

电 专 业 适 用

英 语

下 册

西安交通大学外语教研室

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内 容 提 要

本书是在上册的基础上,巩固和加深扩大所学词汇、句型及语法知识,为阅读电专业英语书刊打下初步基础。

全书共16课。32篇阅读材料,新词组和词汇900个。内容基本选自电学、电工原理、电子学、电子数字计算机应用,高压绝缘等原文书刊。

每课有常用句型、例解及语法专题。全书共有36个语法专题,主要对专业英语资料中常见的比较复杂的语法现象和一些语法作用灵活而较难理解的常用词汇予以适当小结。每课后附有练习以利自学。

书后有参考译文、词汇总表等5个附录。

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前 言

本书是在我校电机系英语教学组编写的电机系用英语书的基础上，修订而成的。

全书分上、下两册。上册包括语音、基本语法及常用句型，共有27课及16篇阅读材料，约800个词汇。下册是在上册的基础上，巩固和扩大加深所学词汇、句型及语法知识，为阅读电专业英语书刊打下初步基础，共有16课及32篇阅读材料，约800个词汇。每课有常用句型、注解及语法专题，主要对专业英语资料中常见较复杂的语法现象及常用词汇予以适当小结。

本书的文章及例句基本上选自电学、电工原理、电机学、电子学、电子计算机的应用、高压、绝缘等原文书刊。课文后有大量练习供自学用。上、下册均有词汇总表、参考译文等附录。

参加本书编写的有郝克琦，潘能，顾骏声，余学良，张锦文，锁铮，朱珂茵，刘杰民，周淼冬，金福庆等。此外，沈尚贤，王季梅，邱关源，吴济生，邱毓昌，潘季，戴景辰等同志对本书进行了校阅并提出了宝贵意见。本书在编写过程中得到我校电机系领导及专业教师的关心和支持，特此致谢。

由于我们水平有限，书中一定有不少缺点错误，希望批评指正。

一九七八年八月

34678

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Lesson One

Text

Electron and Atom

An electron is millions of times¹ smaller than the smallest thing you've ever seen. Electrons are so small that nobody has ever seen them, even with a powerful microscope.

Everything in the world, no matter how different it may seem from each other², is made partly of electrons.

Electrons are really tiny, always moving sparks of electricity. If you could see them, they would look like tiny worlds whirling around a sun, just as our world and the other planets whirl around our sun in the sky. It would be impossible to separate our world from our sun, and it took a long time for men to learn³ how to separate the electrons from their sun, which is called a NUCLEUS. (If there are more than one, they are called NUCLEI.)

-
- 1 millions of times 译成“几百万倍”，million, thousand, hundred 等使用复数时，经常与介词 of 连用。
 - 2 no matter how 引出让步状语从句，different 是表语，与 may seem 构成谓语。it 是句中主语，介词 from 是 different 要求的。
 - 3 “It takes (took) + 时间 + for 短语 + 不定式”是一个常用句型，take 在这里解释“需要”、“花费”。it 是先行词，本句中真正的主语是不定式 to learn。

A nucleus and the electrons whirling around it make up an ATOM. If the nucleus were the size of a table-tennis ball¹, an atom would be a mile across!

If all atoms were exactly alike, there would be only one kind of matter in the world. But some have more protons in their nuclei than others, and more electrons arranged in different ways. In fact, there are a great many different kinds of atom, and they make up the simple form of matter called the ELEMENTS.

Elements come in many forms. Some are gases, some are liquids and some are solids. And the only difference between one element and another is the number of electrons and protons in an atom of the element.

If the atoms of all these elements just stayed apart from each other, there would be only about one hundred different things in the world. But they can combine into COMPOUNDS. And it is compounds-combinations of the elements-that² make all the different kinds of matter in the world. That is why there are things so different as rubber and glass, water and oil, although basically they are all made up of electrons whirling round their nuclei.

1 "were the size of a table-tennis ball", were 后省略了介词 of, 这是 "be + of + 名词" 的结构, 译成 "具有..."。

2 "It is... that" 是一个加强语势的结构, 译成 "正是"。

New Words

ever ['evə] *ad.* 曾经

nobody ['nəubədi] *n.*

没人, 谁也不

even ['i:vən] *ad.* 甚至

powerful ['paʊəfʊl] *a.*

有力的, 强的

microscope ['maɪkrəskəʊp]

n. 显微镜

everything ['evriθɪŋ] *n.*

凡事, 万物

matter ['mætə] *n.* 物质,

事情

seem [si:m] *v.* 好象, 似乎

partly ['pɑ:tlɪ] *ad.* 一部分,

多少

really ['riəlɪ] *ad.* 实在,

真正

tiny ['taɪnɪ] *a.* 很小的,

极小的

spark [spɑ:k] *n.* 细微粒,

电火花

look [lʊk] *v.* 看, 象

whirl [hwɜ:l] *v.* 旋转

around [ə'raʊnd]

prep. 在...周围, 环绕着

ad. 在周围, 在附近

sun [sʌn] *n.* 太阳

planet ['plænit] *n.* 行星

sky [skai] *n.* 天空

impossible [im'pɒsəbl]

a. 不可能的

separate ['sepəreɪt] *v.*

分开, 分离

nucleus ['nju:kliəs] (*复*

nuclei ['nju:kliai])

n. 核, 原子核

mile [maɪl] *n.* 英里

across [ə'krɒs] *ad. & prep.*

横过, 越过

alike [ə'laɪk] *a.* 相同的

proton ['prəʊtən] *n.* 质子

arrange [ə'reɪndʒ] *v.* 排列

simple ['sɪmpl] *a.* 简单的

solid ['sɒlɪd] *n.* 固体

difference ['dɪfrəns] *n.*

差异, 区别

stay [steɪ] *v.* 留

apart [ə'pɑ:t] *ad.* 分离,

各别地

combine [kəm'beɪn] v.

结合

combination [kəmbi'neɪʃən]

n. 组合, 结合

basically ['beɪsɪkəli] ad.

基本上

round [raʊnd] prep.

围(绕)着, 在...周围

Expressions and Phrases

so... that 这样地...以致

...分开

no matter how 不管怎样

apart from 除...外

(be) made (up) of 由...组成

more than 多于, 大于, ...以上

look like 象

make up 组成

just as 恰与...相同

table-tennis ['teɪbl'tenɪs]

separate... from 把...和

ball 乒乓球

Pattern and Expression Study

so... that

The current is *so* small *that* it cannot light even a small lamp. 电流如此小以致不能点亮一盏小灯。

no matter how + 形容词(或副词)

No matter how complicated a compound may be, it is made of elements. 无论化合物多么复杂, 它都是元素组成的。

It takes + 时间 + for 介词短语 + 不定式(或 It takes + 人或物 + 时间 + 不定式)

It took two weeks for us to repair that radio.

It took us two weeks to repair that radio. 我们修理那台无线电用了两周时间。

Grammar

I. 虚拟语气

虚拟语气表示说话人所说的话与客观事实相反，只是一种纯粹的假设，或者只是一种愿望，建议或猜测等。

1. 虚拟语气在条件从句中的应用

1) 谓语动词的构成：

	条件从句 (单复数各人称一律用)	主 句
谓语的形式	动词的过去式 (be用 were)	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> should 多用于 第一人称单复数， would 多用于 第二、三人称单复数 could (能够) might (可能，或许) </div> <div style="font-size: 3em; margin-right: 10px;">}</div> <div> + 动词 原形 </div> </div>

2) 用法：表示与事实相反的假设。

① If there *were* no leadership of the Party, we *could not live* such a happy ['hæpi] (幸福的) life.

假如没有党的领导，我们不可能过如此幸福的生活。

② If we *had* time, we *should do* this experiment.

假如我们有时间，我们就做这个实验了。

③ If that old worker *came* now, the problem *would be solved*.

要是那位老工人来了，问题就解决了。

在上述条件从句中，其假设的情况与事实完全相反，这种从句称为非真实条件从句(虚拟条件从句)。如果情况是事实或者是完全可能实现的，谓语就不必用虚拟语气，这种

条件句称为真实条件从句，例如：

If you turn on the switch, the motor will begin to work.

如果你接通开关，马达就开始工作。

在虚拟条件从句中，如果谓语动词是 *were* 或 *had*，也可将它们置于句首，从而省略 *if*，如上述第①句可改为：

Were there no leadership of the Party, we could not live such a happy life.

第②句可改为：

Had we time, we should do this experiment.

有时假设的情况不用条件从句表示，而用介词短语来表示。

如第①句也可改为：

Without the leadership of the Party, we could not live such a happy life.

2. 虚拟语气在主语从句中的应用

在 “It is necessary (important, impossible...) that” 这类句型中，*that* 所引出的主语从句可以用虚拟语气，谓语用 *should* + 动词原形，或只用动词原形。

① It is necessary that the problem *should be* solved at once. 有必要马上解决这个问题。

② It is important that the material *be* light and strong. 重要的是这材料既要轻又要坚固。

3. 虚拟语气在其他状语从句中的应用

1) 用于 *as if* (*as though*) 所引导的方式状语从句中。

谓语动词用过去式 (*be* 用 *were*)，

He operates the machine as if he *were* an old worker. 他开机器的样子好象他是个老工人似的。

2) 用于目的状语从句:

- ① We must work hard in order that we *may make* more contributions to the world revolution.

我们必须努力工作, 以对世界革命作出更大的贡献。

- ② Wires must be well insulated, lest electricity *should leak* away. 导线必须很好地绝缘, 以免走电。

II. make 的用法

1. 主要意义为“作、干、制造、生产”等, 具体译法根据上下文而定。

make machines 制造机器 make experiments 作实验

make revolution 干革命 make electric current

make new contributions 产生电流

立新功, 作出新贡献 make a choice 进行选择

- ① Metals can be *made* into different shapes [jeips].

金属可制成不同形状。

- ② Five multiplied by three *makes* fifteen. 5乘3得15。

2. make + 宾语 + 名词或形容词: 意为“使…成为…”。有时用 it 作形式宾语。

- ① We shall *make* China a modern and powerful socialist country.

我们将使中国成为一个现代化的社会主义强国。

- ② Marx said that the man who can *make* the great majority happy is himself most happy.

马克思说, 能使大多数人幸福的人自己是最幸福的。

- ⑧ Revolution *makes it possible to liberate the* productive forces. 革命使解放生产力有了可能。

3. make + 宾语 + 动词原形: 意为“使...”。若为被动时, 动词前有 to, 即 be made to + 动词原形。

- ① E.M.F. *makes electric current flow*. 电动势使电流流动。

- ② Under certain conditions materials may be *made to emit* [i'mit] electrons. 在一定条件下可使物质发射电子。

4. 构成词组

make use of 利用	make for 促进, 有助于
make known 公布	make mention of 提到
make some difference 有些影响(关系)	
(be) made of 由...制成	

- ① A wire *made of* copper has a lower resistance than a wire *made of* most other materials.

铜导线比大多数其他材料制成的导线电阻低。

- ② It doesn't *make any difference* to the voltage. 它与电压没什么关系。

Exercises

1. 读记下列各组词, 注意词形、词义及词性。

matter	microscope	solid	small
substance	microvolt	liquid	little
material	microampere	gas	tiny

look	part	ever	really	useful
like	apart	even	steadily	helpful
alike	partly	eleven	basically	powerful

2. 翻译词组:

- | | |
|--------------|---------------|
| 1) 比原子小几千倍 | 4) 以不同方式排列的电子 |
| 2) 象绕太阳旋转的地球 | 5) 100多种不同的元素 |
| 3) 使电子与核分离 | 6) 最简单的物质形式 |

3. 翻译下列各句, 注意本课中两个重点句型的用法:

- 1) No matter how complicated the problem may be, it can be solved in only two hours with an electronic computer.
- 2) No matter how hard a solid may be, we can change its shape [ʃeɪp] (形状).
- 3) All substances, no matter how different they may be, are made of atoms.
- 4) We must learn to do economic work from all who know how, no matter who they are.
- 5) It takes only several ['sevrəl] (几个) seconds for an electronic computer to solve such complicated problems.
- 6) It took a long time for man to learn to use atomic energy for production purposes.
- 7) It took the workers about a year to build the electric power station.
- 8) It takes just microseconds to turn on or off some SCR's.

4. 在括号中填入适当的连接词或词组 (so ... that, just as, although, make up, be made of),

- 1) The world in which we live () matter.