

FOLLOW ME TO SCIENCE
The New Book

新编

跟我学

——科技英语

● 中央电视台教育节目用书
● 北京工业大学出版社



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内 容 提 要

本书提供了《跟我学——科技英语》教学片每个单元内容的真实文字记录——电视片脚本,与所播放内容完全一致,另外还提供了与课文内容有关的词汇,对课文的疑难点进行了详细的注释,并进行全面的小结,以巩固学习成果。本书自成体系,可单独使用,用作《跟我学——科技英语》电视教学片的教材,亦可与《跟我学——科技英语》视听教材配合使用。本书是国内罕见的口语体科技英语教材。



前 言

《跟我学——科技英语》电视教学片开播以来,受到了广大英语学习者,尤其是科技人员的普遍欢迎。与此同时,他们也提出了不少建议和意见,其中比较集中的有两个方面:一是由于电视教学片中的原文部分用的是自然语速,对相当数量的观众来说,很不适应,对部分听不清或完全没有听明白的片断,他们不知从何处着手进行补救。二是因为在观看节目时要集中精力看,听,对每个单元的重点,讲解的要点及例句等来不及记笔记,这就给课后的复习带来了不少困难。为帮助读者解决上述困难,我们编辑了本书——《新编跟我学——科技英语》,它为广大收看本节目的观众进一步提供了正文及预习、复习使用的学习材料,它能帮助读者更好地提高收看效率和学习质量。

本书与《视听教材》有着明确的分工。首先,本书所收的电视片脚本与《视听教材》中的正文部分,即每个单元的课文并不完全一样。《视听教材》简洁,仅仅是有关该单元内容的文字介绍,它是在电视片脚本的基础上改写而成的,是一种较为规范的书面语体;而本书详尽,是所播放的每个单元的真实文字记录,兼容书面和口头两种语体。其次,除电视片脚本外,本书还包括有“词汇表”、“注释”和“小结”三个部分。为便于读者查阅,本书将“词汇表”按字母表顺序排列,而且将相关的同根词、复合词等排在一起,以利于读者对比和记忆。为了照顾不同层次的读者,本书所列的词汇和所给的注释力求详细;但为避免重复,本书又规定:凡在《视听教材》中出现过的单词和作过的注释,本书一律不再重现。“小结”包括有两

方面的内容:①用英语写的,有关每个单元的内容小结;②每个单元中所体现的科技英语文体的特点及语言要点。

科技英语,与英语的其他语言变体一样,也有书面和口头两种文体。当前,随着我国对外交往的日益增多,口语体科技英语的使用范围在不断扩大:如出国讲学、参加国际会议、参观实验室、举办国际博览会、接待外国专家、进行技术谈判等。但口语体的科技英语,在我国介绍、宣传得并不多,适用的教材及其资料也可以说是凤毛麟角。本书的出版,恰好满足了广大科技人员对口语科技英语的需要。《跟我学——科技英语》实际上就是一部口语体的电视教学片,《新编跟我学——科技英语》则是一本难觅的、真正优秀的口语科技英语教材。读者不仅能从中学到同一层含义的不同表示法,还能逐步领会口语体和书面语体两类科技英语的异同。

《跟我学——科技英语》是一套新颖实用的电视教程。它充分利用电视教学的特点,使学习者通过活动的画面和有声的形象,学习活的语言,提高听力理解能力是本教程的主要目标。为此,仍需坚持视听先于阅读这样的学习方法。对于大多数学习者来说,还是在收看完每个单元的节目后,根据每个人不同的收看效果,有针对性地对照本书,分析之所以听不懂的原因。我们认为,这样做较为有益。即使对于那些听力理解力一般或较弱的观众,可以在收看前,大致翻阅一下本书,但仍应尽快过渡到采用第一种方法。总之,不管属于哪种情况,我们希望广大读者要善于使用这本书,切忌过于依赖本教材去提高听力,务必不致使之成为妨碍听力锻炼的绊脚石,但在提高了听力后,本书却又是练习、提高科技英语口语能力的绝佳范本。

《跟我学——科技英语》这套电视节目题材十分广泛,内容涉及建筑、环保工程、交通运输、电子、仪表、医学、地质、海洋、气象、化工、纺织、体育等十几门学科。本书词汇表中所列的单词并不是对所有观众都是有用的,读者要根据本人所从事的专业范围,有选择地,有重点地进行学习。另一方面,也要注意交叉学科的迅速

兴起和日益发展的现状。在我们看来,重点应放在:一、基本词汇和语法结构词在科技语体中的新用法;二、各专业通用的,反映重要的科技概念和活动的词、短语及表示法。从这个意义上讲,本书的第四部分当是学习的重点。

本书中的电视片脚本是中央电视台教育节目部和英国广播公司英语教学部的《跟我学——科技英语》制作组提供的,其余是由本片电视节目讲解撰稿人,北京师范大学外语系王维镛教授编著。黄帼俊和冯剑秋两同志参加了本书的编辑整理工作。在此向他们表示衷心的感谢。

中央电视台教育节目部

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Unit 1 BUILDING FOR THE FUTURE

Script 电视片脚本

Commentary

This pagoda isn't in China; it's in the Royal Botanic Garden at Kew, near London¹. The garden is an international centre for botanical research, with an enormous collection of plants, from every type of climate.

Tropical plants are kept in greenhouses, because they need heat and humidity. But some of these greenhouses are rather old, and tropical humidity produces rust. So all the tropical plants are moving to a new greenhouse. This one is designed to last a hundred years².

The new house has a mild steel structure, with glass beneath it. The steel is sprayed with aluminium to prevent rust. The glass in the roof is 6 mm thick, because it's safer and lasts longer. But in the vertical faces, the glass is clear, to take advantage of sunlight.

It's very expensive to keep all the plants at the correct heat and humidity. These jets, operated by air pressure, will provide different levels of humidity in different parts of the new house and save energy too. To give the plants the perfect environment, every detail must be right.

One million people visit the Botanic Garden every year, for

scientific research, or just to look at the plants. The new building must be large enough for all the visitors, it must save energy and display the plants beautifully. Architecture is both a science and an art.

At the north end of the new glasshouse is a temperate zone or winter garden, in the centre the hot, tropical zone, and at the south end an arid zone, for plants which live in the desert³.

Nearly 4 500 square metres of space, under one low, glass roof, the architect is Gordon Wilson.

Gordon Wilson

The fact that one is designing primarily for plants rather than people, that makes it particularly special⁴. There are 10 separate climatic zones. They range from the arid zone, which is cool at the south end of the glasshouse, through the general tropical and sub-tropical zone in the centre of the glasshouse, to the temperate zone, or the winter garden, at the north end; and those are the 3 main zones.

Commentary

Humidity, heat and ventilation are programmed to change in seconds⁵; A simple microprocessor controls the environment in each zone.

Gordon Wilson

Internally the structure is very much played down and the plants are beginning to dominate and it's very important, I feel, right from the outset, that the plants should be allowed to dominate internally, especially as the spaces are relatively small and the roof is relatively low⁶.

Commentary

Now the garden is taking shape, under the supervision of

the gardener.

Hugh FitzGibbon (Gardener)

Yes, I mean, what we've tried to really re-create is just water running down the rock, with bits of fallen rock in the bottom and going across the path, into the stream the other side.⁷

Gordon Wilson

I like the way it steps down from the very small bits down here.

Hugh FitzGibbon

Well, that increases the sense of distance by having smaller rocks at the back and very large ones right at the front.

(BACKGROUND DIALOGUE INDISTINGUISHABLE)

Gordon Wilson

Energy conservation is of vital importance in any building and particularly in a glasshouse. Here we have approached the problem in several ways. We've reduced the volume. We have all the spaces under one large roof, rather than in separate buildings, as before.

Up in the roof here, we have a ... a 6 mm thick cast glass, which is the standard rough-cast glass and it has several functions, er... probably the main one is to hide the structure, because what we are seeing from inside is roughly about a third of the structure and two thirds is obscured. Any plant which has a ... a delicate shape, an interesting shape, is seen very clearly against a cast glass background, it's seen in silhouette.⁸ Conversely, of course, at the end we have a clear glass, and its function there is to give you a view out of the building it equally allows, er... views into the building.⁹

The cast glass helps to express the structure. It's set below

the structure so that about two thirds of it is above the glass. It gives scale and interest to the form of the building but it also serves the purpose of giving access over the roof for maintenance, for cleaning the glass and for getting access to some of the electrics which are very easily accessible from a ladder system which we use to hook over the structure that you can see.¹⁰

Kew is primarily a research establishment but also it is there to welcome the public.¹¹ I think now the plants are coming in, of course, it adds a new dimension. It's very much as I had hoped it would be, it's at least as good as I thought it was going to be, and I think the end result is satisfactory.¹²

Commentary

Hong Kong is full of tall, new buildings, but the architecture of the new Hong Kong and Shanghai Bank is dramatically different, using the latest materials and technology.

From the street, customers and staff enter, not through a door, but up an escalator. As they go up, they leave the plaza, an area under the bank which is used by the public, and which lets light into the building.¹³ A curved screen made of steel and glass separate the hot plaza level outside from the cool, air-conditioned banking hall inside.

Tall buildings usually have a central concrete core, with thick supporting columns.¹⁴ Here, the floors are suspended from steel masts, which create a wide open space, 52 metres high.

Ray Guy

One of the interesting features that the architects have built into the whole of the structure is the plaza level where you come in from street level, you're at 33 degrees, you're moving through an improving environment, right the way through to 23 degrees

when you get inside the banking hall.¹⁵ We have a cut-off glass screen that provides an interface and we are also dumping cold air around the escalator down into the other area, which gives us a natural break right the way through now, into the environment of the banking hall which is kept at 23 degrees centigrade.¹⁶

The past 5.5 years I have been the bank's project manager, working on this job. For approximately 2.5 years it involved the design stage of the building and the past 3.5 years it's been on the construction stage of the building.

Commentary

Every desk has its services provided through the floor.

Ray Guy

The under-floor services are brought through to given positions within the floor. We bring through the computer side through channels here, we bring through the telephone system, and we bring through the power services to here. They're brought through the raised floor system, together with all of the air conditioning, through a tile, on top of which we place the carpet tile.¹⁷

Commentary

Today, the staff of the China department are moving all their equipment and paperwork into their new office.

(CHINESE SPEECH)

Ray Guy

We've been moving staff in since the 30th of July. The general reaction of the staff has been good. I think they enjoy the open space that there is within the building, the newness of the building, the uniqueness of the building and I think generally the staff have accepted it very well.¹⁸

Commentary

The bank gave the architect a short , but difficult , brief.

Ray Guy

He had a very short brief and that was to build the best bank building in the world. It is a controversial building but then not everybody understands the building, I like it.

Woman

No, I don't like the building.

Man

I like it. It's , er... very striking.

Boy

We much prefer the older building.

Second Man

I like it a lot, and it's very functional inside.

Third Man

I, I find it looks like a huge machine that wants to eat you.

First Man

It's , er... kind of a stepladder appearance.¹⁹

Fourth Man

It's the most expensive building in the world , so I like it.

Ray Guy

It's a total stand-alone building , it doesn't fit into the context architecturally of Hong Kong at all, but I think that's one of its unique features , that it does stand out.

Commentary

It's controversial ; not everyone likes it , but it certainly stands out.

Vocabulary 词汇表

access ['ækses] *n.* 进入、使用、得到、接近(某物、人、地)的机会、方法,权利等

get (give, gain) access to/over 到达,接近,接触

accessible [æk'sesəbl] *a.* 可达到的,够得着的

air-conditioned ['eəkəndɪfənd] *a.* 装有空调的

air-conditioning *n.* 空调,通风装置

alumin(i)um [æljʊ:'mɪn(j)əm] *n.* 铝

approach [ə'prəʊtʃ] *vt.* 处理,探讨,对待

architect ['ɑ:kitekt] *n.* 建筑师

architecture *n.* 建筑学;建筑物

architecturally *ad.* 在建筑(设计、结构)上

arid ['ærid] *a.* 干旱的

arid zone 干旱地带

bank [bæŋk] *n.* 银行

banking hall 银行(大楼)

botanic(al) [bə'tænik(əl)] *a.* 与植物(学)有关的

botanic garden 植物园

botanical research 植物学研究

brief [brɪf] *n.* 指示

give a brief 下指示

have a brief 接(得)到指示

channel ['tʃænl] *n.* 渠道,频道,波道,(计算机中信息流的)通路或信路

climate ['klaɪmɪt] *n.* 气候

climatic [klaɪ'mætɪk] *a.* 气候(方面)的

climatic zone 气候区(带)

column ['kɒləm] *n.* 柱,柱状物

supporting column 支撑(承)柱

concrete ['kɒkri:t] *n.* 混凝土

conservation [kənsə'veiʃən] *n.* (环境、自然资源、能量等的)保护、储存

energy conservation 能量守恒;能源的节约使用

controversial [kɒntre've:ʃəl] *a.* 有争议的

conversely [kɒn've:sli] *ad.* (与之)相反

core [kɔ:] *n.* (果实、事物、处所、组织等的)中心部分

concrete core 混凝土柱心(内层)

desert ['dezət] *n.* 沙漠,不毛之地

dimension [d(a)'menʃən] *n.* 尺寸,长,宽,厚,高;方面

display [dis'plei] *v.* & *n.* 陈列,展出

dramatically [drə'mætɪkəli] *ad.* 突然地,引人注目地,显著地

dump [dʌmp] *vt.* (大量地)倒,抛,排出,放出

electric [i'lektrɪk] *n.* 电气用具或设施

end result [end-ri'zʌlt] *n.* (过程,活动等的)最后结果,结局,产物

escalator ['eskəleɪtə] *n.* 自动楼梯

feature ['fi:tʃə] *n.* 特色,特点

function [fʌŋkʃən] *n.* 功能,职能

functional *a.* (有)功能的,(旨在)有实用价值的

gardener ['gɑ:dənə] *n.* 园林工人

glass [glɑ:s] *n.* 玻璃

castglass 压铸玻璃

clear glass 透明玻璃

rough-cast glass 毛玻璃

glasshouse 温室,暖房

greenhouse ['gri:nhaus] *n.* 温室,暖房