# 科技英语分级读物

## 第二级

曹菽华　主编



机械工业出版社

# Scientific English Readings

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Stage Two

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# 前　言

目前，无论理工科和文理科高等院校，还是成人高等学校的英语教学，都普遍需要课外读物，以便与课内教学相配合，有效地培养学生的阅读能力。为适应这种需要，我们选编了这套“科技英语分级读物”(Scientific English Readings)。

本“科技英语分级读物”按照文章的难易程度分为四个等级。每级均附有单词表、文章注释和译文。本书为第二级(Stage Two)，适合于国家教委颁发的“大学英语教学大纲”规定的一、二、三级学生使用。本书亦可作已具初、中级英语程度的科研设计人员、工程技术人员和英语教师及其他英语学习者的自学读物。

本书由曹菽华(主编)、全婉芝、常桂森和盛章瑜编写，李承仁审，里佐亨复审。

由于编写时间仓促，加之水平所限，疏漏不当之处，希望读者指正。

编者于沈阳东北工学院

1989 年 8 月

# Contents

**译文**

# Unit 1 A Crash

In November 1972 a small plane took off from Cambridge Bay, in the extreme north of Canada. Aboard were four people:[1] Martin Hartwell, the Canadian pilot; David Kootook, a teenage Eskimo boy; David's aunt; and an English nurse. They were flying south to Yellowknife, 600 miles away, because David and his aunt both needed urgent medical treatment.

Not long after taking off, their plane encountered strong winds and heavy snow. It was thrown around, and Hartwell could not control it, or stop it losing altitude swiftly. It went down and down, and crashed into some trees.

David Kootook was unhurt, but the pilot had a broken leg[2], and could not walk. The two women did not survive the crash.[3]

David and Hartwell began to consider their situation. They knew that people would search for them, but it was wild country, with very few inhabitants. It was also extremely cold, with snow on the ground. They built a small shelter from branches, and removed blankets, clothes and anything else useful from the plane. They decided not to sleep in the plane itself because it was made of metal, which

would not insulate them from the cold outside. For food, they had only one small box of emergency supplies.

When their plane failed to[4] arrive at Yellowknife, a search was organized. Many planes were sent out to look for signs of the crash. But the searchers faced a most difficult task, because the area they needed to cover[5] was enormous, about equal in size to the whole of Japan. A further problem was that the plane was silver in colour[6], which made it hard to see against the snow. And, although no one then knew it, the plane had been blown 200 miles off course by the strong winds.[7]

For the pilot and the boy, the days passed slowly. David's stomach pains, one of the reasons for the journey, had luckily disappeared, so he could move around freely. They set traps for animals, but did not catch any. David tried to walk to a lake they could see some miles away, to catch fish, but he got lost, and it took him two days of walking through the heavy snow to get back to Hartwell. They had plenty of wood around them to keep a fire going, but they began to run out of [8] food. Hartwell sent David away once, to try and fetch help, but the following morning he returned, frightened of being alone.

One day a plane went nearby, but failed to see them. David's will to stay alive seemed to be going.[9] They were both weak from lack of food, and, twenty–two days after the crash, David seemed to give up all hope, and died.

Hartwell was now near to death himself. He had noth-

ing to eat except melted snow, and a few small plants he found. Once he too almost gave up. He fell asleep by the fire, and might never have woken up but his hand dropped into the fire, and the pain aroused him. Somehow this made him determind to stay alive.

At dawn on the thirty–second day, the pilot heard wolves calling in the distance. He knew that if they found him, it would all be over. Then, later that afternoon, came a more friendly sound: the noise of a helicopter. He dragged himself out of his shelter and lit a flare which made clouds of red smoke. The helicopter, which had almost passed by, saw the smoke, and saved him.

## New Words

crash *n.* 毁坏，(飞机)失事或坠毁

inhabitant *n.* 居民

shelter *n.* 隐蔽处

insulate *vt.* 隔离

emergency *n.* 紧急事件

trap *n.* 陷阱；夹子；圈套

arouse *vt.* 唤醒；引起

somehow *ad.* 以某种方法；设法地；不知怎地

helicopter *n.* 直升飞机

drag *v.* 拖，曳；拖着脚步走

## Notes

1. Aboard were four people.

机上有4个人。

2. but the pilot had a broken leg

而飞行员却折断了一条腿

3. The two women did not survive the crash.

两位妇女都没能在飞机失事中幸存下来。

4. fail to + *inf.* 不能……；没有……

5. the area they needed to cover

他们需要飞越的地区

这里 they needed to cover 为无关联词定语从句。

6. the plane was silver in colour

飞机是银白色的

7. the plane had been blown 200 miles off course by the strong winds.

由于大风已使飞机偏离航线200英里。

8. run out of 用完，耗尽

9. David's will to stay alive seemed to be going.

大卫似乎正在失去活下去的决心。

这里 will 是名词，表示意愿、决心。to be going 为不定式的进行式。

此处 go 意为"消失"，"逝去"。

# Unit 2 Lavoisier and Modern Chemistry

The great scientist Newton said that if he had been able to see further than other men it was by standing on the shoulders of giants.[1] Antoine Lavoisier, who was born in Paris in 1743, might well have said the same[2]. Indeed most, perhaps all, great scientists and inventors have depended on the work of people before them. Lavoisier lived at a time when many scientists were making discoveries about chemistry. And these men depended greatly on the work of Robert Boyle[3], who lived some 100 years earlier and might be called the founder of modern chemistry. We have chosen to write about Lavoisier, not because he was greater than these others, but because he was able to take the ideas of others and work them up into complete theories on which later scientists could depend[4]. One of these theories was what happens when things burn.

If you throw a piece of wood on the fire, it burns. Scientists for some time had been saying that substances which would burn, such as wood, contained in them a material they called " phlogiston" , and that when things burnt the phlogiston left the substance. As soon as no phlogiston was left, the burning would stop. A chemist called Joseph Black[5]

set out to[6] prove that there was no such thing as phlogiston. He found that, when substances were burnt, nothing was lost, but only changed into another form. He found that from a fire there came a gas he called "fixed air"[7], which we now call carbon dioxide. Another chemist, Joseph Priestley[8], although he really believed in phlogiston, discovered a gas which we now call oxygen, which forms an essential part of air, and which is necessary to make things burn. Lavoisier, working on the experiments of Black and Priestley, was able to prove what really happens when things burn: that burning is a combination of other substances with oxygen from the air, and that without oxygen there can be no burning. At first, as often happens, many scientists were angry because the old idea of phlogiston was proved absurd. In Berlin[9], for example, an angry crowd dressed up a guy as[10] Lavoisier and burnt it publicly. But soon everyone had to accept that what Lavoisier said was true.

Antoine Lavoisier had had a very good education in Paris. At school he had grown[11] interested in science, especially in chemistry; but then he trained as a lawyer. He worked for the department of the French government which collected taxes, and later he was put in charge of[12] the French gunpowder factories. Quite early in his career he was asked to give advice on[13] the best method of lighting the streets in Paris. In all this work he was practical and thorough, for he always like to be able to turn his scientific knowledge to some practical purpose. For instance, when

studying the problem of street lighting, he spent six weeks in heavily-curtained room lit only by the lamps that he was studying. He produced so successful a solution to the problem that he quickly became famous. He worked so hard that often he would not stop for proper meals: at one time[14] he is said to have lived only on[15] milk, since that he could swallow quickly without wasting time.

As well as his work on burning, Lavoisier also carried on work on what water is made of. Also he followed up[16] the ideas of Robert Boyle in working out how matter is built up and what is the difference between a mixture and a compound. Everything he did was thorough, careful and systematic.

## New Words

phlogiston *n.* 燃素
absurd *a.* 不合理的，荒唐的
guy *n.* 鬼一样的人；滑稽木偶
publicly *adv.* 公开地
gunpowder *n.* 火药
career *n.* 生涯，经历；职业
swallow *vt.&vi.* 吞，咽下去
systematic *a.* 有条不紊的，系统的

## Notes

1. The great scientist Newton said that … it was by standing on the shoulders of giants. 句中 it 指上面谈过的内容；意思是"伟大的科

学家牛顿说，如果说他能够比别人看得更远些，这是因为他站在巨人的肩膀上的缘故”。

2. Antoine Lavoisier, who … might well have said the same. 其中 Antoine Lavoisier 安托茵·拉瓦锡(1743～1794，法国化学家)；may (might) well + *v* 很有可能；全句意思是“安托茵·拉瓦锡(1743年生于巴黎)很可能也说过同样的话”。
3. Robert Boyle 罗伯特·波义耳(1627～1691，英国物理学家和化学家)。
4. We have chosen to … not because …, but because he …depend. 其中 choose to +*inf.* 愿意……，选定……；work… up into 把……整理成……；全句的意思是“我们选定写拉瓦泽的故事，并不是因为他比其他人伟大，而是因为他能够吸收别人的思想，并把别人的思想加以整理，使之成为后来的科学家可依赖的完善的理论”。
5. Joseph Black 约瑟夫·布莱克(1728～1799，苏格兰化学家)
6. set (out) to+*inf.* 开始……；打算……，企图……
7. fixed air 不流动的空气
8. Joseph Priestley 约瑟夫·普列斯特雷
9. Berlin 柏林
10. dress up … as … 使……化装成……
11. grow+过去分词 变得；如：They have already grown used to that kind of work. “干这种工作他们变得已经习惯了”。
12. in charge of 负责……(的)，管理
13. give advice on 提出关于……的忠告，提出……指教
14. at one time (过去)有一时期，曾经
15. live on 靠……生活
16. follow up 把……追究到底，把……贯彻到底

# Unit 3 Multi–Stage Rockets

A single rocket is not powerful enough to send a spacecraft into space[1]. This is because the amount of fuel a single rocket can carry[2], is not enough to supply the necessary amount of power. To get enough fuel and power to last till the spacecraft gets out of Earth's gravitational pull, a number of rockets are needed[3]. These rockets are linked one atop the other[4], looking much like a giant lighthouse[5]. Together they form a multi–stage rocket. The spacecraft lies at the top of the multi–stage rocket.

The first stage of a multi–stage rocket is called the booster. It is the biggest as it has to lift the whole rocket system from the ground. The booster helps to lift the rocket over the thick region of the atmosphere. When the fuel of the booster is used up it separates from the rest of the rocket and drops to Earth. When this happens the second stage fires and propels the rocket further towards space. After some time the second stage, having used up its fuel[6], just like the booster, separates and falls off. The third stage, to which the spacecraft is attached then fires. It carries the spacecraft into space. When the third stage uses up its fuel, it too falls off. The spacecraft is then left to travel to its destination on its own power.

## RETURN TO EARTH

Spacecraft can be launched into space with the help of multi–stage rockets. But before manned spacecraft could be sent to space, the problem of getting the spacecraft safely back to Earth had to be solved.

There are many dangers to overcome when a spacecraft returns to Earth. The main one is speed. When a spacecraft returns to Earth it will be travelling at a great speed. In order to land on Earth, the returning spacecraft must be slowed down[7]. This is done by firing special rockets called retro–rockets. The capsule, or the part of the spacecraft which contains the spacemen separates from the rest of the spacecraft. The capsule re–enters the Earth's atmosphere and may fire several retro–rockets in order to slow down. The atmosphere also acts as a kind of brake and slows down the capsule. However a lot of heat is given out because of the great speed at which the capsule pushes through the atmosphere. To prevent the capsule from[8] burning up, it is protected by a heat shield. Parachutes are also used to slow down the capsule further so that it can land safely.

Scientists have been able to send men into space, and bring them back to Earth. They could only do this after studying about space and the bodies in it.

### New Words

multi–stage *a.* 多级的

gravitational *a.* (万有)引力的，重力的