

科技英语基础教程(下)

Scientific English
Basic Course
Book Three

外语教学与研究出版社

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(下)

SCIENTIFIC ENGLISH

BASIC COURSE

(Book Three)

北京工业学院外语系

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外语教学与研究出版社

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科技英语基础教程
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(下)

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外语教学与研究出版社出版

(北京市西三环北路19号)

北京怀柔燕东印刷厂印刷

新华书店总店北京发行所发行

开本850×1168 1/32 22印张 445千字

1988年6月第1版 1988年6月北京第一次印刷

印数1—14,000册

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ISBN7-5600-0123-8/G·124

定价: 3.65元

GF25/19

前 言

本书是《科技英语基础教程》下册，编写原则和布局与中册相同。全书共12课和3个阶段复习，出现的生词共 1000 个左右，其中要求复用式掌握的词语约110个，科技语体中常用的句子结构27个。授课总时数约120学时左右。三个阶段复习中所归纳的语言重点是：复习 I 从三方面对虚拟语气作了简要介绍；复习 II 对副词性连接词语所表示的意义和用法作了较详细的说明；复习 III 主要总结归纳短语动词的类型和组成规律及连词的组成和分类。此外，我们认为，随着学生英语水平的不断提高，在教材中也应对“写”提出更高的要求，并相应地增加一些有关写作方面的内容和练习。为此，除了通过词序和副词性连结词语等的讲解外，本书又通过介绍句与句、段与段之间的承接关系和手段，使学生对如何连句成段、连段成篇等写作方法有初步的了解。此外还分别在复习 I、II 中着重讲解了如何“定标题”和“写摘要”，并配备了相应的练习。不过，由于课时及篇幅的限制，有关写作方面的内容和练习很不全面，这只是我们初步的尝试。

本书课文和阅读材料的篇幅比中册有所增大，每课课文平均约有1200—1900个单词，阅读材料平均约有2000—3000个单词。为了有利于学生复用式掌握新词语和提高词汇复现率，每课生词仍控制在30—40个，但每课阅读材料中的生词则未加限制，主要意图是让学生有较多的机会练习查阅词典、提高使用工具书的能力。课文及阅读材料取材的原则有三：连贯性、知识性和趣味性。在内容上除了物理、数学、生物等基础科学知识和

外语学习外，还包括电工、电子通讯、自动化技术、航天技术、科学发展、思维科学、未来学、科学家传记以及城市交通和环境保护等；在体裁上有演讲、论文、序言、书评和日记等。这些材料均选自原版英语科普读物、教科书、百科全书或科技杂志。

各课词汇的安排和练习的内容及要求与中册相同。考虑到本册课文的难度较大，每课练习的三个部分的编排顺序略有变动，即将 Comprehension 这部分练习放在第一，其次是 Skills Development，然后是 Further Practice on Language。这样可使学生在理解课文的基础上，逐步将练习深化，效果可能更好些。

本书配有《教学辅导材料》和录音磁带，主要供英语自学者和教师参考之用。

参加本书审稿的有：北京大学赵珪，清华大学赵静鹏，北京化工学院唐襄溶，北京农业机械学院曹元寿，北京工业学院徐鑫武等同志；北方交大唐剑同志不仅参加了审稿，还参与编写“定标题”、“写摘要”及部分快速阅读练习；北京外国语学院夏祖燊教授和北京工业学院李卫教授在百忙中审阅了本书，提出不少修改意见，并进行了细致的加工润色。对于他们的大力支持和帮助，在此表示衷心的感谢！

最后，诚恳地希望广大读者对本书所出现的缺点错误提出批评和指正。

编者

1984年11月

Contents

Lesson 1 (1)

Text: An International Conference
Foreword

Useful Words and Ex- provide for; apply for; so to
pressions: speak; in operation; come (go)
into operation; as

Useful Patterns:

1.

prep. + no + n. + be (do or other aux.) + S
--

2.

S + be + adj. + that-cl.

Basic Physics (I)

Reading Material:

Lesson 2 (42)

Text: Atoms and Alchemists

Useful Words and Ex- believe (believe in); for the pre-
pressions: sent; so (as) far as; in favo(u)r
of (in one's favo(u)r); for one
thing; give way (to); once
(and) for all

Useful Patterns;

1.

If S + were + to v. (should +v.), S+ would (could, might) + V

2.

If S + were (v-ed), S + would (could, might) +V

3.

<table border="1" style="border-collapse: collapse; display: inline-table;"><tr><td style="padding: 2px 5px;">S + V</td></tr></table> , n. + adv. (adj. prep. phr.)	S + V
S + V	

Reading Material:

Basic Physics (II)

Lesson 3(83)

Text:

Reading as Skill and Communications

Useful Words and Expressions:

than (other than, rather than, more than, less than, no [little] more than, any more than, more often than not); hand (on the one [other] hand, try one's hand at, at hand); be used to; (be) accustomed to access; ground in; take... into account; take account of; at (at first, at last, as [the] least; at [the] most; at [the] best; at [the] worst; at first glance [sight])

Useful Patterns:

1.

n. + to be v-ed

would rather, rather than); by far; despite; available (make available, have available)

Useful Patterns:

1.

two prep. with one object

2.

n. phr., S + V

3.

C + as + S + be

4.

too + adj. (adv.) + to v.

Reading Material:

Preface to *Pioneers of Science*

Lesson 6(229)

Text:

Chance or Probability

Useful Words and Expressions:

well; average (on an average, on the average, on average); take ... for (take for granted); depart from; turn up; get down to

Useful Patterns:

1.

no + the Comparative degree of adj. or adv.

2.

adv. or adv. phr. used as a comment

Reading Material:

1. The Art of Calculation
2. Probability

Lesson 7 (277)

Text:

Principles of Electrical Engineering: Preface to the First Edition

Useful Words and Expressions:

due, (due to); intend; design; serve; treat; cover

Useful Patterns:

1. Explaining the purpose and the type of reader a book is intended for
2. Introducing the Content of a book
3. Expressing acknowledgment for the completion of a book

Reading Material:

1. Why Study Electronics?
2. What Makes a City Great?

Lesson 8 (322)

Text:

Cities: Past, Present and Future

Useful Words and Expressions:

for sure; for certain; with certainty; bring (bring ... to [into] + action noun, bring ... to mind [light, an end, a close, life, completion ...], bring ... into being [effect, contact, shape, question, relation ...], bring about); in the wake of [in one's wake]; in all likelihood; in all probability; cope with; at; out

of (out of the question); obtain

Useful Patterns:

1.

(The) Chances are + cl.

2.

live + a + adj. + life

Reading Material:

1. An Overview of the Problem
2. The Drive to Break Traffic Jams

Revision II(374)

Language Points:

1. Abstract Writing
2. Adverbial Connectives

Lesson 9(402)

Text:

The Age of Automation

Useful Words and Expressions:

if; at any rate; something (have something to do with; something like; something of); in (in the case of; in relation to; in line with; in attendance on); involve

Useful Patterns:

1.

immediately (directly, each time, the instant ...) +time cl.
--
2.

Ellipsis of predication

Reading Material:

1. The Voices of Time
2. Robot

Lesson 10(453)

Text:

Predicting the Future

Useful Words and Expressions:

care(take care; take care of; give care to); respect (with respect to); result from; capable of; come along; where

Useful Patterns:

Word order in "v. + n. + prep. + n." pattern

Reading Material:

1. The Laws of Chance
2. Revolutionary Environmental Changes

Lesson 11(505)

Text:

Book Review

1. Einstein: A Centenary Volume
2. Trends in Communications Satellites

Useful Words and Expressions:

share; last; final; end (to no end; to this [that] end; to the end that); irrespective of; tell from (apart); set (set out; set one's heart on)

Useful Patterns:

1. S + V, (with) + n. + to v.
2. Word order in certain noun combinations

Reading Material:

Book Review

1. Animals in Research
2. Science and Socialist Construction in China
3. No more Dodos

Lesson 12(561)

Text: Philosophy of Logic and Scientific Thinking

Useful Words and Expressions: connection (in connection with); guard against; seek (seek for); bear; lend ... to; fall into ; province; short (short for; for short; in short; to cut [make] a long story short; short cut)

Useful Patterns:

1.

Position of noun modifiers

2.

prep. + n. + v-ing (being + v-ed)

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2. Diary of a Disaster
3. Calculators for Kids

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2. The Composition and Classification of Conjunctions

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Lesson One

Text

An International Conference

Foreword

The Eighth International Conference on Cyclotrons and Their Applications, as its name implies, is one of a series of meetings which provides for the exchange of ideas of information by cyclotron builders and users throughout the world. The preceding conference was held in Zurich in 1975.

The international character of the conference is confirmed by the countries represented. Delegates were registered from Australia, Belgium, Canada, France . . . 205 delegates in all.

* * *

Opening Remarks

Robert M. O'Neil, Vice President
for the Campus Indiana University

It is a great honor for all of us at Indiana University to welcome you to this Eighth International Conference on Cyclotrons and Their Applications. We believe Bloomington is an appropriate site for the Conference — although we recognize that our community lacks some of what Zurich and other previous conference locations may have had to offer the conferees.

Barely three years ago, at the time of your last gathering, our own Cyclotron was making its initial tests and taking its place in this distinguished international family of scientific facilities. Since that time, the Indiana University Cyclotron Facility has made possible a wide range of studies and has been host to visitors from many states and other nations.¹ But at no time have we experienced the pride that your coming here today brings us.

This conference is a remarkable event, one which reflects the special capacity of scientific research to bridge divisions between nations, cultures, languages, and ideologies, ... I can think of no happier time at which to begin such discussions as you will be undertaking in the next several days.

We hope your stay in Bloomington will be a pleasant one, and if there is anything that we as your hosts can do to facilitate your visit, we hope you will call upon us.

* * *

Welcoming Address Henriette Faraggi, IUPAP

I feel very honored to be able to welcome you here on behalf of IUPAP, the International Union of Pure and Applied Physics. Certain of you, I'm afraid, may not yet know anything about IUPAP.² IUPAP is a collection of all the physical societies all over the world in an international union. The members are chosen and elected for a three year term, and may stay on for an additional three years.³ I have had the honor of being the chairperson of the Nuclear Physics Com-

mission of IUPAP for six years, and I will be replaced at the end of this week.⁴ So this is the last opportunity for me to welcome an IUPAP-sponsored meeting.

The interest of physicists in having an international union organized without regard for political, religious, or other differences is one of the most important efforts toward the communication and circulation of a common language throughout the world.⁵ On this point I may say that this conference, with its IUPAP sponsorship, helps contribute toward this goal.

IUPAP sponsors a series of conferences like this one, paying careful attention to where they are held. As many nations as possible should have the opportunity to host such conferences: through them the possibility is offered to many of their own physicists to meet eminent scientists from all over the world. You have occasion to consider this point this week, when you meet during your Eighth International Conference on Cyclotrons and Their Applications to decide the time and place of the next conference.⁶ You should try to answer three questions. First, is it really necessary to hold a ninth one? Second, is the frequency of meetings that you now have a good one? And third, what should be the best place to have the next one? Having more or less decided these three questions amongst yourselves as the eminent specialists you are, you can then apply for sponsorship from IUPAP, and I am pretty sure that the next chairperson will follow your desires⁷.

Now let me say a little more about cyclotrons, because I am not only chairperson of the Nuclear Physics Commission

of IUPAP, but I am also an experimentalist, and have spent nearly all my life using cyclotrons — I am not able to run a cyclotron but I am able to use them. I feel encouraged by a meeting such as this, because it shows us that you are still thinking about new machines, new techniques, new improvements, new ways of giving us instruments of the finest quality. All the experimentalists, all the nuclear physicists, are very conscious of the fact that without these marvelous tools, we could never do experiments properly.⁸ For that I thank you very much, and I say welcome to you, and have a good conference.

* * *

Conference Summary

John A. Martin

In closing this Eighth International Cyclotron Conference, perhaps the most useful contribution would be to comment on the health and vigor of the field from the perspective of the past, present and future. Seven of us here today — Henry Blosser, Reg. Richardson . . . and I — were at the first conference at Sea Island, Georgia in 1959. That was 19 years ago, but most of the cyclotrons described at that and the 1962 and 1963 meetings are still in operation. This week we have heard papers on important improvements to many of those cyclotrons . . . All of this activity on older machines proves that the field is very much alive.

The second generation of isochronous cyclotrons, the