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英语文选

(理工科)

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(理工科)

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张树东 李景雨 (主编)

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编 者 的 话

为了加强英语阅读实践，逐步培养学生阅读英语书刊的能力，我们编注了这本供大学理工科用的英语读物，供综合性大学、师范院校和电视大学的理工科学生，以及科技人员和英语自学者使用，特别是供准备报考硕士学位或博士学位研究生的理工科学生参考。

本书主要是物理、化学、生物类的科普文章，也包括了部分天文、地理、地质等方面的材料，所有文章均选自近年来国外出版的书刊杂志。选材力求内容新颖，文字流畅，语言生动，结构严谨。文章编排顺序主要根据语言的深浅难易，并适当考虑内容的类别。每篇文章附有对较难语句的注释，书后有总词汇表（不包括中学英语课本及北京外国语学院英语教材第一、二册中出现过的单词），供读者阅读和翻译时参考。

参加本书编写的还有金敏宜、薛琛二位同志。本书由南开大学公共外语教学部张祚荪副教授审稿，并得到其他同志的协助，我们特表示深切的感谢。

由于我们水平有限，本书一定存在不少缺点和错误，希望读者批评、指正。

编 者

1985年4月

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1. Water Power

Flowing water is itself an example of solar energy.① The sun's heat raises water from seas and lakes. The water forms clouds in the sky and then returns to the earth as rain. It flows down the rivers to the sea, and the sun raises it into the air again.

We have been using the power of flowing water for centuries. There are still some watermills at work in Britain. But today, water power is more often used to generate electricity. Perhaps you can name a hydroelectric power plant in your own country. The builders usually begin by building a dam to hold back the water of a river.②

When they built the Hoover dam, on the Colorado river, in 1936, the water power provided enough electricity for the whole of Los Angeles. (Today it supplies only a small part of the electricity that giant city needs.) And since that time men have built bigger and bigger dams in different parts of the world.

Hydroelectric plants—they use the power of moving water to generate electricity—are a cheap

method of supplying energy. The difficulty is that you can't build them in every part of the World, the place must be right in many ways. There aren't many more places in Britain, or even in America, which could supply hydroelectric power.

Some very big dams have been built in Africa for hydroelectric plants. But they have caused serious problems; the new lakes have had a strong effect—sometimes a very bad effect—on the lives of the birds and animals of the area; some of them have had a bad effect on the health of the people.①

(from The Energy Crisis)

【注】

- ① Flowing water is itself an example of solar energy. 流水本身就是太阳能的一个例子。flowing是现在分词,用作定语,修饰water.
- ② The builders usually begin by building a dam to hold back the water of a river. 建造者们通常是首先修筑堤坝拦住河水。hold back 阻止,例如: The police held back the crowd. 警察阻止住人群。
- ③ some of them have had a bad effect on the health of the people. 有些新湖泊已经对人民的健康产生了严重的影响。句中 effect 作“对……的影响(作用)”解。例如: Punishment had very little effect on him. 惩罚对他没有什么作用。

2. Returning to the Use of Coal

A very important reason for turning against coal was pollution. When one group of astronauts was returning from the moon, the first sign they saw of people on the earth was smoke from the Four Corners Power Station in New Mexico. That power station—"the biggest and dirtiest in the world", people call it—uses about a thousand tons of coal an hour to generate about 2,000,000 kilowatts of electricity. ① It was built in the New Mexico desert to save the air of Southern California from pollution, but the smoke hangs in the air for hundreds of miles around the power station; nobody thought that it would reach so far.

Even the giant Four Corners Power Station is not big enough to provide electricity for Southern California and the country round it. The area's need for electricity is growing at about one million kilowatts each year. So three or four more power stations are being built to supply the need; they will be coal-burning too, because there is not enough oil for "clean" power stations.

Sir Derek Ezra, the head of the National Coal

Board in Britain, thinks that Britain too will have to return to the use of coal.

“In the 1960s oil became very important. Then came nuclear power, and then natural gas,^② the gas that often comes out of the ground with oil. We all thought that these new fuels would take the place of coal.^③ But we thought too quickly: we have to use more coal now because oil supplies are uncertain, and there are technical problems with nuclear power.”

Ezra ~~8382~~ says that Britain and the other countries in Europe use coal more carefully than the United States.

“British coal-burning power stations,” he has said, “cause very little pollution. Only white smoke leaves them. The dirt is caught in the power station.”

But some people do not agree with Ezra. They say that the wind carries chemicals from British and German power stations to the sky over Scandinavia. When it rains, these chemicals pollute the lakes and forests.

(from The Energy Crisis)

[注]

- ① That power station—“the biggest and dirtiest in the world”, people call it—uses about a thousand tons of coal an hour to

generate about 2,000,000 kilowatts of electricity. 被人们称为“世界上最大最脏”的那座发电站, 每小时耗煤约1,000吨, 发电约2,000,000瓩。about当“大约”讲。例如: There are about 5,000 students in our university. 我们学校大约有5,000名学生。

- ② Then came nuclear power, and then natural gas, ...这两句都是倒装句, 其中第二个句子的then后省略了came。由then引起, 谓语为come (follow) 的句子经常要倒装。例如: Then came a new difficulty. 然后出现了新的困难。

- ③ we all thought that these new fuels would take the place of coal. 我们都曾经认为这些新燃料会取代煤。take the place of ...当“取代...(的位置)”解。例如: Tom fell ill and Jane took his place. 汤姆病倒了, 珍妮接替了他的工作。

3. Gas

Gas is another possible fuel for homes and industry. But gas comes from coal or from oil or, as natural gas, from the oilfields, so there is a shortage of gas too. (Some geologists think that there is plenty of gas deep down under the earth's outer crust, and that one day we may be able to get it up.)

There has been a great shortage of gas in many parts of America. American industry agreed to use no gas during some parts of the day,^① this was to help homes which used gas for cooking and heating. But now there is bad news for people with new houses: they will never be able to have gas supplies to their homes.

Mr and Mrs Tom Wikoff have just bought a new house.

"They told me I could never have a supply of gas," said Mrs Wikoff. "I was really surprised. I always thought that in this country, if you had the money, you could get anything. Now they say we can't have gas, and we may not be able to get oil later. What's happening to us?"

Mr and Mrs Wikoff, and others like them, have been the first people to feel the effect of the shortages. But they will not be the last. People have been warning the United States for a long time about the crisis that was coming, but until now very few people have listened.

What can we learn from these things?

In the past we have wasted gas. Nobody has wanted the natural gas that comes out of oil wells. It has blown away or burned at the well. That gas is needed today. America is even importing gas from other countries. For a few years, ships of a new kind have been sailing into the port of Boston, on the Atlantic coast. They are French ships, and they bring natural gas from the gas fields in Algeria. The gas is expensive, of course, after the long journey in special ships that keep it liquid. If it became gas too soon, it would be dangerous.^② The gas burns very easily. In fact it was the cause of an explosion in the port of Boston in 1973.

So it is not only oil that is the problem. Some experts say that there will be a shortage of all kinds of energy in the 1980s.^③

(from The Energy Crisis)

[注]

- ① American industry agreed to use no gas during some parts of the day. 美国工业界同意，一天中的某些时间内不使用天然气（或煤气）。agree to 同意。例如：1) He didn't agree to our staying up late. 他不同意我们熬夜。2) I asked him for permission, and he agreed to my going. 我请求他的许可，他同意我去了。
- ② If it became gas too soon, it would be dangerous. 如果液化气很快变为气体，那是很危险的。本句中动词为虚拟语气（与现在事实相反的假设）。又如：1) If he were here, he would help you. 如果他现在在这里，他会帮你的。（事实上，他现在不在这里。）2) If I had time, I should do it again. 如果我有时间，我倒是想再做一遍。（可惜没有时间了。）3) If I knew English, I would buy that dictionary. 我要是懂英语，我就买那本字典。（但我不懂英语。）
- ③ Some experts say that there will be a shortage of all kinds of energy in the 1980s. 有些专家说，20世纪80年代各种能量都会出现短缺现象。1980s 是1980的复数形式，读作 nineteen eighties，指“20世纪80年代”，即1980—1989年，注意它的前面有定冠词the。1980s 也可以写成 1980's。

4. Salt

We do not know when man first began to use salt, but we do know that it has been used in many different ways throughout history^①. Historical evidence shows, for example, that people who lived over 3,000 years ago ate salted fish. Thousands of years ago in Egypt, salt was used to embalm the dead.

Stealing salt was considered a major crime during some eras of history. In the 18th century, for instance, if a person were caught stealing salt, he could be put in jail^②. History records that about ten thousand people were put in jail during that century for stealing salt! About 150 years before, in the year 1553, taking more salt than one was entitled to was punishable as a crime^③. The offender's ear was cut off!

Salt was an important item on the table of royalty. It was traditionally placed in front of the king when he sat down to eat. Important guests at the king's table were seated near the salt. Less important guests were given seats farther away from it.

In the Roman Empire, one of the most important roads was the one that carried salt from the salt mines to Rome. Guards were stationed along the route to protect against salt thieves.^④ The guards received their pay in salt, hence the English word, salary. Any guard who fell asleep while on duty was said to be "not worth his salt," and as a result he would get a little less salt on his next payday! (The expression, " not worth his salt," is still used today in English to refer to a person felt to be incapable of doing a job).^⑤

In the early days in the United States, salt was very scarce. (No one yet knew that there was enough salt under the ground to provide an ample supply of salt for the whole world for thousands of years!) So, the storekeeper of pioneer days was very careful with his salt. As he poured out salt for a customer, he did not like for anyone to walk across the floor of the store. The walking might shake the floor and could cause the salt to "settle" and as a result the storekeeper would have to add a little more salt to the amount he had already poured out!^⑥

In the modern world salt has many uses beyond the dining table. It is used in the making of glass and airplane parts, in the growing of crops,

and in killing weeds. It is also used to make water soft, to melt ice on roads and highways, to make soap, and to fix colors in cloth.⑦ Salt even helps to relieve itching when it is rubbed on mosquito or other insect bites.

Salt can be obtained in various ways besides being taken from mines underground. Evaporation of salt water from the ocean or salt water lakes or small seas is one of the more common processes for manufacturing salt. In Australia it can even be taken from a "salt bush." yet, however it is obtained, salt will continue to play an important role in the lives of men and women everywhere.

(from Sailing on in English)

[注]

- ① We do not know when man first began to use salt, but we do know that it has been used in many different ways throughout history. 我们虽然不知道人最早在什么时候开始使用盐, 然而我们却知道在整个历史上盐一直用于许多不同的方面。句中 but we do know... 中 do 是助动词, 起加强语气的作用。例如: I do think he is right. 我确实认为他是对的。
- ② In the 18th century, for instance, if a person were caught stealing salt, he could be put in jail. 例如, 在18世纪, 如果有人偷盐被抓获的话, 他会被关进监狱的。这个句子是虚拟结构句。主句中的谓语是 could be put, 从句中的谓语是 were caught。虚拟结构很常见。例如: If we had the manpower, we could open up even more land. 如果我们有人力, 我们还能开更多荒地。
- ③ About 150 years before, in the year 1553, taking more salt than one was entitled to was punishable as a crime. 从当时算起的大约150年以前, 也就是1553年, 一个人拿了超过他应当拿的