GOING

As a journalist, I've attended more scientific meetings than I wish to remember. This is the forum where a scientist introduces his or her latest research to a group of peers. (It's sort of like presenting your English paper for classmates' comments.) After a scientist gives a paper, there is always a question period. Often, the questioners try to poke holes in the presenter's technique or conclusion. But sometimes you can tell from the form of a question, or the way it's asked and answered, that there is real

像医生一样，他们花了许多许多年训练自己。因此，他们押了很大的赌注。

当然，科学家身上也有人性中所有的普遍的弱点：嫉妒、渴望名誉地位、贪婪，等等。当一位科学家情绪化地卷入了一个话题，例如全球变暖或者克隆，不管这是否是自己的专攻，他们的思维就会和普通人一样不清晰。

如果他们对诸如环境、宗教、社会公平、战争等问题有强烈的信念的话，情况更是如此。例如，“原子弹之父”J·罗伯特·奥本海默在1945年第一颗原子弹爆炸后不到十年，就被禁止参加任何政府发起的研究工作。原因：他反对发展更为强大的武器，他过去的政治阴影变得越来越不受人欢迎。

因此，科学家和其他阅历的人没有什么区别。他们可以有非常强烈的非科学感情，可能像任何人一样对小问题起疑心。

让良性冲突继续下去

作为一名记者，我参加的科学会议数不胜数。这些会议提供了论坛，在这里，一位科学家可以把自己最新的研究向一群同行介绍（就像把自己的英语论文拿给同学们评论一样）。一位科学家宣讲完论文之后，总是有一段提问时间。提问者总是要在陈述人的方法或结论上挑毛病。但是，有的时候，你可以根据一个问题的形式，或者提问题、回答问题的方式，判断出一方确实憎恶对方。换句话说，就是存在冲突！

如果有科学家想在《自然》之类的科学杂志上发表自己的论文，或者申请一个科研项目，所谓的同行评审程序就可能引发冲突。前不久，一位很出名的天

animosity between the parties. In other words, a feud!

If a paper is sent for publication in a scientific journal such as *Nature*, or if a scientist applies for a research grant, the so-called peer-review process can lead to sparks. Not long ago, a very-well-known astronomer told me that his request for research funds had been turned down. He was really angry – not because the proposal didn't succeed, but because of the mean-spirited comments written on it by peer-reviewers!

In the past half century, most of the money for scientific research in the United States has come from the federal government. So there is intense competition among scientists for that funding, which is usually used to start or continue a research project. But even when the research is over, especially in a field such as biology, feuds for priority of discovery are likely because there may be a pot of gold, literally, awaiting the successful patent applicant. Imagine the dollars earned by the discoverers of Taxol, a drug derived from the Pacific yew tree, which is used to treat cancer.

© Courtesy Nature

The British journal *Nature* is a respected print forum for scientific debate.

In the end, many feuds benefit science. The opposing parties have to think hard to make their best case. Experiments are often refined, and more data is often collected to bolster the result. Continual challenges to ideas, theories, and data is the way science works. Build a better mousetrap, and someone will try to build an even better one!

Nowadays, a lot of research is "published" on the Internet before it is peer-reviewed, so marginal or outright wrong stuff can reach a wide audience. Since most scientists are very proud of their profession, they are quick to shoot down quacks and careless researchers who use this medium. The way they do it may be

文学家告诉我，他的科研经费的申请被否定了。他非常生气——并不是因为申请不成功，而是因为评审的同行对申请写了非常尖刻的评语。

在过去的半个世纪中，美国的大部分科研经费来自联邦政府。因此，科学家之间对这些经费的竞争非常激烈，因为这笔经费常有利于开始或继续一个研究项　目。然而，即使一项研究已经结束，在例如生物之类的领域，仍可能有为了争夺优先权和发现产生冲突，因为确实有的时候等待专利申请人的是一桶金子。想一想红豆杉醇的发现者挣了多少钱，这种从太平洋红豆杉中提取的药物可以用于治疗癌症。

很多冲突最终都有利于科学发展。敌对双方想要赢就得绞尽脑汁。他们为了支持结果，经常改进试验、收集更多的数据。不断向想法、理论、数据挑战，这就是科学发展的途径。你做一个好一点的捕鼠器，就会有人想做一个更好的！

现在，很多研究在没有经过同行审阅之前，就在互联网上“发表”，因此，很多微不足道的或者错误的东西可以为很多人所知晓。因为大部分科学家对自己的职业都引以为荣，因此，他们很快就会揭穿使用这种媒介的骗子或者不负责任的研究者。他们做这件事情的方法可能不礼貌或者有个人攻击之嫌，二者都是产生冲突的显著办法。互联网为全世界的人交换看法提供了一个论坛，它的即时性可以让人们像鲁莽者一样行事，而

impolite and may even involve personal attacks. Both are great ways to start a feud. The Internet provides a worldwide forum for people to exchange views, and its real-time nature allows people to react as hotheads rather than after thoughtful reflection.

THE EVOLVING NATURE OF FEUDS

Until the beginning of the last century, feuds were usually between "gentlemen." (At that time practically all scientists were men, and many of them were financially very well off.) They were, in fact, amateurs, people who made their living in some other field – from religion to brewing – and who pursued science as a hobby. Professional scientists, people who are trained to make their living by doing science, have existed only for a hundred years or so. Indeed, the word "scientist" was invented only in 1840.

When Charles Darwin published *Origin of Species* in 1859, he started the biggest feud of all time, one that continues today and may last forever! His contention was that a species evolves by *natural selection* – through the accumulation of tiny, random changes in its physical characteristics that ultimately cause it to become a brand-new species. But his contemporary, the influential anatomist and paleontologist Richard Owen, believed that evolution was a product of *divine influence*. To him, Darwin's view was counter to biblical teaching and a threat to destabilize both society and religion.

That set the stage for one of the most famous clashes in the history of science, between Owen and Thomas Huxley, Darwin's ally and "bulldog." The feud over evolution continues today, when creationists – who believe that earth formed only 6,000 or so years ago, with all life forms appearing as we see them now – confront mainstream biologists.

不作深入的思考。

冲突的进化本质

上个世纪初之前，冲突通常是“绅士”之间的事情。(在那个时候，几乎所有的科学家都是男性，而且经济上均有可观的收入。)实际上，他们仅是业余科学家，这些人在其他领域谋生，从宗教到酿酒，科学研究对他们仅是一种业余爱好。专职的科学家，也就是接受专门训练、靠科学为生的人，仅有一百年左右的历史。实际上，“科学家”这个词仅仅是在1840年才发明的。

查尔斯·达尔文在1859年发表了《物种起源》，便引发了有史以来最大的一场冲突，这场有关进化的冲突延续至今，可能会持续到永远！他的论点是，物种通过自然选择产生进化——通过累积物理性状随意的微小改变，最终使之成为一个新物种。但是，与他同时代的一位有影响的天文学家及古生物学家理查德·欧文却认为，进化是超人作用的结果。在他看来，达尔文的观点违背了圣经教导，而且可能危及社会及宗教。

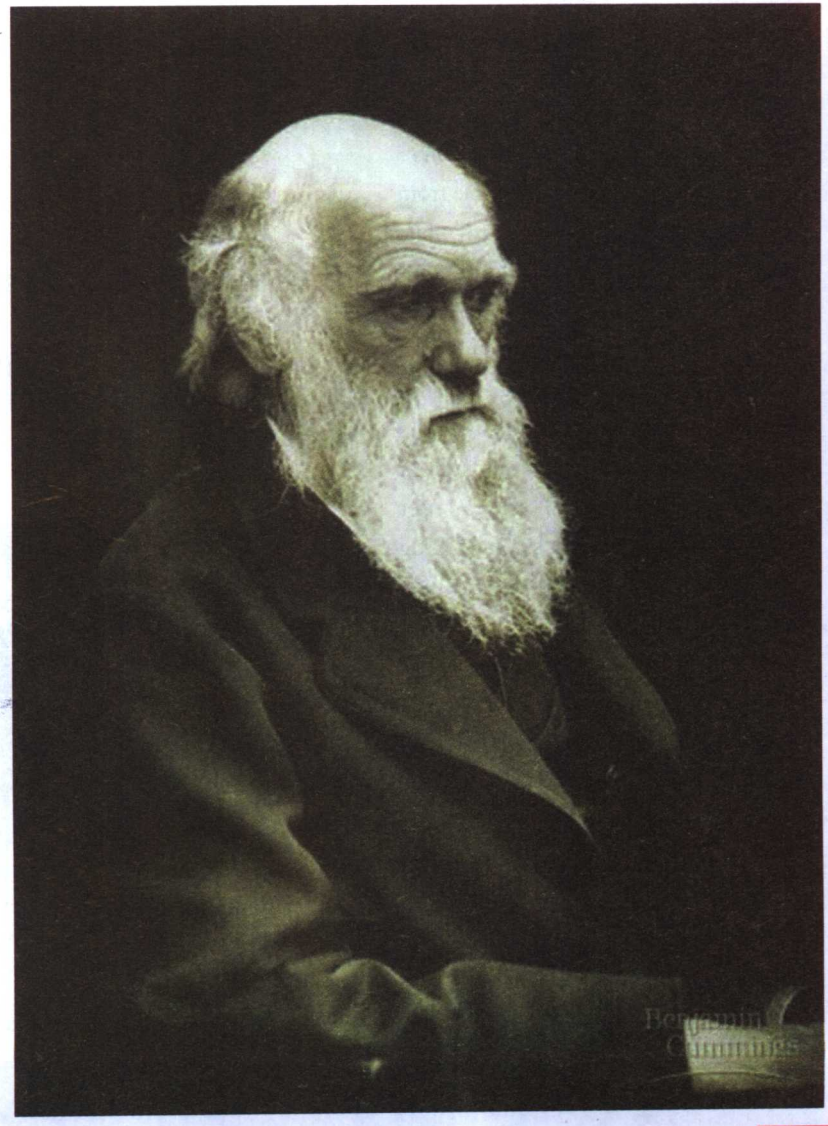
这就为科学史上最出名的冲突之一奠定了基础，也就是欧文与托马斯·赫胥黎之间的冲突，后者是达尔文的同盟及“传声筒”。这场有关进化的冲突一直延续至今，一方是创造论者，他们认为世界以及我们今天看到的所有生命形式，仅是在约六千年前才形成的，与之相对的是主流的生物学家。

当时，达尔文的理论缺乏牢固的证据支持，如同后来广泛收集的化石这类证据，能证明一个物种用了上百万年才缓慢地演变为另外一个物种。在美国，起纷争的是爱德华·科普（反对进化论）和奥斯尼尔·马什（支持进化论）。他们的冲突不但涉及收集最重要的化石，而且还关系到偷窃化石行为、书面攻击和犯罪指控。这不是什么好的科学行

Darwin's theory lacked the support of "hard" evidence, such as would be provided later by an extensive collection of fossils that would prove gradual, million-year transitions from one species to another. In the United States, Edward Cope (who was against evolution) and Othniel Marsh (who was for it) vied to make their individual cases. Their feud involved not only efforts to assemble the most important collection of fossils but also fossil theft, print diatribes, and criminal charges. Not good scientific behavior! Yet this "bone war" greatly benefited the science of paleontology, for these 19th-century fossil hunters discovered scads of unknown dinosaur species. Among them were *Stegosaurus*, *Triceratops*, and *Tyrannosaurus*, which were frequently featured in 1950s-vintage sci-fi movies. (Ironically, it was Richard Owen himself who coined the name "dinosaur," which means terrible lizard.)

In 1714, the stage was set for one of the most expensive feuds when the British government offered to pay up to £ 20,000 to the person

为！但是，这场“骨头之争”非常有利于古生物学的发展，因为19世纪寻找化石的人发现了很多未知的恐龙品种，其中包括剑龙、三角恐龙、暴龙，这些恐龙经常出现在20世纪50年代拍摄的科幻影片中。(具有讽刺意味的是，正是欧文自己杜撰了“恐龙”这个名字，意思是可怕的蜥蜴。)



who could find a way to accurately determine longitude at sea. (*Longitude* is a measure of distance east or west of an imaginary globe-encircling line that passes through Greenwich, England.) This was a crucial problem for a naval powerhouse like Britain. John Harrison's precision time keepers, made beginning in 1737 (and especially the one made in 1759), solved the problem. (If you know the exact time at Greenwich, which Harrison's clocks kept, and the time at the place where you are, which you can determine from the sun or stars, then you can calculate your precise longitude.) Yet, for complicated reasons, Harrison received only half the prize. Thus began his feud with the Board of Longitude, because Harrison thought he should get the whole prize – an enormous sum at that time. Only in 1773, after a bitter struggle and the intercession of King George III, did he finally get his just reward.

In this book, you'll get a glimpse at some of the most interesting feuds of modern science. You'll learn about skirmishes concerning the invention of the mathematics of calculus, about whether our galaxy is the universe or merely a part of it, and about the tiniest living things on earth and maybe elsewhere in our solar system and beyond. And you'll also see that scientists are real people, some with pretty peculiar traits.

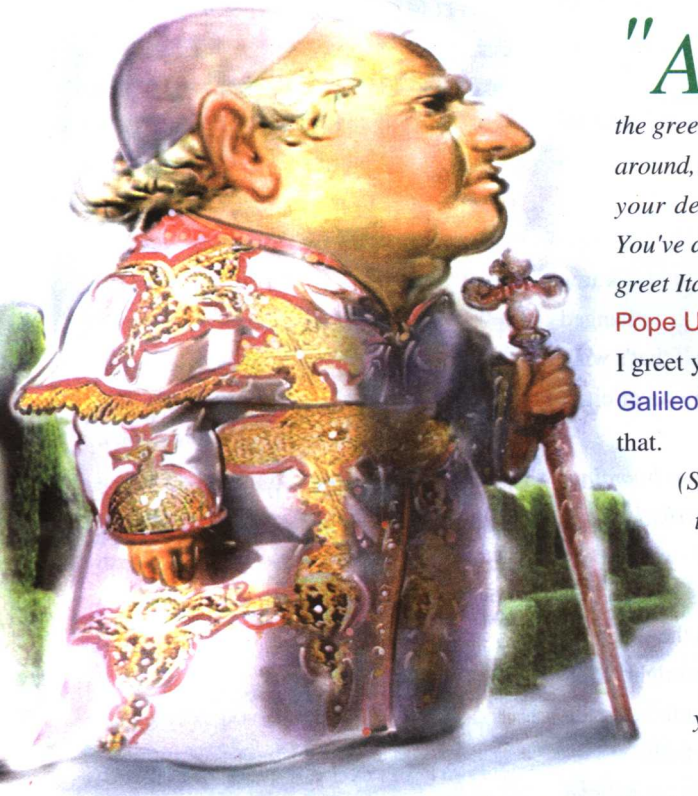
1714年，英国政府提出给能够准确地在海上确定经度的人奖励两万英镑，这就为最昂贵的一场冲突创造了条件。(经度是以一条想象中的通过英国格林威治环绕全球的线为基准从东、西两个方向对距离的测量。) 对于英国这样的海军大国来说，这是个关键的问题。1737年开始制造的约翰·哈里森精确测时器（尤其是1759年制造的那一台）解决了这个问题。(如果你知道格林威治的确切时间，这可以由哈里森的计时器加以确定，然后再知道自己所在位置的时间，这可以通过太阳或星星确定，那你就能计算出自己的准确经度。) 但是，由于复杂的原因，哈里森只得到一半的奖金。这就挑起了他和经度委员会的冲突，因为他认为自己应该拿到全部奖金，这在当时是个不小的数目。到了1773年，通过艰苦的斗争以及国王乔治三世的裁决，他才拿到自己应该得到的奖励。

在本书中，你可以对一些最有趣的现代科学冲突有所了解。你会了解围绕微积分数学发明展开的冲突，我们的银河系就是宇宙还是仅属宇宙的一部分，还有关于地球上或者太阳系内外可能存在的最小的生命形式展开的辩论。你也能够看到科学家也是活生生的人，其中有的人还有怪癖。

The Futile Feud

by Stephen James O'Meara

illustrated by Brad Walker



"April 24, 1624" flashes on the console of your time machine, which is hidden amidst the greenery of a lush garden. You step outside, look around, and smile. Once again, you've safely reached your destination: the Vatican Gardens in Rome. You've arrived just in time to hear Pope Urban VIII greet Italy's great astronomer, Galileo Galilei.

Pope Urban Buon giorno, my dear friend, Galileo. I greet you with "infinite demonstrations of love."*

Galileo (under his breath) Hmm. . .We'll see about that.

(Seizing the opportunity, you sneak up behind the two men, who have begun to stroll through the garden. You're glad now that you borrowed that invisibility cloak from Harry Potter before you left, though you've also discovered that it itches. As you approach, you're shocked at Galileo's imposing presence.

时间机器操作台上的灯亮了起来，显示出“1624年4月24日”，而此时，你的时间机器正藏在一个大花园的灌木丛中。你走出时间机器，环顾四周，笑了笑。你再次安全到达自己的目的地：罗马的梵蒂冈花园。正好能听到厄本八世教皇问候意大利伟大的天文学家伽利略。

厄本教皇：早安，我亲爱的朋友，伽利略。我用“无尽的爱”*来欢迎你。

伽利略：（小声说），唔，我们等着瞧。

（两个人开始在花园里散步，你抓住这个机会，悄悄溜到他们身后。现在，你庆幸自己出发之前，从哈利·波特那里借了这件隐身衣，尽管你发现穿上它之后浑身有点痒。你靠近他们的时候，吃惊地发现伽利略相貌非常庄重。他身材魁梧健壮，一张圆脸看起来很是快乐，颌下留了一撮胡须。他的头发看起来蓬乱，目光炯炯有神。与他相反，教皇看起来虽然庄严，却很虚弱。）

没有结果的冲突

He's large and stocky, with a round, jovial face, framed with a biblike beard. His hair looks ruffled and his eyes are piercing. The Pope, by contrast, has a feeble though stately appearance.)

Pope Urban Tell me, my friend, how long has it been since Cardinal Bellarmino advised you to abandon your teachings of the Copernican theory – that the earth moves around a stationary sun?

Galileo You mean, Your Holiness, when did Cardinal Bellarmino and the ***Inquisition*** demand, in no uncertain terms, that I not "hold, teach, or defend the Copernican model in any way whatever, either orally or in writing," unless I wanted to face formal charges? And you know what that means. I'd either be burned at the stake or hanged from the Bridge of Sant'Angelo, as a heretic! If that's what you mean, it's been since February 26, 1616 – over eight years!

(You're shocked, because Galileo's voice is so booming. His speech is rich and overblown, even theatrical.)

Pope Urban Temper, temper, Galileo. . . Listen, I know it's been hard. But the verdict of the cardinals of the Holy Office was unanimous. Not only is the idea that the sun is the center of the world "formally heretical," it's downright "foolish and absurd." And just the thought that the earth is not the center of the world is absolutely "erroneous in faith."

Galileo (again, under his breath) Those who do not believe that the earth moves are "imbeciles, mental pygmies, dumb idols, and hardly deserving to be called human beings."

Pope Urban Did you say something?

Galileo Oh, I was just recalling how wonderful it was when His Holiness, Pope Paul V, said that I was free to consider the model hypothetically. Actually, I was shocked to learn that I was held in so much esteem both by him and by the whole congregation of cardinals.

Pope Urban Of course, of course. Why, dear Galileo, you have no idea how many

Inquisition
A tribunal formerly held in the Roman Catholic Church and directed at the suppression of heresy

厄本教皇：告诉我，我的朋友；柏拉米诺主教建议你放弃日心说，也就是地球围着不动的太阳旋转的教导，那是多久以前的事情了？

伽利略：陛下，您的意思是说，柏拉米诺主教和宗教裁判所什么时候言辞坚决地要求，我不能“以任何方式，口头或者书面形式，主张、教导或维护日心模式”，除非我想面对正式的指控？您知道这是什么意思。我将被当作异端，要么被捆在桩子上烧死，要么在圣天使桥上吊死。如果您问的是这件事情的话，那是1616年2月26日的事情，八年多了！

（你吃了一惊，因为伽利略的声音非常激昂。他的讲话声情并茂，甚至有些戏剧色彩。）

厄本教皇：伽利略，节制，节制……我知道这很难。但是，裁判所主教们的裁决是一致通过的。太阳是世界的中心，这种想法不但“形式上是异端”，而且是彻头彻尾的“愚蠢、怪异”。地球不是世界的中心，这种想法绝对是“信仰上的错误”。

伽利略：（再次小声嘀咕）不相信地球在转动的那些人是“低能儿、智力的侏儒、木偶泥像，简直不能称其为人。”

厄本教皇：你说什么？

伽利略：噢，我仅是在回忆，当教皇保罗五世陛下说，我可以随便把这个模型当作假设看待，这简直太好了。实际上，当我知道教皇陛下和主教们这么看重我时确实让我大吃一惊。

admire you. Just stick to astronomy, and not the Bible, and you'll be just fine.

Galileo But. . .

Pope Urban To speak otherwise than hypothetically would be like saying that you possess in your limited mind all the infinite wisdom and power of God. Indeed, as a good Catholic, how could you hold any opinion other than that God can do anything in an infinite number of ways?

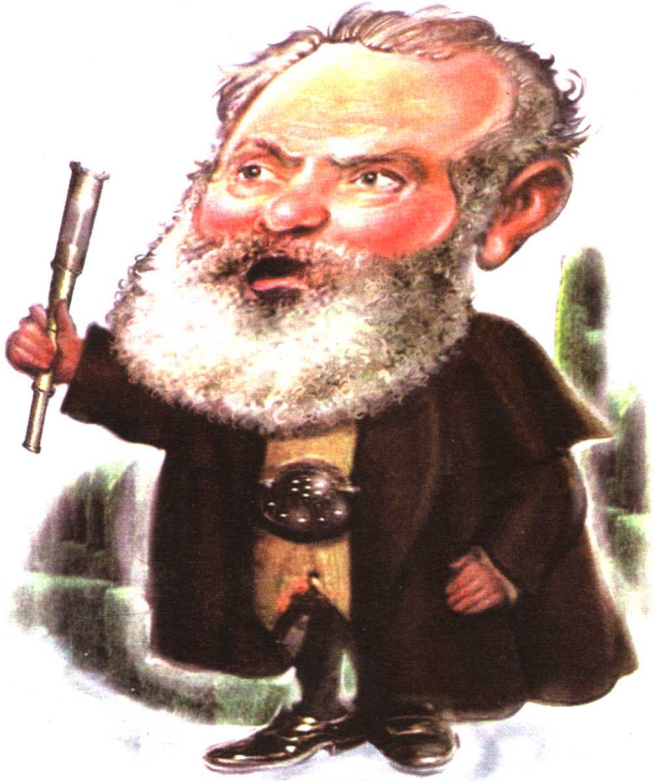
(On hearing these words, Galileo almost chokes. He mumbles a passage he'd been working on for his forthcoming book, Dialogue: *"Surely, God could have caused birds to fly with their bones made of solid gold, with their veins full of quicksilver, with their flesh heavier than lead, and with wings exceedingly small. He did not, and that ought to show something. It is only in order to shield your ignorance that you put the Lord at every turn to the refuge of a miracle.")*

Pope Urban Galileo. . .why, you mumble as if you're possessed. . .

Galileo No, Your Holiness. In fact, I was just agreeing with you, that "God is the Lord of Sciences." But, I must be going. I'm itching to turn my telescopes toward the heavens again.

Pope Urban But, of course. And by the way, you do know that had I been Pope in 1616, I would never have threatened you with such words? Now, go. "You have my blessing, and I embrace you with Paternal love."

(Whoa! You're dizzy with delight. No one had ever heard what Galileo and Pope



厄本教皇：当然，当然。哦，伽利略，你不知道有多少人羡慕你。坚持研究天文学，而不是圣经，你会没事的。

伽利略：但是……

厄本教皇：如果你不把它当作假设，就相当于你在自己有限的大脑里，拥有上帝无限的智慧与能力。确实，作为一名虔诚的天主教徒，除了上帝可以用无数的方式完成任何事情之外，你怎么可以有其他的想法呢？

（听到这些话，伽利略几乎窒息了。他低声诵念自己一直为下一本书《对话》琢磨的一段话："毫无疑问，如果小鸟的骨头是黄金，血管里流淌着水银，肉比铅还要重，翅膀奇小无比，上帝依然能让它飞起来。但是，上帝没有这样做，这应该意味着什么。每一次奇迹都拿上帝来作为挡箭牌，仅仅是为了遮掩你们的无知。"）

厄本教皇：伽利略……，你嘀嘀咕咕，就像魔鬼附身一般。

伽利略：没有，陛下。实际上，我同意您的说法："上帝是所有科学的主宰。"但是，我必须得走了。我急着

Urban had actually said in the garden. But you – you are the first! Excited, you race back to the time machine, remove the invisibility cloak, and scratch your itching body. You reset the dial for the summer of 1632, after Galileo's Dialogue is published. The book is a public success – but, in the eyes of the Holy Office, it is a scandal. The book glorifies Copernicus! Your destination: a room in the Vatican. Pope Urban is meeting with his advisors. Donning your invisibility cloak once more, you slip past the advisors and take a seat.)

Head Advisor Your Holiness, we have read Galileo's Dialogue, and it is an insult to you and to the Holy Office. Galileo has played you the fool.

Pope Urban (face red with rage) Careful what you say! I am no fool! "I have been deceived by Galileo!"

Head Advisor We agree, Your Holiness. Galileo has "overstepped his instructions by asserting absolutely the earth's motion and the sun's immobility, thus deviating from hypothesis." What should we do? Should Galileo be given a chance to justify himself?

Pope Urban (now absolutely furious) Are you mad! "Does it not seem to Your Holiness that Galileo should know in advance the objections that are being raised against his work?" The Pope calms down, and sinks low in his red crushed velvet chair. He says to no one in particular: "There is no way out. May God forgive Signor Galilei for having meddled with these subjects." The man must go to trial.

(An itching feeling overcomes your body, and you realize that it's time to head back to the time machine, remove your invisibility cloak once again, and head back to the future. But that's okay – you know the rest of the story.

In August 1634, Pope Urban VIII by Papal Decree 38 bans the Dialogue. A frail and sick Galileo goes to trial. The renowned astronomer is convicted

要把望远镜转向天空。

厄本教皇：但是，当然。顺便说一句，我1616年就当上教皇的话，肯定不会用这些话来威胁你，这一点你知道吧？现在，去吧。"你有我的祝福，我用父爱拥抱你。"

（喔，你高兴得都晕了。没有人听说过伽利略和厄本教皇在花园里的谈话内容。但是，你，你是第一个！你激动异常，跑回时间机器，脱下隐身衣，抓挠痒得受不了的身体。你把指针拨到了1632年的夏天，也就是伽利略的《对话》出版之后。对公众而言，这本书取得了成功，但是，在宗教裁判所眼中，这是一个丑闻。这本书美化了哥白尼！你的目的地：梵蒂冈的一个房间。厄本教皇正在会见他的谋士。你再次穿着隐身衣，从谋士身边溜过，坐了下来。）

首席谋士：教皇陛下，我们已经读过伽利略的《对话》了，这是对您以及宗教裁判所的侮辱。伽利略愚弄了您。

厄本教皇：（脸气得发红）小心你在说什么！我不是傻瓜！"我被伽利略愚弄了！"

首席谋士：我们也这样认为，陛下。伽利略"由于完全拥护地球在运动，太阳是静止的，已经超越了裁判所对他的命令，因此也超出了假说的范围。"我们该怎么办？应该给伽利略一次为自己辩护的机会吗？

厄本教皇：（现在，勃然大怒了）你疯了吗！"难道阁下不明白，伽利略事先知道对他工作存在的异议吗？"教皇安静了下来，坐在红色的拷花丝绒椅子上。他似乎并非对着谁说："没有办法。愿上帝原谅伽利略先生，竟然纠缠这些问题。"这个人必须受到审判。

（你觉得浑身奇痒无比，意识到应该回到时间机器上，脱下隐身衣，返回未来。但是，没有关系，你知道接下来发生的事情。

1634年8月，厄本教皇根据38号教皇