

科技英语系列读物 EST Reading Series

第一级 第三册

GRADE I BOOK 3

Tell Me Why

(四十个为什么)



上海外语教育出版社

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第1级 第3分册

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编写说明

为了开创公共外语教学的新局面，使理工科学生更快更好地掌握外语，机械工业部部属各院校，在机械工业部教育局的直接领导下，根据近年来教学的初步经验总结，经过调查研究，决定编写一套供全日制理工科大学及业余高等学校基础英语阶段使用的课外阅读教材。全书按照词汇量、语言结构和文体的难易分为四级，每级三个分册，共十二分册，分级编排，循序渐进。

本读物每册包括课文、注释、练习三部分：课文选自国外科普读物，选材原则强调思想性、科学性、知识性和趣味性；注释旨在帮助读者理解课文，掌握新的语言现象；练习力求多样化，以巩固所学的语言材料，提高英语实践能力。此外，每册之后附有词汇表，便于读者自学查阅。

本读物以培养学生阅读能力为主要目标。各分册根据选材内容，各有其书名；级与级之间，分册与分册之间，相互连贯呼应，成为一个系列，所以定名为《科技英语系列读物》。

本读物由机械工业部部属院校英语学科协作组统筹安排，组织部属院校分工负责选注，由马泰来、卢思源、李国瑞、柯秉衡、谢卓杰、戴炜华、戴鸣钟等同志（以姓氏笔划为序）组成的审编小组负责审订，陈开明同志担任审编小组秘书。总审为戴鸣钟

教授。由于编写时间匆促并受选材来源和编写水平的限制，全书未尽完善，希广大外语教学工作者和读者予以指正。

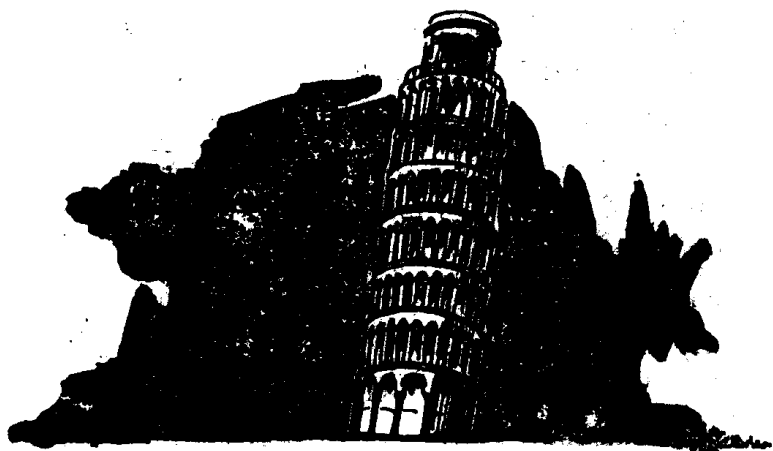
编 者

1983年7月

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1. What Caused the Tower of Pisa to Lean ?

When something captures the imagination of the world, it is remembered by people far more than things that may be more important.^① Everybody knows that in the city of Pisa in Italy, there is a tower that “leans.” Very few people^② know that this town has a great and glorious history.

Of course, the tower itself is quite a marvel, too. It is built entirely of^③ white marble. The

① When something captures ... be more important; 当全世界人的想象力被某事物吸引住的时候，人们难以忘却的是该事物，而不是比之更为重要得多的其它事物。 ② very few people: 几乎没有人。 ③ be built of 由...建成。

walls are 13 feet thick at its base. It has eight storeys and is 179 feet high, which in our country would be about the height of a 15-storey building.

There is a stairway built into the walls consisting of 300 steps, which leads to the top. And by the way④, those people who climb these stairs to the top get a magnificent view of the city and of the sea, which is six miles away.

At the top, the tower is $16\frac{1}{2}$ feet out of the perpendicular⑤. In other words, it "leans" over by $16\frac{1}{2}$ feet. If you were to stand at the top and drop a stone to the ground, it would hit $16\frac{1}{2}$ feet away from the wall at the bottom of the tower!

What makes it lean? Nobody really knows the answer. Of course, it wasn't supposed to lean when it was built; it was supposed to stand straight.⑥ It was intended as a bell-tower for the cathedral which is nearby and was begun in 1174 and finished in 1350.

The foundations of the tower were laid in sand, and this may explain why it leans. But it didn't suddenly begin to lean—this began to hap-

④ by the way: 顺便说一句。相当于 incidentally (附带地)。

⑤ the tower is $16\frac{1}{2}$ feet out of the perpendicular: 此塔偏离垂直线十六呎半。 $16\frac{1}{2}$ 读作: sixteen and a half. ⑥ Of course, it wasn't supposed ... straight: 兴建此塔时, 并非意欲使其倾斜; 此塔理应笔直。be supposed to: 1) 被期望, 应该; 2) (用于否定句)准许。

pen when only three of its storeys, or “galleries,” had been built. So the plans were changed slightly and construction went right on!⑦ In the last hundred years, the tower has leaned another foot. According to some engineers, it should be called “the falling tower,” because they believe that it will eventually topple over.

Did you know that Galileo, who was born in Pisa, is said to have performed some of his experiments concerning the speed of falling bodies at this tower?

⑦ ... and construction went right on: 建设照旧进行下去。这里 went on: 继续进行下去; right 是个强意词, 相当于 “directly”, “straight”.

Exercises

I. Are these statements true or false according to the information of the passage?

1. In the city of Pisa there is a tower, and, at the top, it is $16\frac{1}{2}$ feet out of the perpendicular. (+)
2. That the city of Pisa has a great and glorious history is known to the people all over the world. (-)
3. The tower is a 15-storey building. (+)
4. The tower was not supposed to stand straight when it was built. (+)
5. People found the tower began to lean when its third storey had been built. (+)

II. Answer these questions.

1. What is the tower entirely built of?

2. How thick are the walls at the base of the tower?
3. When was the construction of the tower begun and finished?
4. How much has the tower leaned in the last hundred years?
5. What is said to have been performed by Galileo at this tower?

2. Was America Discovered Before Columbus ?

When we say “discovered,” we usually have a very special meaning in mind. We mean that people from one civilization came to a region where no one from their place had been before. As you know, an explorer often finds a people and a civilization already living in the place he “discovers.” Why not say these people discovered it before him?①

From our Western-civilization point of view,② we say that Columbus discovered America. This is because after his discovery the New World③ he found began to be visited and finally populated from the Old World. But 500 years before Columbus was born, the Norsemen④ did a bit of “discovering,” too. They sailed west to discover Iceland,⑤ then Greenland,⑥ and later the American mainland.

Did you know that the Chinese tell of⑦ an

① Why not say these people discovered it before him? 为什么不说这些人在他之前发现了美洲? why 引起的这种省略主语和助动词的疑问句, 在口语中是常见的。 ② From our Western-civilization point of view: 从我们西方文明世界的观点来看。

③ the New World: 西半球; 新大陆(指北美洲与南美洲)。 the Old World: 东半球(与美洲大陆相对而言; 尤指欧洲)。 ④ Norsemen ['nɔ:smən]: 古代斯堪的纳维亚人(尤指挪威人)。 ⑤ Iceland ['aɪslənd]: 冰岛(欧洲)。 ⑥ Greenland ['grɪːnlənd]: 格陵兰(岛)。 ⑦ tell of: 讲述。

even earlier voyage by Chinese sailors to discover what has become California?^⑧ And people of the South Sea Islands^⑨ still sing of^⑩ the great men of their distant past who sailed to South America long before the white man reached either South America or the South Sea Islands.

For all we know, there may have been many ages of exploration thousands of years ago^⑪. There were certainly ages of exploration before the time of Columbus. Perhaps we might say that neither Columbus, nor the Norsemen before him, "discovered" America. Weren't the Indians already living here for many centuries before the white man arrived?

And who can say that they didn't set out on a voyage of discovery? It is believed that they came from Asia, though we don't know when or how they made the trip. Probably they reached America over a period of centuries and by different routes. They also probably sent their scouts ahead to seek out routes by land or sea. These scouts were their explorers, and perhaps it was really they who discovered America!

⑧ California: ['kæli'fɔ:njə] 加利福尼亚(美国州名)。⑨ South Sea Islands: 南海诸岛。⑩ sing of: 歌颂。⑪ For all we know, there ... thousands of years ago: 也许几千年前一直长期存在着探险活动, 也未可知。这里 for all we know = for aught we know, 作“也未可知”解。

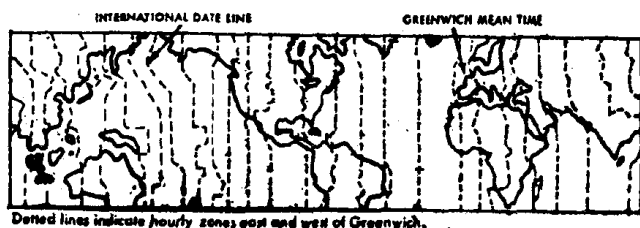
Exercises

I. Find single words in the passage which have roughly the meanings given below.

1. be supplied with people ()
2. continent, or land mass without its islands. ()
3. find out ()
4. way taken or planned from one place to another ()
5. 100 years ()

II. Answer these questions.

1. What do we mean when we say "discovered"?
2. Who began to visit America after Columbus discovered it?
3. When did the Norsemen sail to discover Greenland?
4. Who still sing of the great men of their distant past who sailed to South America?
5. Had the Chinese sailors discovered California earlier than Columbus?



3. Does the Whole World Have Time Zones ?

Now that we can travel by jet plane across the United States,^① the differences in time have become even more startling. We can leave New York at a certain hour, for example, and arrive in Los Angeles^② just a little while later—on the clock.

The reason for this is that our country is divided into time zones. This division was adopted in 1833, when the United States was divided into four time belts or zones—Eastern, central, mountain, and Pacific.^③

The division was based on meridians, the imaginary lines^④ that run around the earth through the North and South Poles. The time kept in each

① Now that we can ... the United States: 既然我们能乘喷气飞机横越美国。 ② Los Angeles [lə'sændʒili:z]: 洛杉矶(美国城市)。 ③ Pacific [pə'sifik]: 太平洋。 ④ imaginary lines: (只存在于)想象中的线。

belt varies exactly an hour from the belt next to it. And the time kept everywhere within each belt is exactly the same.

As you move from one belt to another, going east, the time advances an hour. If you go west^⑥, it goes back an hour. But the time belts do not follow perfectly straight lines. The reason for this is that some community^⑦ may be closely linked with an area very near it and wish to keep the same time. For example, Georgia, most of Florida,^⑧ and the lower peninsula of Michigan^⑨ could all be in the central time zone, but they include themselves in the Eastern zone.

The whole world is divided into time zones exactly as the United States is. Every 15 degrees as one goes around the world, in terms of meridians, there is a new time zone. Where does the measuring start?

It starts in Greenwich^⑩, England, which has 0-degree meridian running through it. As you move east from Greenwich, you add an hour to Greenwich time every 15 degrees. As you move

⑥ If you go west ...: 假如你向西走。这里 west 是副词, 义为“向西方”。此外, east, south, north 均可这样用, 如本课出现的 going east 和 move east。⑦ community: n. 社团, 社区。⑧ Georgia ['dʒɔ:dʒjə]: 佐治亚(美国州名)。Florida ['flɒrɪdə]: 佛罗里达(美国州名)。⑨ Michigan ['mɪʃɪɡən]: 密执安(美国州名)。⑩ Greenwich ['grɪnɪdʒ]: 格林威治(英国伦敦东南一市镇, 为格林威治子午线所经过的地方)。

west from Greenwich, you subtract an hour from Greenwich time in the same way.

So when it is 12:00 noon in Greenwich, it is 4:00 in the morning in California, because you have moved west nine 15-degree intervals,^① and it is 2:00 in the afternoon in Egypt, because you have moved east two 15-degree intervals.

Exactly on the opposite side of the world from Greenwich is an imaginary line called “the International Date Line.^②” If you cross this line moving west, you “lose” a whole day, and if you cross it moving east, you “gain” a whole day.

Exercises

I. Are these statements true or false according to the information of the passage?

1. The United States was divided into four time belts in the 18th century ()
2. The time kept in each belt is exactly the same as that in the belt next to it. ()
3. The dividing lines between the time belts are perfectly straight lines. ()
4. The whole world is divided into four time zones exactly as the United States is. ()
5. 0-degree meridian runs through Greenwich.

II. Answer these questions.

^① nine 15-degree intervals: 九个十五度时间间距。 ^② the International Date Line: 国际日期更换线。