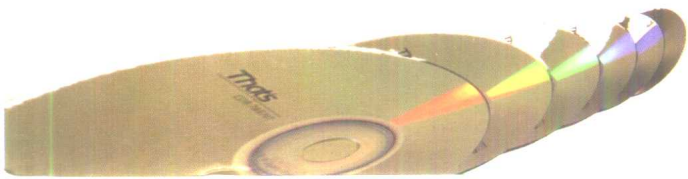


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高级 科技 英语 阅读



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面向 21 世纪英语学习丛书

高级科技英语阅读

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前 言

高等学校理工科新《大学英语教学大纲》将大学英语教学分为基础阶段和应用提高阶段,并对学生完成四级英语学习后的应用提高阶段提出了更高的要求。在阅读方面,要求学生能够顺利阅读并正确理解语法难度较高、内容广泛、体裁多样的文章,阅读量为25万字,一般阅读速度为每分钟70词,快速阅读速度为每分钟100至120词。为了配合专业英语阶段的英语教学,为了帮助学生在应用提高阶段达到大纲规定的阅读要求,编写了本教材。

本教材选编的30篇文章是我们几年来从国内外英文期刊、报纸上收集的数百篇文章中精选出来的。文章体裁有新闻报道、新闻分析、社论、报告、访谈录、人物介绍、前言、书评等,内容涉及了计算机、电子通讯、天文、经济、管理、石油、环保等。

为了方便学生自学,我们对每篇课文的字数进行了统计,对超出大纲规定的四级词汇进行了注释,并注明了六级词汇(右上角6)和研究生考试词汇(右上角△)。另外,我们还提供了阅读指导,如对文章大意的概述、篇章结构的分析、阅读技巧的简单介绍、部分长难句的语法结构分析和参考译文,并且在每课的阅读指导中提供了科技英语构词法及其他科技英语词汇特点介绍。为了提高学生的英语实际运用能力,在练习中我们全部采用了主观题,考察学生对文章的中心大意的掌握、对事实与细节的辨别、对作者的态度与观点的分析、对文章内容的推理判断和综合概括、对科技英语的一些典型句子的翻译等,并将参考答案附于书后。因此,本教材除了适用于学生完成前两年的英语学习后提高英语实际运用能力的自学教材,同时也适合于作为后两年英语阅读提高课程的教材。

我们希望通过本教材的学习不但使学生能够掌握一些常用的科技英语词汇而且也能使他们熟悉科技英语的词法、句法和语篇特点,在阅读实践中提高阅读各种文体、各种体裁的文章的技巧,为将来顺利阅读各种原版报刊杂志并从中获取所需的信息打下基础。

在本教材的编写和修改过程中,吴铭方教授给予了大量的帮助和指导,在此表示衷心的感谢。另外,我们也对段天须同志为本书的写作提供的帮助深表谢意。

由于编者水平有限,书中错误难免,敬请读者批评指正。

编 者

1999年7月

Contents

<i>Lesson 1</i>	Low-Voltage Chip Speeds up Portable Computers	1
<i>Lesson 2</i>	Should Americans Measure Metric?	7
<i>Lesson 3</i>	Technologies Converge in New Products	13
<i>Lesson 4</i>	Ask a Better Question	20
<i>Lesson 5</i>	Y2K May Spark Trouble in Poor Countries	28
<i>Lesson 6</i>	Flywheels in Hybrid System	34
<i>Lesson 7</i>	Prime Minister Carl Bildt on Sweden's Technology and Competitiveness	41
<i>Lesson 8</i>	The Sound Laser	49
<i>Lesson 9</i>	Making Honesty Pay	58
	——The 1996 Nobel Prize in Economics	
<i>Lesson 10</i>	A Call for More Science in EPA Regulations	65
<i>Lesson 11</i>	Say It with Pictures	73
<i>Lesson 12</i>	The AAAS Meetings	81
<i>Lesson 13</i>	Planet Hunt	89
<i>Lesson 14</i>	Editor's Foreword	98
<i>Lesson 15</i>	Taking on the Energizer Bunny	106
<i>Lesson 16</i>	Fusion's Future	115
<i>Lesson 17</i>	French Strategy for Science Education	123

Lesson 18	Advertisements	131
Lesson 19	Reinventing the PC	140
Lesson 20	The World's Largest Passenger Plane Is a Technological Miracle	148
Lesson 21	Good News for the Greenhouse	159
Lesson 22	Analyzing Electric Motor Acoustics	167
Lesson 23	Moving beyond Wireless Voice System	178
Lesson 24	A Heat Pump to Bank on	188
Lesson 25	Lifting the Spirit	198
Lesson 26	Edwin Hubble	208
Lesson 27	Bill Gates' New Rules	221
Lesson 28	A Legacy of Firsts	233
	——Serving Customers through Innovation	
Lesson 29	Computer Crime	244
	——Congress vs. Computer Crime	
Lesson 30	How Oil Companies Must Adapt to Survive in 2000 and beyond	259
	Keys to Exercises	275
	Vocabulary	338

Lesson 1

Low-Voltage Chip Speeds up Portable Computers^①

Edited by Christopher Lloyd

1. Portable computers are slower than their desktop counterparts and have an irritating habit of running out of power at the crucial moment. The problem for manufacturers is that making them faster, or giving them a longer life between recharges, requires more powerful batteries which in turn makes them heavier, writes Jane Bird.
2. Now Intel, the world's largest chip manufacturer, has come up with a microprocessor that can run substantially faster while consuming less power. The device is constructed in two parts so that it works at the industry-standard 3.3 volts at the edges while running at a lower 2.9V in the center.^②
3. This enables it to communicate with the portable's other components in a standard way while lowering its overall power consumption. It is also able to switch off parts of its processing and memory areas when they are not being used.
4. Phil Barnett, applications manager at Intel (UK), says, "The microprocessor will enable manufacturers to develop a wide range of faster, lighter mobile computers that can operate for longer periods of time."

5. Companies such as Toshiba and IBM are already incorporating the chip in their portable computers.
6. The chip is a version of Intel's Pentium microprocessor which shot to fame last year when a flaw was discovered in its logic. Now the error has been corrected and Pentium-based machines are expected to account for 80% of the 60M³ PCs likely to be sold this year.
7. Fuelled by huge growth in sales of PCs, Intel is expected to achieve profits of some \$3.5 billion (£2.2 billion) in the current year on sales of \$16 billion. Many analysts believe that it could soon become the world's most profitable company. However, the cost of microprocessor development is so high that about one-third of Intel's profits are eaten up by research and development.
8. Three new techniques have been used for the low-voltage Pentium, says Barnett. "These involve changes to the circuits that are laid out on the silicon, the size and shape of the transistors and the cooking process that is used to make the chip."⁴
9. The speed improvements made possible by the low-voltage⁵ Pentium should boost the trend towards people using portable computers wherever they are, rather than switching to desktop PCs in the office or at home, says Barnett. The ultimate goal is for mobile devices to run as fast as their desktop counterparts, but it may be some years before this is achieved.
10. Even so, more than 11M portable computers are expected to be sold this year, an increase of 35% on last year. By the end of this year, most will have the new Pentium chip, with prices starting at less than £1,500.

(472 Words) (From *The Sunday Times*, 2 July, 1995)

New Words and Expressions

innovation [△] [ˌɪnəʊ'veɪʃən]	n.	革新, 创新
chip [△] [tʃɪp]	n.	薄片, 集成电路块, 芯片
desktop ['deskɒp]	a.	台式的
counterpart [△] ['kauntəpɑ:t]	n.	对应的人或物
irritate [△] ['ɪrɪteɪt]	v.	激怒, 引起不快
crucial [△] ['kru:ʃəl]	a.	紧要关头的, 决定性的
recharge [ˌrɪ:'tʃɑ:dʒ]	vt.	给...再充电
Intel [ɪn'tel]	n.	再充电
come up with	n.	英特尔芯片公司
microprocessor [△] [ˌmaɪkrəʊ'prəʊsesə]	n.	提出
Toshiba ['tɒʃɪbɑ:]	n.	微处理器(机)
incorporate [△] [ɪn'kɒ:pəreɪt]	n.	东芝(日本公司名)
Pentium ['pentɪəm]	vt.	使合并, 纳入
shoot to fame	n.	奔腾(芯片名)
flaw [△] [flɔ:]		出名
profitable [△] ['prɒfɪtəbl]	n.	裂隙, 缺点
lay out	a.	有利可图的, 盈利的
silicon [△] ['sɪlɪkən]		布置, 安排, 设计
boost [△] [bu:st]	n.	硅
	vt.	提高; 推动, 激励

Guide to Reading

① 《低压芯片加快了便携式电脑的速度》是一篇选自一家英国报

纸 The Sunday Times 的 Innovation 栏目的科技新闻报道。第一段是新闻导语,概括地说明了所要报道的主要内容,并指明报道者的名字。这是科技报道的一般格式。以下各段分别对这种芯片的研制、应用以及市场情况进行了描述和分析。阅读时注意科技报道的语篇结构以及直接与间接引语的使用等语言特点。

- ② 在“The device is constructed in two parts so that it works at the industry-standard 3.3 volts at the edges while running at a lower 2.9 V in the center.”中,“so that”引出结果状语从句;在从句中,又由“while”连接两个分句,对照微处理器在中心位置和在边缘处工作时电压的不同。参考译文:这种装置被制成两部分。这样,它就可以在边缘处在 3.3 伏的工业标准电压下工作,而在中心处在 2.9 伏的电压下就可以工作。
- ③ 句子中的 60M 指 60 million.
- ④ 在“These involve changes to the circuits that are laid out on the silicon, the size and shape of the transistors and the cooking process that is used to make the chip.”中,谓语动词“involve”后有三个并列的宾语 changes to..., the size and shape of..., 和 the cooking process...。参考译文:这些技术包括改用设计在硅片上的电路、改变晶体管大小形状以及用来制造芯片的蒸煮过程的新技术。
- ⑤ 像“low-voltage”这样由“形容词+名词”构成的复合形容词在科技英语中是很常见的。如,high-frequency(高频的),high-pressure(高压的),low-temperature(低温的),high-speed(高速的),long-term(长远的)等。

Exercises

I Reading Comprehension

1. Answer the following questions according to the text.
 - 1) What are the problems with the portable computers?
 - 2) How did Intel help to solve the problems?
 - 3) What is mentioned about the current application of the chip?
 - 4) What are the three techniques used for the low-voltage Pentium?
 - 5) In the current year, roughly speaking, how much has been spent on the research and development of the device?
 - 6) What is the reporter's attitude toward the future sales of portable PCs?
2. Find at least three different words or expressions used in the text to refer to the "low-voltage chip" mentioned in the title.

II Translation

1. Put the following English expressions into Chinese and vice versa.
 - 1) their desktop counterparts
 - 2) run out of power
 - 3) applications managers at Intel
 - 4) circuits laid out on the silicon
 - 5) fuelled by huge growth in sales of PCs
 - 6) 便携式电脑
 - 7) 降低能量消耗
 - 8) 三分之二的利润
 - 9) 逻辑方面的缺陷
2. Translate the following sentences into English.

- 1) 预计, 在今年可能售出的 6 千台个人计算机中, 用这种低压集成电路块制成的将占 80%。
- 2) 最终目的是使可移动电脑的速度像台式电脑一样快。
- 3) 据报道, 今年售出了 1 100 万台便携式电脑, 比去年增加 35%。



Should Americans Measure Metric?^①

by Reseanne Rostock

1. NO. Switching to metric would be confusing and unnecessary, says Seaver Leslie, president of Miles Ahead, a non-profit group in Wiscasset, Maine, that works to preserve our traditional system of measure.
2. Even though the United States trades with countries that primarily use metric, Leslie argues, people overseas still buy quality goods measured in U.S. customary units. Take Levi's jeans: "They have waists and inseams measured in inches," he says, "but that doesn't stop teens all over the world from buying them."^②
3. To truly convert to metric, Leslie says, most things we use would have to change in size. Changing a football field from 100 yards to 100 meters would make a sprint to the end zone a longer run (1 meter = 1.09 yards).
4. And converting all our products and labels to metric would not come cheaply, Leslie adds. It would cost \$15 million for California alone to switch every highway sign to read *kilometers* instead of *miles*.
5. Some U. S. students think that switching to metric would just cause problems. We know that four cups equals a quart, says

Brandye Clark, a student at South Florence High School in Florence, South Carolina. But we have a hard time picturing 250 milliliters, she says.

6. Switching to metric is like trying to speak a new language, says Jim Ross, principal of Hallsville Middle School in Hallsville, Texas. "It's a system that we don't use everyday or have any experience with," he says.
7. Of course, you *can* use the metric system if you want to, says Leslie of Miles Ahead. "Metric is free and legal in the United States," he says. The fact that people *don't* use it, he contends, means Americans prefer the system we already have.
8. YES. "I think [metric] is easier," says Jessie Veteto, a student at Oliver Wendell Holmes High School in San Antonio, Texas. "Multiplying by 10s and 100s is a lot easier than converting from inches to feet."
9. Say you wanted to change 100 centimeters to kilometers. You'd just move the decimal point five places to the left to find that $100\text{ cm} = .001\text{ km}$. But to change 100 inches to miles, you'd have to divide by 12 (the number of inches in a foot) and then by 5 280 (the number of feet in a mile).^④ Now that's complicated!
10. Besides, we already use metric units to measure many common things——35-milimeter film and 2-liter bottles of soda, for example——says Lorelle Young, president of the U.S. Metric Association. Why not drink from liter cartons of orange juice and use 90-millimeter floppy disks, too?
11. That's what people do in every other country in the world. And even though we don't travel to other nations to buy orange juice, Americans come in contact with people and prod-

- ucts from other countries every day.
12. Your Sony Walkman, for example, is “a product designed in one country, built in another country, and sold in a third country,” says Gary Carver of the National Institute of Standards and Technology. For your Walkman to get from the drawing board to your hands, the engineers and factory workers better be using the same measuring units to assemble it correctly, Carver says. ^④
 13. Scientists also need to share information with peers from around the world, so they can work together, says Ralph Carlson, a mathematician at Lawrence Livermore National Laboratories. If American chemists didn’t measure their solutions in metric units, they would be confused when trying to compare results with scientists from other nations.
 14. Whether you like it or not, says Young of the U. S. Metric Association, the metric is coming. She predicts that by the end of the 20th century the United States will be using metric^⑤. The jobs of tomorrow will use metric, she says, so learn it now or be sorry later.

(665 Words) (From *the Scientific World*, 1994)

New Words and Expressions

nonprofit [nɒn'prɒfɪt]	a.	非盈利性的
Maine [meɪn]	n.	缅因 (美国州名)
customary ^{^6} ['kʌstəməri]	n.	习惯的, 合乎习俗的
inseam ['ɪnsi:m]	n.	裤管内缝; 衣袖内缝
teens [ti:nz]	n.	青少年们
sprint [sprɪnt]	n.	冲刺, 短距离的全速奔跑

end zone	球门区
quart [△] ['kwɔ:t]	<i>n.</i> 夸脱(液量单位)
South Carolina	南卡罗来那(美国州名)
contend [△] [kən'tend]	<i>vt.</i> 声称, 主张
decimal [△] ['desiməl]	<i>n. & a.</i> 小数(的)
carton ['kɑ:tən]	<i>n.</i> (硬蜡纸制的)液体容器
Walkman	步行者录放机(商标名)
drawing board	制图版, 设计方案
peer [△] [piə]	<i>n.</i> 同等地位的人

Guide to Reading

- ① 《美国是否应该采用公制单位》是一篇辩论性文章。辩论性文章一般具有以下几大要素:立论、论证、反驳和结论。本文辩论双方的论点分别是 YES 和 NO。第 1 至 7 段为反对改用公制的辩论; 8 至 11 段为赞成采取公制的辩论; 在本文的论据陈述中采用了事实、统计数字、权威和其他有代表性的人物的引言等。阅读时注意持不同观点的双方是如何从正反两方面罗列证据进行辩论的。
- ② “Take Levi’s jeans”指 “take the example of Levi’s jeans”; Levi’s 又名 Levis 是一种美国牛仔裤商标名——利维斯牛仔裤。
- ③ But to change 100 inches to miles, you’d have to divide by 12 (the number of inches in a foot) and then by 5,280 (the number of feet in a mile). 句子中的 divide 后省略了宾语 “100 inches”。参考译文: 但是, 要把 100 英寸换算成英里, 你必须先将 100 除以 12 再除以 5280。
- ④ For your Walkman to get from the drawing board to your hands, the engineers and factory workers better be using the