ENGLISH FOR GRADUATE STUDENTS

研究生英语

赵璉 鲁人 王敬华 郭素娟

（上 册）

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序　言

英语是全世界三千多种语言之一，也是当前世界上流行最广的语言之一。据统计，世界上的报刊有1/2以上，邮件有3/4，新闻广播有3/5，都使用英语。英语是联合国公用五种语言之一。国际学术会议、国际贸易、国际技术交流、国际航空服务等等，都少不了英语这个媒介。英语的使用范围仍在不断地扩大。

目前世界上流行着两大类英语：英国英语和美国英语。在读音、拼写、词汇和语法方面，这两大类英语是有一些区别的，但这些区别并未使说这两类英语的人达到互不了解的程度。当前国际学术刊物上使用的是一种世界上通用的英语共同文体。这是一种适用于各种用途的英语散文论说文体。英、美作者和世界上其它国家的作者都使用这种共同的英语散文文体。这种文体在词汇和句法上遵循国际的共同标准。在词汇方面，它还包括国际科学词汇(ISV = international scientific vocabulary)。在句法上，这种共同文体更严格地遵守S(主语)—V(动词)—O(宾语)这个现代英语的正常词序，也就是说，它更加接近现代汉语的词序。另一方面，通过助动词、情态动词、短语动词、动词短语，以及分词、动名词和不定式的各种用法和功能，当代英语共同文体建立起一套复杂、细致的动词体系，用来表达动词的体、时态、语态和语气的各种微妙的区别。英语因而变得既简炼又复杂，成为优美、有力的交际工具。

由赵琏、鲁人、王敬华和郭素娟等同志合编的《研究生英语》一书适合于文理科研究生使用，同时也有助于学会上述当代英语共同文体，特向读者介绍。

李赋宁

1986年12月于北京

编者的话

《研究生英语》是根据教委《研究生外国语学习和考试的规定》（草案），结合听、说、读、写、译五会要求，由北京大学赵琏、鲁人、王敬华和郭素娟编写的。这套高级英语教科书适于我国高等院校文理科研究生使用，也可供研究人员、出国人员以及业已掌握一定英语基础知识的自学者使用。

我们根据多年来的研究生英语教学的经验，针对过去英语教学中重视精读而忽视泛读，重视语言分析而忽视写作，以及重视阅读而忽视听说的倾向，在发扬我国编写精读教材的优良传统的基础上，吸收国外英语教学的先进理论和教学方法，力图使精读和泛读结合，语言分析和写作结合，阅读和听说结合，从而使学生在听、说、读、写、译五会方面全面发展。

本书的编写，坚持了知识性、科学性和生动性三项原则。知识性即书中的选材除了反应现代英语的特点外，同时也反映了英、美等使用英语的国家的现状，以扩大学生的知识面。科学性即本书每个单元均以课文为中心，编写相当数量的雷同语篇作为练习，这样同一语言现象自然地反复出现，使学生系统而科学地巩固所学的词语。生动性即突破过去单句练习的单调与局限，选编优秀的短文和章节，以填空、改错、选择等多种形式，使学生在语言的交流中，生动有趣地进行学习。

本书分上、下两册，每册均配有自学手册及盒式录音带。上册包括十个单元，每个单元除课文外分为四节：一、学习辅导 二、一般性练习，三、阅读练习，四、写作练习。第一、二节练习的目的主要是使学生加深对课文的理解、熟悉在课文中所学到的语言现象。第三节练习是课文的扩展，目的主要是培养学生的

阅读能力，巩固并扩大在课文中所学到的词语。第四节主要是使学生用写课文摘要等形式，运用在本单元中所学到的语言现象提高写作能力。每节内的项目，根据不同课文拟定，不要求完全一致。

每个单元的教学要求上课六学时。各单元的分量不完全相等。有些阅读材料和练习可由学生在课外做，上课时进行检查。

朱恩怀参加了本书部分选材和编审工作。此外，烟台大学的杨恩堂、费亚夫和该校外籍教师蒂姆·洛特(Tim Lott)翻译了部分课文，编写了课文内容提问、摘要。北京大学研究生院外籍教师玛丽安·安德森(Marian Andersen)，约翰·沛楼(John Pellowe)，克里斯托夫·林奇(Ghristopher Lynch)对本书也提出了不少修改意见。在此对他们表示衷心感谢。

由于编者经验不足，水平有限，谬误之处在所难免，敬希广大读者和教师不吝指正。

编　者

1986年11月25日于燕园

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Unit One

Text

The Computer Society: Business

1 No one took to the computer more eagerly or saw its usefulness more quickly than the businessman. Now, 24 years after General Electric became the first company to acquire a computer, these versatile machines have become the galley slaves of capitalism. Without them, the nation's banks would be buried under the blizzard of 35 billion checks that rain down on them annually, and economists trying to project the growth of the nation's $2 trillion economy might as well use Ouija boards. In the airline industry, computers make it possible to reserve a seat on a jumbo jet, pay for it by credit card, and enable the plane itself to fly. In many industries, computers design the products the companies sell. Automakers, for example, use computers to view a prospective new car from any angle; then the computers analyze the market to see if the design will sell.

2 In fact, the ravenous and growing appetite of U.S. companies for data-proccessing machines and control devices accounted for a major portion of last year's $41 billion computer business. Only 15 years ago, IBM was for all practical purposes the computer industry. But the

explosive rise in demand has surpassed even IBM's ability to gobble up new orders. Though the company continues to grow at a healthy rate…, the nation's other manufacturers of large computers—Control Data, Burroughs, NCR, Honeywell and Sperry Univac—are also booming. Meanwhile, the clamoring demand has created markets for smaller and younger companies that make minicomputers and peripheral equipment, such as data storage facilities and keyboard terminals, to be used with the big "main frames."

3 Now the arrival of the miracle chip has given a further boost to an already vital industry. Far from rendering the big computer obsolete, the miracle chip has opened the way for the design of custom-made supercomputers more powerful than anything dreamed possible a few years ago. At the same time, the chips are radically lowering the cost of the minicomputers. These small computers, in turn, are being used for more and more of the routine functions that until recently had to be handled by main frames—at considerable cost to the user.

4 By spawning new computers in abundance, many industry experts believe, the chips will indirectly give rise to a whole new industry of "software" companies to develop and market the programs that computers need to perform their tasks. Explains Richard Melmon, director of marketing for Umtech Corp., a maker of home computers: "No one would buy a stereo hi-fi if he could not also buy records or tapes to play on it, and it's the same with computers. We soon will see the dawn of a

whole new kind of publishing industry."

5 Benjamin Rosen, chief microelectronics analyst for New York's Morgan Stanley investment banking firm, sees the chips as the major technological development of our time. Says he: "It will have more impact on our society in the next 20 years than any other invention."

6 Though still in its infancy, the miracle chip has already given rise to one of the most astonishingly competitive and fastest growing industries the nation has ever seen. Among the 50 or so companies producing the versatile little devices are some of the nation's largest electronics and computer firms—IBM, Motorola and Texas Instruments, where Computer Scientist Jack Kilby pioneered in developing the integrated circuit, the predecessor of the chip. Also included are a host of brash upstarts that did not even exist ten years ago. Last year's chip sales of $235 million, while still modest compared with the revenues of the entire computer industry, are expected to grow by a startling 50% annually and exceed $800 million by as early as 1981. Behind this remarkable rise are the incredible economies of scale involved in the manufacture of the chips; once the complex and costly task of designing them and preparing them for production has been completed, the price per chip becomes almost exclusively dependent upon how many are sold. As a result, every time cumulative production doubles, the chips decline in price by about 30%. Meanwhile, declining prices stimulate increased sales, and these in turn lead to further price declines. It has been a long time since

the inflation-battered American economy has seen a better example of how prices are supposed to behave in a free market. A typical example: in 1971 a Sharp Electronics pocket calculator sold for $395; today a more sophisticated model retails for $10.95. With their low cost and versatility, says Mal Northrup, vice president of Rockwell International, the chips are already "turning many present products into buggy whips."

7 **Challenge to Industry** Ironically, the industry's prodigious ability to produce the chips is also its Achilles' heel; the danger that chip makers could eventually produce far more and far more powerful chips than the market can absorb is real. By 1985, according to C. Lester Hogan, vice chairman of Fairchild Camera & Instrument Corp., it will be feasible to build a pocket calculator "that will be more powerful than, and almost as fast as", the $9 million Cray-1, built by Cray Research Inc. in Chippewa Falls, Wis., and recognized as the mightiest computer in the world.

8 Whether or not consumers are able to buy number-crunching beasts of that sort, industry faces an immediate challenge, what to do with the new and more powerful chips entering the market every few months? Warns William Howard, Motorola's director of strategic operations: "Our biggest problem is going to be finding ways of transforming all this innovation into viable products that are simple to use. If all we do is build more and more intricate devices that look and act like computers, we will not have done our job properly."

9 So far, nearly 85% of the industry's production is winding up in the retail market, mostly in the form of TV games, digital watches and calculators. Though products like these are giving the chip makers the sales volume needed to boost output and cut prices, they are hardly a durable base for a high-technology industry. For long-term growth, the chip makers are looking toward three key areas with huge potential:

10 **Automobiles** By the early 1980s the auto industry is expected to become a more than $1 billion market in its own right. At General Motors, chips are already at work regulating the ignition systems of Olds Tornados. GM President Elliott Estes estimates that by 1988 fully 90% of his company's cars will contain even more elaborate electronically controlled ignition systems. Though a computer in every car is still a couple of years away, both Ford and GM last year signed separate long-term contracts with Motorola to deliver upward of $160 million in chip systems annually to the two automakers.

11 **Communications** In addition to a massive program that is gradually replacing electromechanical switching devices throughout its huge system, Ma Bell is looking into miracle chip applications that would turn the family phone into both burglar alarm and fire alarm, as well as home intercom system. Chips will be used to monitor equipment and alert maintenance teams to potential problems before they occur. Says Lee Thomas, Bell Lab's microprocessor chief: "Applications of the microprocessor five years from now will make the present ones look

silly." Motorola has invested $20 million in developing a chip-operated portable phone that weighs less than 2 lbs and has no cord. Beginning in 1979, residents of Washington and Baltimore will be able to use the phones as part of an experiment conducted jointly by the American Radio Telephone Service and the Federal Communications Commission. For a basic monthly charge of approximately $100, subscribers will be able to carry their telephones with them wherever they go in the Baltimore-D. C. area and, if they wish, make or receive phone calls while they are walking along the street.

12 **Office Equipment** Before the miracle chip, companies that wanted a computer had to choose between either huge and highly expensive main-frame units or smaller, less powerful-but still costly—minicomputers. By radically lowering the cost of the traditional minicomputer, miracle chips have dramatically expanded the business market for the minis; their sales are growing at a remarkable 40% annually. At the same time, the chip-equipped minis are proving to be an economical way to get more value for the money out of an existing main frame. They store information and process it locally, keeping it handy for when it is needed. This allows computer operators back at headquarters to schedule the arrival of incoming data in a steady, manageable way.

13 **Problems** One obvious problem with the growing use of computers in business is the corresponding increase in "computer crime." Though electronic pilfering currently amounts to less than 1% of the $41 billion in

annual business thefts by employees and company executives, it is far more serious than stealing from petty cash, and much harder to uncover. In 1973 officers of Equity Funding Corp. of America, a Los Angeles-based insurance firm used the company's computer to give a false impression of Equity's assets by fabricating $2 billion worth of phony life insurance policies. Since big computers can cost tens or even hundreds of dollars a second to operate, their unauthorized use for private purposes is also a form of theft. For instance, last month two Defense Department employees were indicted in San Francisco for stealing $2,000 worth of time on a Government computer in order to develop a marketing plan for a private company they hoped to establish.

14 A far greater danger to U.S. businessmen is that they may not be able to keep pace with the product innovations made possible by the miracle chips. For example, while the color-television industry was pioneered by a U.S. firm, RCA, American companies were slow to realize the revolutionary impact that transistors and semiconductors were destined to have. As a result, the market was opened to lower-priced foreign models that exploited the new technology. Given that first foothold, Japanese manufacturers have ever since been a growing threat to the U.S. color-TV industry.

15 Though they are still several years behind the U.S. in miracle chip technology, Japanese computer makers are rapidly catching up, in part with the help of government subsidies. For now, Japanese computer imports

are less than 1% of the total U.S. market, but they have multiplied eightfold since 1974 and, according to studies by Quantum Science Corp., a marketing research house, could have a significant impact on IBM itself within the next five years. Japanese manufacturers have also shown imagination in designing chip-controlled appliances; all the home video recorders sold in the U.S. are made in Japan, as well as the majority of the low-priced pocket calculators.

16 Perhaps, as Bell Lab's Thomas suggests, "The most exciting applications will not come until the kids who are still in high school and have grown up with pocket calculators and home computers become the engineers of the 1980s and 1990s." But the miracle chip is here now, and if American business does not quickly take the lead in exploiting its myriad and ever growing capabilities, a potentially enormous market could slip through its fingers.

(from *Time*)

Section 1 Aids to Study

A. Notes on the Text

1. General Electric: the short form for General Electric Corporation.
2. IBM: abbrev. for International Business Machines Corporation.
3. GM: abbrev. for General Motors, largest auto manufacturing company in the U.S.