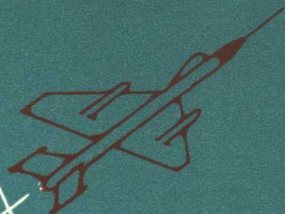
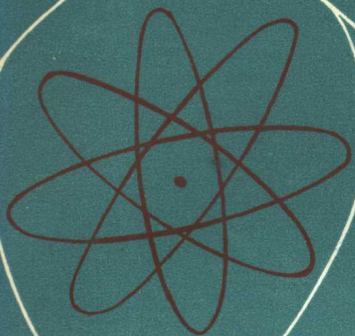
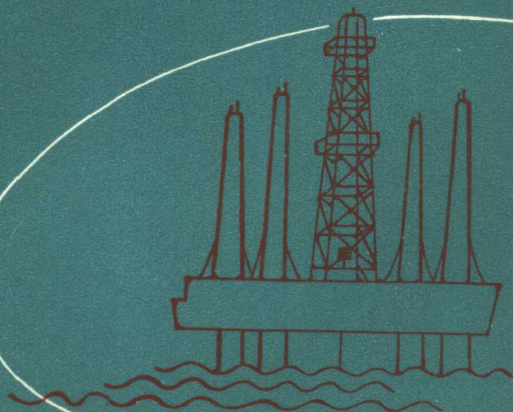


科学对话



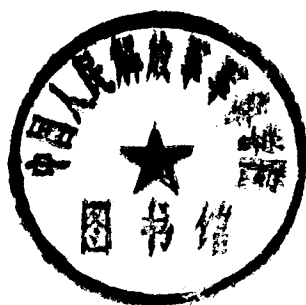
SCIENTIFICALLY SPEAKING



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Scientifically Speaking

科学对话



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科 学 对 话

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注 释 者 的 话

本书选自英国广播公司无线电和电视教学节目所采用的科技英语教材——SCIENTIFICALLY SPEAKING。这里只用了其中十二篇课文，主要内容介绍塑料、钢铁、飞机、石油、船舶制造、电子学、计算机、激光等方面的科普知识以及某些新技术的应用和发展情况。课文题材较新，科技词汇丰富，复现率较高，且兼顾到日常生活用语。

不过，应该指出，原版书的一些内容明显地带有资产阶级宣传品的烙印。有些课文商业气息较浓厚，个别地方还宣扬资产阶级生活方式，卖弄低级趣味的“幽默”、“噱头”。希望读者阅读时注意。

一九七八年一月

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1. Plastics

The journalist, Giles Newton, and his wife, Susan, are at home after spending the day at a plastics exhibition.

Susan Newton I just can't help thinking of things made from plastics as imitations, as cheap substitutes¹.

Giles Newton If by 'cheap' you mean less expensive, then you're quite right². For example, that new watering can we bought for the garden³.

Susan Yes, it did cost less than a metal one⁴.

Giles Do you remember why we bought it?

Susan I liked the nice bright yellow colour. But you can buy coloured metal ones, too.

Giles Ah! But with plastics, the colour goes all the way through⁵, because

the pigments are mixed in with the raw materials. They don't have to be painted like metal.

Susan

What does it matter? The result's the same!

Giles

No, it isn't. *Take a watering can⁶, or a child's toy, or even something you use in the kitchen, like your washing-up bowl. What happens when they're knocked against something hard⁷?*

Susan

You mean if they're metal⁸?

Giles

Yes.

Susan

I suppose, after a while the paint becomes chipped. *All right, I see the point⁹. With plastics the colours won't chip off.*

Giles

But do you remember another reason why we decided to buy a new watering can?

Susan

Of course. The old one was so rusty. There were holes in the bottom ... I see. Plastics don't rust like metal.

Giles

Exactly. Are you beginning to

Susan feel more kindly towards plastics?
*I've nothing against them*¹⁰, Giles,
but they are used instead of the
original materials, so that makes
them substitutes, doesn't it¹¹.

Giles Do you remember what Mr.
Harvey said?

Susan Who?

Giles The plastics expert, you know,
the chemist, in the recording I
made at the exhibition¹².

Susan Oh yes, of course.

Giles And, incidentally, my tape record-
er wouldn't be so small or so light
if it weren't for the fact——¹³

Susan I know, if it wasn't made of
plastics.

Giles You're learning¹⁴. I'll just run
the tape back to the right place.
I think this is where it is. Listen.
(On tape recorder¹⁵)

Giles ... people who call them substi-
tutes.

Mr. Harvey Oh, yes, some still do but they're
quite wrong, Mr. Newton. *Plastics*

*are materials in their own right*¹⁶. Cheapness is not the only factor that makes them acceptable to industry. *Before it can replace any other material—like wood, metal or a natural fabric—a plastics material must have a performance that is at least comparable to whatever was previously used*¹⁷.

Susan

And I suppose sometimes they're even better.

Mr. Harvey

*Frequently, particularly when the properties of the material are adjusted, or even created, to suit the specific requirements of the end product*¹⁸.

Giles

What sort of properties?

Mr. Harvey

The degree of rigidity or flexibility, for example; resistance to acids, insulating qualities, ability to withstand sudden changes of temperature. Oh, the list is endless because the plastics industry is being asked continually to rec-

commend or develop materials for such a wide variety of new uses.

Giles

Do they succeed?

Mr. Harvey

*More often than not*¹⁹. In fact, there are so many types of plastics with so many unique properties, they frequently *provide answers to unsolved engineering problems*²⁰.

(Giles Newton stops the tape recorder)

Giles

Well, Susan?

Susan

*He talks so easily*²¹ about unsolved engineering problems. *I'd be more impressed with an example—but a simple one, of course*²².

Giles

As simple, perhaps, as your habit of leaving the refrigerator door partly open?

Susan

Well, the catch is broken.

Giles

Susan! It was repaired two months ago.

Susan

Oh, all right! I sometimes give it a push with my elbow and it doesn't quite close. *So*²³?

Giles Well, somebody thought of making refrigerators without door-catches. Have you heard of *polyvinylchloride*—better known as *PVC*²⁴?

Susan Of course! The upholstery in the car, the kitchen floor tiles, the shower-curtains in our bathroom, they're all different types of PVC.

Giles Well, that's what was used to solve this particular engineering problem: PVC, with a magnetic filler.

Susan So, when the door is almost closed, magnetic attraction pulls it, *keeps it tightly shut*²⁵. That's very clever.

Giles And it's cheaper to make.

Susan And the refrigerator has a better door. Marvellous!

Words and Expressions

plastic /'plæstik; 'pla:stik/ a. 可塑的; 塑料的
n. (常用复) 塑料; 塑料制品

journalist /'dʒə:nəlist/	n.	新闻记者
imitation /,imi'teɪʃən/	n.	仿制; 仿制品
expensive /iks'pensɪv/	a.	昂贵的
substitute /'sʌbstɪtju:t/	n.	代用品
pigment /'pɪgmənt/	n.	颜料
washing-up /'wɒʃɪŋ'ʌp/	n.	洗餐具
washing-up bowl		洗餐具的盆
chip /tʃɪp/	v.	削; 弄缺
chip off		削下来; (油漆、搪瓷等)剥落
rusty /'rʌsti/	a.	生锈的
chemist /'kemɪst/	n.	化学家
incidentally /,ɪnsɪ'dentəli/	ad.	附带地, 顺便说及地
factor /'fæktə/	n.	因素; 因子
fabric /'fæbrɪk/	n.	织物, 织品
performance /pə'fɔ:məns/	n.	表演; 性能
comparable /'kɒmpərəbl/	a.	比得上的
adjust /ə'dʒʌst/	v.	调整; 调节
property /'prɒpəti/	n.	性能
rigidity /ri'dʒɪdɪti/	n.	刚性
the degree of rigidity		刚度
flexibility /,flekse'bɪlɪti/	n.	挠性
the degree of flexibility		挠度
resistance /rɪ'zɪstəns/	n.	抵抗
acid /'æsɪd/	n.	酸
resistance to acid		抗腐蚀能力
insulate /'ɪnsjuleɪt/	v.	绝缘
insulating qualities		绝缘性能

unique /ju'ni:k/	a.	独特的
refrigerator /ri'fridʒəreɪtə/	n.	冰箱
catch /kætʃ/	n.	门扣
polyvinylchloride /,pɒli'veɪnɪl'klɔ:raɪd/	n.	聚氯乙烯
upholstery /ʌp'həʊlstəri/	n.	室内装璜; 内部装饰
tile /taɪl/	n.	磁砖; 花砖
shower-curtain /'ʃaʊə,kə:tn/	n.	浴帘
magnetic /mæɡ'netɪk/	a.	有磁性的
filler /'fɪlə/	n.	填料
marvellous /'mɑ:vɪləs/	a.	不可思议的; [口] 妙极的

Notes and Commentary

1. I just *can't help thinking of* things made from plastics as imitations, as cheap substitutes. 我还是禁不住要这样认为: 塑料制品不过是些仿制品, 是些廉价的代用品。

can't help 作“不得不”、“忍不住”解, 后须接动名词。

think of ... as 意为“把……看作”、“认为……是”。

2. If by '*cheap*' you mean less expensive, then you're quite right. 如果你说的“廉价”是指价钱便宜的话, 那你就完全说对啦。

cheap 这个词既可以表示“便宜的”, 又可以表示“蹩脚的”, 所以会有上面这种说法。

3. For example, that new watering can we bought for the garden. 比方说, 我们买来浇花草用的那只新水壶 (价钱就比较便宜)。

这是个省略句,其中谓语 *is less expensive* 省去了。对话中的句子比较简洁,常有一些成分被省略,有时是上面已提到过,有时是在回答对方的问题,有时是紧接别人的话头往下说,所以这类省略是很自然的,不会影响意思的表达,也不会引起误解。

we bought ... 是定语从句,修饰 *watering can*, *we* 前面的关系代词 *that* 或 *which* 在这个从句中作宾语,故可省去(定语从句中作宾语的关系代词 *that*, *which* 或 *whom*, 在口语中经常省去)。

4. *Yes, it did cost less than a metal one.* 不错,它确实比金属水壶便宜。

这里的 *did* 是助动词,用来加强谓语动词 *cost* 的语气,在句中须重读。

one 是不定代词,代替前面提到的名词 *watering can*, 以免重复;如果用来代替复数名词,则用 *ones*, 例如后面出现的 *coloured metal ones* 即是。

5. *But with plastics, the colour goes all the way through ...* 但是塑料的色彩却始终不会退掉……

介词 *with* 在这里作“对……”、“就……来说”解。

all (the way) through 作“始终”、“一直”解。

6. *Take a watering can ...* 就拿水壶……来说吧。

动词 *take* 在这里作“以……为例”解,相当于词组 *take for example*。

7. *something hard* 某样硬的东西。

修饰 *something*, *anything*, *nothing* 这类代词的定语,均须放在这些词的后面。例如 *nothing serious*, *something important* 等。

8. You mean if they're metal? 你是说, 如果它们是金属制品(那会出现什么情况)吗?

这句是陈述疑问句, 其结构与陈述句相同, 一般只是在句末用升调来表示疑问语气。这种陈述疑问句在口语中极为常见。例如:

He is your ↗ brother?

他是你兄弟?

↗ Oh? You say it is ↗ interesting?

哦? 你说它很有趣?

9. All right, I see the point. 好啦, 我明白你的意思了。
10. I've nothing against them ... 我对塑料可没有什么反感……
11. ... so that makes them substitutes, doesn't it. ……这
一来它们不就成为代用品了吗?

这里的 so 是并列连词, that 是后一分句中的主语, 指前面讲的 “they are used ... materials” 一事, 而不是和 so 相连构成关联词组 so that。

注意: 这一反意疑问句的结尾用的是句号, 而不是问号。这在英语中并非罕见。这更加表明说话人对自己的看法相当肯定而无须对方回答。在这种情况下, 语调多用降调。有时, 反意疑问句后面也有用感叹号的。例如:

It sounds ironic, doesn't it!

这听起来倒真有点令人啼笑皆非!

12. ... the chemist, in the recording I made at the exhibition. ……在展览会上我为之录过音的那位化学家。
in 的前面省略了 whose words are。
13. ... my tape recorder wouldn't be so small or so light if

it weren't for the fact — ……我的磁带录音机可能不会这样小巧、轻便,要不是——

这是一个表示与现在事实相反的虚拟条件句。原话没讲完就被对方打断了,如果讲全应该是: ... the fact that it is made of plastics.

14. You're learning. 你有些长进了。

15. (On tape recorder) = (Giles switches /flips/ on the tape recorder) 本书课文都是对话,带有剧本的色彩。剧本中的舞台说明,多用省略句,这里的 on tape recorder 不仅省略了主、谓语,也省略了冠词。

16. Plastics are materials *in their own right*. 塑料本身就是材料。(或: 塑料本来就是名副其实的材料。)

in one's own right 表示“凭本身的资格或质量就……”的意思。

17. *Before it can replace any other material — like wood, metal or a natural fabric — a plastics material must have a performance that is at least comparable to whatever was previously used.* 塑料所必须具备的性能,至少要同原先使用的任何材料不相上下,然后(或: 这样)它才能用来替代各种材料,如木头、金属或天然织物。

在这个主从复合句中, *before it can ... a natural fabric* 是由从属连词 *before* 引导的时间状语从句; *that is at least ... used* 是修饰 *performance* 的定语从句,其中又含有一个由关系代词 *whatever* 引起的名词性从句,作介词 *to* 的宾语。

be comparable to 作“可与……相比的”解。

18. Frequently, particularly when the properties of the material are adjusted, or even created, to suit the specific requirements of the end product. 特别是在为了适应成品的特定要求而调整材料的性能、或是使材料进一步获得新的性能的情况下,塑料往往更为理想。

这句是紧接前句讲的, frequently ... 可以理解为 frequently they're even better ...。

19. more often than not 常常;多半。
20. ... provide answers to unsolved engineering problems.为解决不了的工程难题提供解决办法。(或:使一些解决不了的工程难题迎刃而解。)

21. talks so easily 讲得天花乱坠。

22. I'd be more impressed *with an example* — but a simple one, of course. 要是举个实际例子,当然是个简单明瞭的例子,那给我的印象可能会更深些。

这也是个表示与现在情况相反的虚拟条件句,这里的假设条件是用介词短语 *with an example* (= *if an example were /was/ given*) 来表示的。(参见注 13)

23. So? 喏?

这里的 *so* 是表示语气的用语,含有“情况就是这样嘛,你有什么法子呢?”的意思。

24. polyvinylchloride — better known as PVC 通常被称为 PVC 的聚氯乙烯。

25. ... keeps it tightly shut.使它关得紧紧的。

这里的 *shut* 是过去分词,它和 *it* 一起构成“代词 + 分词”型的复合宾语。