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FEATURE: Does the Bible Say Earth Is Flat?
圣经是否描述地是方的？

VOICE: Professor, someone told me that until very recently, nearly everyone thought the world was flat.

People told Christopher Columbus he was crazy to believe Earth was a sphere. Many ridiculed him, saying it was flat and he would sail off the edge. 教授，有人告诉我说，在以前，几乎每一个人都认为地是方的，这个观念是直到最近才改变的。

人们曾经说克里斯多佛·哥伦布疯了，才相信地是圆的，很多人嘲笑他，说地本是方的，他的船会在地的边缘起航。

PROF.: That person was half right. People ridiculed Columbus, but for a different reason.

那个人说对了一半，人们是嘲笑哥伦布来着，但是为了另外一个原因。

FORMAT: THEME AND ANNOUNCEMENT

主题和申明

PROF.: In the fifteenth century,¹ European explorer Christopher Columbus [KRIS-to-fer koh-LUM-bus] announced that he wanted to reach India by sailing west from Spain. Instead of crossing Europe and Asia eastward by land, Columbus thought he could “sail west to find the East.”

¹ The years from 1401 through 1500 (A.D. or C.E.).

People ridiculed that idea, and there's a popular misunderstanding of why. Some historians who ought to know better claim the ridicule was because most Europeans thought Earth was flat and he would sail off the edge. 在十五世纪，欧洲探险家克里斯多佛·哥伦布宣布他要从西班牙出发，向西航行到达印度。哥伦布没有选择从陆地向东，穿越欧洲和亚洲，他觉着应该可以“一直向西，到达东面。”

人们讥笑他的这种想法，因为当时的社会流行着一种误解；一些知识渊博的历史学家宣称，嘲笑的原因是因为当时大部分欧洲人认为地是方的，而哥伦布会是在地的边缘起航。

VOICE: History books credit Christopher Columbus with discovering the Americas.²
历史书籍都盛赞克里斯多佛·哥伦布，称他为美洲大陆的发现者。

PROF.: Yes. When he reached land, he thought he had arrived in Asia or the East Indies.³
是的，当船抵达陆地后，他还以为自己到了亚洲或者是东印度呢。

VOICE: How recently did people think Earth was flat? When did they first realize that Earth was a sphere?
大概是多少年前，人们还认为地是方的？而人类第一次意识到地是圆的又是什么时候呢？

² The continents of North America and South America.

³ The area that includes Pakistan, Bangladesh, Myanmar, Sri Lanka, the Maldives, Thailand, Malaysia and Indonesia.

PROF.: Dr. Jeffrey Burton Russell [JEF-ree BUR-tun RUS-ul], is professor emeritus in the University of California, Santa Barbara.⁴ He answers that question in a book entitled *Inventing the Flat Earth: Columbus and Modern Historians*.

杰弗里.伯顿.拉塞尔博士是加州大学的名誉教授，他写了本书叫

《INVENTING THE FLAT EARTH: COLUMBUS AND MODERN HISTORIANS》，翻译成中文是《发明方的地球：哥伦布和现代历史学家》，在书中，教授回答了这个问题。

VOICE: What does he mean when he says the flat earth was “invented”?
教授在说到方的地球时，用了“发明”这个词，是什么意思？

PROF.: He says some people make the mistake of assuming that we moderns are smart, and people in earlier times were ignorant. So they readily believe that people several centuries ago would have thought Earth was flat. But the idea that medieval people believed that Earth was flat, was “invented.”

The professor says every serious modern historian recognizes that people knew that the earth is spherical, long before Columbus. Quote, “Educated medieval people assumed that the earth was the shape of a globe... About a hundred medieval writings dealing with the earth’s shape have so far been identified. Only five seemed to assert flatness, and two others are ambiguous.”

4 Santa Barbara is a city in the state of California.

他说，有些人犯了一个错误，总以为以前的人比较无知，而现代人比较聪明，所以他们很乐意相信几个世纪前的人会认为地是方的；其实，认为中世纪的人以为地是方的这样的观点，本身就是杜撰出来的。

教授说每一位严谨的现代历史学家都意识到，远在哥伦布时代之前的人就已经知道地是圆的。原文是这么记载的：“在中世纪，受过教育的人都认为地是一个球体...，大约有一百篇中世纪完成的作品，其间提到地的形状，通过对这些文章的鉴别，发现其中只有五篇似乎以为地是方的，还有两篇观点模糊。”

VOICE: So 93 of the 100 medieval writers thought the Earth was a *sphere*.

所以，这 100 篇中世纪的作品中，有 93 篇认为地是圆的。

PROF.: Yes. *From the fifth century*, every writer known in Western Europe who mentioned Earth's shape, asserted that it was spherical.

是的。从十五世纪以后，西欧的每一位知名作家，只要提到地的形状，都确定地说是一个球体。

VOICE: Columbus sailed in 1492. So Western Europeans had known about Earth's spherical shape *more than a thousand years before that*.

哥伦布的航海是发生在 1492 年，这么说来，其实在一千多年前，西欧就已经知道地是圆的。

PROF.: Right, at least the *educated* ones. But Russell says that, in many countries, quote, “Yet the ‘Flat Error’ continues, despite the evidence, to be repeated in schools and in popularized books by careless writers depicting Columbus's opponents as bigoted and benighted ecclesiastics.”⁵

是的，至少对于那些受过教育的人来说‘是’。但是拉塞尔先生说，在好几个世纪里，“不管事实是如何，‘地是方的’这个观点，一直持续着，在学校里传播着，被那些粗心的作家写在出版的著作里，并把哥伦布的反对者说成是顽固和愚昧的教会。”

VOICE: In other words, many textbooks say that anyone who opposed Columbus was a priest or church official, fighting against scientific knowledge.

也就是说，是很多教科书里说的，反对哥伦布的人，都是那些反对接受科学知识的牧师，或者教会的神职人员。

PROF.: Yes.

是的。

VOICE: Why does this distortion continue? Are textbook writers lazy? Do they read old textbooks and repeat statements without checking them?

为什么这样一种曲解会一直存在呢？是教科书的编撰者有问题吗？他们是不是参阅了以前的版本，却不做任何调查，而只是简单地重复那些话呢？

5 Ignorant church officials.

PROF.: Some do. But Dr. Russell says another reason is that some historians dislike Christianity, and allow their biases to distort their scholarship. One major example of this bias is the book *A History of the Warfare of Science with Theology in Christendom*, published in 1896 by Andrew Dixon White. That book was read so widely in the West, that many historians after White accepted his ideas without verifying them.

有些是的。但是拉塞尔博士说，还有一个原因是，一些历史学家不喜欢基督教，所以歪曲自己的学识，放任自己的偏见。出版于1896年的《A HISTORY OF THE WARFARE OF SCIENCE WITH THEOLOGY IN CHRISTENDOM》，翻译成中文是《科学和基督教神学的争战史》，作者是安德鲁·狄克逊·怀特，其书中的观点就是这种偏见的最主要的代表。这本书在西方非常流行，以至于之后的很多历史学家，根本不做任何核实工作，就全盘接受怀特的观点。

VOICE: Then what are the real facts?
那么什么是真正的事实呢？

PROF.: Prof. Russell answers, quote, “First, no medieval person ever thought of the heavens as anything but spherical. As for the Earth, the medieval term for ‘the entire earth’ was *orbis terrarium* [ORB-is te-RAIR-um], [which means] ‘the *globe* of lands.’ Medieval astronomers and geographers refined and improved on the Greek and Roman view of the Earth as a globe, a view

completely dominant after the fourth century C.E.⁶ Numerous medieval treatises [were entitled] *De sphaera*, [which translates as] ‘About the Sphere.’”

拉塞尔教授回答说：“首先，中世纪的人们从来没有认为过天不是圆的；至于对地的描述，中世纪使用的词汇是‘球形陆地’。在公元四世纪以后的希腊和罗马，陆地为球状的观点就已经完全占据了主导地位；而中世纪的天文学家和地理学家们，在这个观点上，作了进一步的改进和完善。在中世纪，有数不胜数的论文以‘关于球体’为题。”

VOICE: So he says many documents demonstrate that these people knew Earth was a globe. And that was in the fourth century, 1100 years before Columbus!
所以，教授说很多文献记载，差不多在哥伦布之前 1100 年的四世纪，人们就知道地是圆的。

PROF.: Prof. Russell continues, “In a typical medieval scheme,⁷ the Earth...can be divided, like a globe or ball into four quarters. The Eurasian-African landmass was supposedly assumed to be one of these four quarters, while the other three-quarters were [thought] to be entirely sea. If the other three quarters do not have lands, the sea runs west all the way from Portugal to Japan.”

拉塞尔教授继续写到：“在一个典型的中世纪的理论中，地是可分的，就象一个球可分成四部分一样，他们推测，欧亚非大陆是这四个部分中

6 C.E. stands for “Current Era,” which is the same as A.D. or “Anno Domini [Year of the Lord].”

7 The theory or understanding that people had at that time.

的一个，而另三个部分则完全是海洋，如果那三个部分没有陆地的话，海水应该会从葡萄牙一直向西流到日本。”

VOICE: They knew that Europe, Asia and Africa were basically one landmass. They didn't seem aware that Africa extended south of the equator. And they didn't know about other continents, which turned out to be North and South America. 他们知道欧洲，亚洲和非洲是主要的陆地，他们似乎没有意识到非洲穿过赤道还在向南延伸，而他们也不知道还有南美和北美大陆。

PROF.: Right. Even though they didn't know about the other continents, they understood that Earth was sphere-shaped.

But as recently as a century ago, some writers claimed that 15th-century people warned Columbus that he would sail off the edge of a flat Earth, and that he would be devoured by sea serpents.

Dr. Russell reacts, quote, “No one entertained the fantastic fear of sailing off the edge.”

是的。虽然他们并不知道其他陆地的存在，但是，他们依然认为地是圆的。

但是，一个世纪以前，一些作家竟然宣称，生活在 15 世纪的人们警告过哥伦布，说他是从方形陆地的边缘出发，会被海蛇吞吃掉。

拉塞尔博士针对这样一种观点，发表观点说：“没有人认为这是从大陆边缘出发，并且有这种很荒谬的担忧。”

VOICE: So writers who claimed that this was the 15th-century understanding, were using their imaginations instead of historical scholarship.

所以，那些作家们在宣称，这些是 15 世纪时的人们所思所想时，他们用的是自己的想象，而不是历史知识。

PROF.: That's a good way to summarize it!⁸

这样总结很不错！

VOICE: Did early scholars realize *how large* a sphere Earth was?

早期的学者有没有意识到地球有多大呢？

PROF.: Yes. Even before 200 B.C.E.,⁹ Eratosthenes [air-at-OS-thuh-nees] used geometry quite cleverly to estimate the Earth's circumference.

He knew about a deep vertical well in southern Egypt. Once a year, at noon on the day of the Summer Solstice,¹⁰ the entire bottom of this well became bright with sunlight.

有的。早在公元前 200 年，聪明的埃拉托色尼，当时希腊的天文学家、数学家和地理学家，就已经使用几何学来估算地球的周长了。

他了解到在埃及南部，有一口很深的垂直井，每年的六月 21 号中午，因为阳光的照射，整个井底会变得明亮。

8 A tactful, indirect way to point out that they were either incompetent scholars, or liars.

9 B.C.E. stands for "Before the Current Era," which is the same as B.C. or "Before Christ."

10 In the northern hemisphere (including Egypt), it is June 21.

VOICE: That would mean the sun was directly overhead, with its rays shining directly into it.

这说明当时的太阳是在正中天，所以光线可以直接照射到井底。

PROF.: Good thinking! He then placed a *vertical post* at Alexandria [al-ex-AN-dree-uh], in *northern* Egypt, and measured the angle of its shadow at that exact time and date. He observed that the shadow was *tilted 7 degrees*.

想得很好！于是，他就在埃及北部的亚历山大放了一根垂直的柱子，在同一天，同一时刻，测量该柱子影子的角度，他测到柱子的影子倾斜了7度。

VOICE: So he knew the sun's shadow was seven degrees different between the two locations. By knowing the distance between the two locations, he could calculate the distance around the 360-degree circumference of the Earth. 所以，他就知道了，太阳在这两个点的角度差别是7度，又知道这两点之间的距离，他就可以计算出360度的地球周长大约是多少。

PROF.: Right. His result was approximately 46,250 km.

Our modern measurements are about 40,000 kilometers. So he was accurate within about 15 percent – quite good for the technology of more than 2,000 years ago.

对。他的计算结果大概是46,250公里。

而我们现代的计算结果是大约40,000公里，所以他的准确率大约是85%，相对于两千多前的技术来说，这个结果已经是非常不错的了。

VOICE: You said people ridiculed Columbus, but not because they thought Earth was flat. Then why did they ridicule him?

您说过人们嘲笑哥伦布，并不是因为他们认为地是方的，那他们为什么嘲笑他呢？

PROF.: Columbus's opponents argued that the ocean was too big for a ship to sail west to Asia without everyone on board dying of thirst and starvation. Dr. Russell comments, quote, “It was a reasonable argument based on the available evidence, and Columbus had to work hard to overcome it. He accomplished this by fiddling the figures¹¹ repeatedly...until he had radically reduced both the circumference of the globe and the width of the sea, audaciously ending up with a figure for the sea's breadth equal to about 4450 kilometers, [which was only] about 1/5 of the actual distance...”

哥伦布的反对者争论的是海洋太大了，一条船想西行到亚洲是不可能的，船上的人要么会饿死，要么会渴死。拉塞尔博士评论说：“基于当时可获取的事实证据，这种观点是有道理的，哥伦布必须要努力推翻这种观点。于是哥伦布不断地对一些无关的数据进行修改，...直到他从根本上减小了地球的周长和海洋的宽度，大胆地宣布海洋的宽度大约是4450公里，差不多是实际距离的五分之一...”

VOICE: When a person believes strongly in an idea, he sometimes lets “wishful thinking” distort his judgment.

11 Adjusting the numbers, sometimes doing it dishonestly.

当一个人坚信一个想法时，有时候，他会让“意愿”来代替自己的判断。

PROF.: Few people believed such preposterous calculations. But Spain wanted new ways to expand its wealth and power in competition with the Portuguese. So Columbus convinced Spanish King Ferdinand [FUR-de-nand] and Queen Isabella [iz-uh-BEL-uh] to finance his adventure, and in 1492 Columbus set sail across the Atlantic.

Then came the unexpected, one of the greatest pieces of luck in all of history: On October 12, 1492, Columbus blundered into¹² the Americas under the mistaken impression that he was arriving in the East Indies.

当时几乎没有人相信这样一种荒谬计算，但是为了和葡萄牙竞争，西班牙需要一条新的，扩张国家财富和权力的途径，所以，哥伦布说服了西班牙国王弗德兰得和王后伊莎贝拉，得到了他们的财务支持，终于在1492年出海航行穿越了大西洋。

接着，意想不到的事情发生了，也是整个历史中最值得人兴奋的一部分：在1492年的10月12日，哥伦布登上了美洲大陆，而他自己还以为到了东印度。

VOICE: So Columbus' critics were right about the circumference of the Earth. If North and South America had not been where maps showed nothing but sea, he and his crew would have perished.

12 Arrived in a place he had not planned to go – a land he had not even known to exist.

所以，那些批评哥伦布地球周长计算有误的人是正确的，在地图上原是一片海洋的地方，如果没有北美和南美大陆出现的话，哥伦布和他的水手们真地要死在海上了。

PROF.: Yes, but let me stress again that his opponents did not believe Earth was flat. And they were not motivated by so-called “religious ignorance” that opposed scientific facts.

是的，但是让我再强调一下，他的反对者们并没有认为地是方的，他们也没有受那些反对科学事实的，“无知的宗教”所驱使。

VOICE: What does the Bible about the shape of Earth?

那圣经中对地的形状是如何描述的呢？

PROF.: The Bible book of Isaiah speaks of “the circle of the earth.” The original language can also be translated “the sphere of the earth.”¹³ (Isaiah 40:22).

Dr. Russell summarizes, “What these examples of historical error have in common is their simplification of complex questions into simple-minded, easy-to-swallow myths¹⁴ that have contributed to the popular myth of a war between science and religion, a myth that continues to impede progress. Historical investigation and the other social sciences and humanities have often been playing fields for ideologies instead of fulfilling their proper calling as aiming at truth...”

13 TRANSLATOR: If the Bible in your language says “circle,” translate this paragraph as it is. If your Bible says “sphere,” either delete the sentence about the original language, or change it to say it can also be translated “circle.”

14 Untrue stories that are easy to believe.

圣经以赛亚书 40 章 22 节中描述的是“地球大圈”。

拉塞尔博士总结说：“这些历史性的错误实例，都有一个共同点，那就是把一个复杂的问题简单化，编造一些简单的，容易接受的故事，就是这样的一些故事，在科学和宗教之间的这场征战中，起了相当的作用，而且在继续阻碍着进步。历史调查，以及其他社会科学和人文科学，也一直在玩弄着意识形态领域，并没有履行他们应该履行的直击事实的职责...”

VOICE: Once again, when we put the facts to the test, the Bible defeats its critics.

还有，当我们验证事实的时候，圣经会击败那些批评者。

FORMAT: THEME AND ANNOUNCEMENT
主题和申明

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