

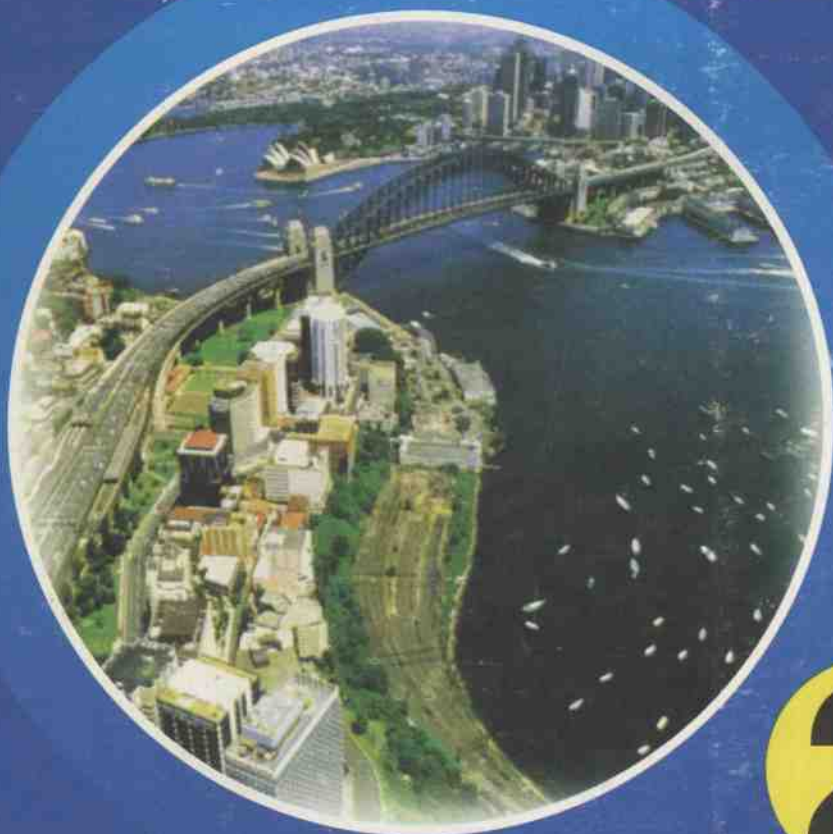
· 博士英语 ·



GRADUATE  
ENGLISH

# 研究生英语

● 董会庆 编著



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# 研究生英语

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## 前 言

国家教育部颁发的《非英语专业研究生英语(第一外语)教学大纲》和《非英语专业硕士、博士研究生英语学位课程考试大纲》于1992年底开始在研究生教学中实施,至今已近十年。在此期间,先后为五千余名硕士生、博士生教授英语课程,始终以两个《大纲》为指导,坚持从实际出发、学以致用原则,努力培养和提高学生运用英语语言的能力。基于《大纲》的教考精神,从试用过的大量教学资料、国内外新近出版的各种教材及多种国际著名报刊杂志中汲取养分,几易此稿,最终编写出了这套《研究生英语》,分为《硕士英语》和《博士英语》两部。

《硕士英语》十个章节,《博士英语》二十个章节,共计三十个章节。各章节安排循序渐进,篇幅从短到长,内容由浅入深,题材广泛,涉及农业科学、医学科学、社会科学、心理科学、环境保护、中介技术、风险投资、沙漠化问题,管理科学、水利科学、生物技术、计算机科学、信息科学、名人名校、人文地理等多个学科领域。在突出科技英语特点的同时,尽量兼顾体裁的多样化及文章形式的多样性,服务于自然科学学者和社会科学学者对自身专业发展的需求。

《硕士英语》中的每一章节均由Part A和Part B两部分组成。Part A中的课文后备有偏词释义和简短的专名注释。练习部分主要包括以下几项:Ⅰ.理解练习,以多项选择和辨别正误形式出现,以便检查对课文语篇内容的掌握程度;Ⅱ.词汇练习,采用填空、解释词素、替换单词等形式,以提高学生遣词用字的能力;Ⅲ.完形填空和短文改错,培养学生综合运用语言的能力;Ⅳ.段落英汉互译。英译汉着重处理课文中的长、难句或重点段落;汉译英则偏重研究生开展与外界学术交流及从事学术研究所必须的一些学科内容;Ⅴ.作文及评论,一般给出当代科学发展所关注的某些重大主题,可进行笔头写作练习,也可进行课堂讨论,为学生提供应用语言、进行交际的环境和机会。Part B由两篇阅读文章组

成,其内容与该章主干课文主题紧密相关。通过学习不仅可使学生巩固在主课文中所学到的语言知识,同时还可使学生进一步扩大视野,就有关科技问题进行深入探讨。

《博士英语》一书由二十个章节组成,每一章节均由 Part A、Part B 和 Part C 三个部分构成。Part A 为 Text Reading; Part B 为 Radix Study; Part C 为 Research Paper Writing。由此可以看出作者对博士阶段研究生英语教学的重点是:加强高级阅读,增加书面语词汇,掌握英语论文写作。作者认为要具有一定的英语语言运用水平,一要大量阅读高层次的英文书面语文章,二要对英语书面语词汇有深刻的理解。英语不是一门固定不变、停止不前的语言,它是一门有机且充满活力的语言,在社会变革中不断创新和发展的语言。学习者对语言的理性认识愈深,掌握起来就愈加容易,使用起来也就愈加娴熟。学以致用是学习英语的根本目的,本书中英文科研论文写作技巧、格式、规范等内容也正是为这一目的而设计的。

本书具有以下二个特点:

一、章节内容紧凑,主题鲜明突出。在编写每一章节时,都力求突出一个目前科技领域所关注的议题,使之相对独立、立题突出,浑然一体。各个章节中的全部内容都围绕着某一个议题进行全面深入的讨论。通过 Part A 部分的精读课文提出主题,利用五种不同形式的练习项目帮助理解探讨主题,再由 Part B 部分的相关阅读文章来进一步拓展本章节的主题。使读者学完每一章节后,能够从不同的角度就某一个特定的议题进行思考,在大脑中留下深刻系统的印象。

二、坚持学以致用,兼顾学考统一。考试是检查学习的一个必不可少的重要手段,所以书中各章节练习项目和阶段测试练习全部是按照当前通行考试形式进行编写的。考虑到目前研究生生源的不同,国家及各省市教育部门对研究生英语学位课程考试要求亦不同,如国家教育部颁发的《非英语专业硕士、博士研究生英语学位课程考试大纲》对通过国家统考入学的研究生设有具体的考试要求;国务院学位委员会又先后制定了《关于授予具有研究生毕业同等学力人员

硕士、博士学位的规定》、《关于在职人员以同等学力申请硕士学位外国语课程水平统一考试的通知》及《同等学力人员申请硕士学位英语水平全国统一考试大纲》，对同等学力申请学位人员进行全国英语统考；有些省市教育部门还对自己管辖内的院校设制了省市级研究生英语统考。因此，本书中设计了国家教育部规定的学位课程考试、国务院学位委员会要求的全国英语统考、省市级英语统考及各种形式的模拟考题，以便各个不同层次的研究生在学完本书之后，对自己掌握英语的程度有一个比较全面的了解。最终通过规定考试，达到国家对非英语专业研究生英语学习制定的标准。

在本书漫长的编写过程中，分别得到西北农林科技大学博士生导师、研究生部主任王跃进教授、世界图书出版西安公司编辑室主任焦毓本老师的大力支持和热情帮助，在此一并致谢。

在目前国家尚未出版研究生英语统编教材的情况下，经多年教学实践、积累总结，于1997年正式出版《研究生英语》，在我校及多所外校研究生教学中使用多年。此次编写的《硕士英语》部分是对原有的《研究生英语》进行了进一步的修订和完善；《博士英语》部分则为全新内容。《硕士英语》与《博士英语》两书合一，方更显恰当合宜。此版《研究生英语》虽十载蕴蓄，一朝脱稿，即将付梓，但心中仍感忐忑不安，不足及疏漏之处在所难免，真诚希望得到专家学者及广大外语同行的批评指正，使该教材能够在使用中不断改进、日臻完善。

编著者

2000年12月

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# Chapter One

## Part A

### TEXT READING

### INFORMATION REVOLUTION

In Ray Bradbury's *Fahrenheit 451*—which was written in the early 1950s, just after televisions and computers first appeared—people relate most intimately with electronic screens and don't like to read. They are happy when firemen burn books.

Cram people “full of noncombustible data,” the fire captain explains, “Chock them so damned full of ‘facts’ they feel stuffed, but absolutely ‘brilliant’ with information. Then they’ll feel they’re thinking, they’ll get a *sense* of motion without moving.”

Bradbury's novel no longer seems set in a distant future. Thanks to growth in computer capacity, television and computers are merging into DIGITAL streams of sounds, images, and text that make it possible to become absolutely brilliant with information.

To know where information technologies are taking us is impossible. The law of unintended consequences governs all technological revolutions. In 1438 Johannes Gutenberg wanted a cheaper way to produce handwritten Bibles. His movable type fostered a spread in literacy, and advance of scientific knowledge, and the emergence of the industrial revolution.

Although no one can predict the full effect of the current information revolution, we can see changes in our daily lives. Look in any classroom. Today's teachers know they have to make lessons fastmoving and entertaining for children raised on television and computer games. Rick Wormeli, an award-winning middle-school teacher in Fairfax County, Virginia, tries to capture the at-

tention of his students by sometimes dressing in yellow shorts, a cape, and red tights and calling himself "Adverb Man." Once, to jump-start the day, he appeared in scuba gear and drenched himself in water. "I try to be as vivid as I can, combining style with substance," he says.

Often the changes that accompany new information technologies are so subtle we barely notice them. Before the written word, people relied on their memories. Before telephones, more people knew the pleasure of writing and receiving letters, the small joy of finding a handwritten envelope in the mailbox from a friend or a relative. Before television and computers, people had a stronger sense of community, a greater attachment to neighborhoods and families.

Television has glued us to our homes, isolating us from other human beings. Only one-quarter of all Americans know their nextdoor neighbors. Our communities will become less intimate and more isolated as we earn college credits, begin romances, and gossip on the Internet, a worldwide system that allows computers to communicate with one another. The Age of SOFTWARE will offer more games, home banking, electronic shopping, video on demand, and a host of other services that unplug us from physical contact.

The decline of human-to-human contact is apparent around the world. Throughout the Middle East, cafe life—where people used to tell stories over a cup of tea—is disappearing. Bistros are going out of business in Paris; many close earlier in the day. Henri Miquel, owner of Le Dufrenoy, shuts down at 8 p. m. instead of midnight. Where do patrons go? "They rush off to watch television," he says.

Is meeting face-to-face more valuable than corresponding electronically? Some neighbors still stop by when a family crisis strikes, but other people offer condolences via e-

mail, written messages transmitted between computers. Whichever we prefer, the electronic seems to represent the future. Television teaches many of us to favor the image over the actual. The Internet pushes life beyond the old physical barriers of time and space. Here you can roam around the world without leaving home. Make new friends. Communicate with astronauts as they circle the earth. Exchange the results of laboratory experiments with a colleague overseas. Read stock quotes. Buy clothes. Research a term paper. Stay out of the office, conducting business via a computer that becomes your virtual office. Virtual community. Virtual travel. Virtual love. A new reality.

William Gibson, whose 1984 novel, *Neuromancer*, pioneered the notion of virtual living, now says that electronic communication provides a "sensory expansion for the species by allowing people to experience an extraordinary array of things while staying geographically in the same spot." Gibson warns, however, that the virtual can only augment our physical reality, never replace it. He applauds the countermovement toward what has been called skin—shorthand for contact with other humans.

People who correspond with each other electronically often feel the need for skin and try to meet in what they call real life. Karen Meisner, while an undergraduate at Connecticut's Wesleyan University, was playing a computer game on the Internet in early 1991. During the game she met Par Winzell, a student at Sweden's Linköping Institute of Technology. He knew her by her game name, Velvet. They began to exchange electronic messages outside the game, sharing thoughts with more directness and intensity than would have been possible in the early stages of a "real-life" relationship. Karen knew something special was happening; they discussed meeting each other. It seemed scary. Then Karen sent an e-mail: "I'm coming to meet you." They have been married for two years.

Technology can also foster skin contact between those who live near one another. Senior citizens in Blacksburg, Virginia, use their computers not only to chat but also to organize get-togethers. "It's like wandering into the town center to meet friends and to check the bulletin board," says Dennis Gentry, a retired Army officer. "Only you can do it in pajamas anytime you want."

The desire for skin can be seen in downtowns and shopping malls—people want human contact even when they could buy things via television or the telephone. Although computers and fax machines make it easier to work at home, business districts continue to grow. More people than ever crowd into major cities, in large part because companies that provide goods and services benefit from being near one another. Employees also seek the relationships that come only from being with other people.

Need for skin does not negate the electronic screen's power to mesmerize. No brain scan or biochemical study has identified a physical basis for our seemingly insatiable hunger for electronic stimulation. Computers are often more alluring than television, which already has a grip on us. Young Americans today spend about as much time in front of a television as in a classroom. At midnight 1.8 million children under age 12 are still watching television. The average adult American watches more than 30 hours every week.

Parents could restrict their children's electronic consumption. But we, too, are addicted. Give up electronic links for a day? No telephone, television, or computer? Try a week. Few can do it. Momentum is in the opposite direction. When a two-year-old clicks at the keyboard and the next day says, "Mommy, Daddy more' puter," his parents feel something good is happening.

Our dependency on the "electronic needle" will increase if wireless, palm-size receivers become available. These de-

vices—a combination of telephone, computer, fax, and television—will provide hundreds of video, audio, and text channels. Handheld receivers that link to e-mail, Internet services, and fax communications are already on the market, but too expensive for most people. Such technological innovations do not permeate a society until someone can profit from them. The first fax was sent from Lyon to Paris in 1865, but use of faxes did not become widespread until technology made text encoding and transmission much cheaper, 120 years later.

Reliance on the electronic screen is part of something larger, the spread of technological civilization. George Steiner, a cultural historian who teaches at Cambridge University, warns that this civilization produces a creeping sameness that threatens local cultures.

The source of most of this uniformity is the advertising and entertainment industries. Worldwide sales of American movies and television programs now total more than five billion U. S. dollars a year. A New Delhi newspaper calls these media “termites eating away at our traditional values.”

But human nature resists the sameness that comes with electronic communication. The place in which we live—its resources and history—maintains a tremendous pull on us, even when we are not conscious of it. When told we are the same, we turn to geographic roots and tribal groupings to find a sense of belonging. This helps explain why ethnic loyalties enjoy a resurgence even as individuals bind themselves to the electronic screen. Such resistance may prevent the apocalyptic *Fahrenheit 451* from emerging, but as the novel predicts, information technologies threaten the book.

Stakes are high. From texts written on papyrus 4,000 years ago through today, books have provided memory and depth. Until the current electronic challenge, they have been the central vehicle through which most societies have

perceived themselves. Perhaps that is why Bill Gates, chairman of the Microsoft Corporation and computer guru, arranged to have his account of the information revolution published the old-fashioned way—on paper, between hard covers. Of all the issues associated with the information explosion—such as privacy, copyright, libel, and computer theft—the battle of the book may have the greatest impact.

At first glance books are in good shape. Sales in the U. S. are the highest ever. Chains of huge bookstores—many offering 150,000 titles—are prospering. Technology, furthermore, encourages reliance on the written word. Tens of billions of words pass through the Internet daily. The ease of printing and photocopying digital information has raised paper usage to record levels.

But TV and computers spawn aliteracy among many people, who are unwilling to read anything of substantive length requiring concentration. Brevity. Five-second sound bites. Channel surfing. Instant gratification. Fast-moving images. Constant stimulation. Shorter attention spans. A world in which the worst sin is to be boring.

Books are taking on new forms, relying on technological zip, which makes the traditional book look like a horse and buggy. This appeals to the new expectations of readers. INTERACTIVE MULTIMEDIA books offer seamless sequences of sounds, images, and words. Learning a foreign language? Listen to spoken pronunciation as you read. Studying algebra? See equations move across an electronic chalkboard. Want to learn more about a specific word in the text? Click on it and explanations fill your screen.

Sales of electronic encyclopedias exceed sales of printed ones. Electronic dominance over print will increase if “netbooks,” which could provide wireless connections to libraries, become available. Flip one on and read whatever you want wherever you are. Netbooks will never become popular, however, without improvements in screen tech-



nology. On-screen reading is currently 20 to 30 percent slower—and much less comfortable—than print reading because of glare, flickering images, and other problems.

Although people love today's print-on-paper books, those who resist new technology can be left behind. In the early 1500s, nearly a century after Gutenberg's movable type, many people continued to believe that value and beauty came only from handwritten manuscripts. These laboriously crafted works have an artistic appeal that printed books cannot match. Federigo da Montefeltro, a leader of the Italian Renaissance, said he "would have been ashamed to own a printed book." Such attitudes isolated people from new ideas and scientific information that were available only in printed format.

Technological changes in books are part of a larger change in our aesthetic sensibilities and creativity. Video images and computer screens appear in plays and operas. Choreography and architecture rely on computer programs.

The novel, which began as epic poems in Homer's era, will also evolve. In an Internet story every reader can add new material. The traditional notion of "author" and "original," which arrived when written books replaced oral folklore, disappears. At Brown University, students in the Hypertext Fiction Workshop listen to John Coltrane and study how Matisse perceived space. They are learning how to integrate sound and visuals into stories.

Novelist Robert Coover, who teaches the workshop, decries "the tyranny of the line." He lauds the "hypertext novel," in which a story has no predetermined beginning, middle, or end. Readers choose among pathways within plots that form a mosaic. Although only 10,000 or so of these novels sold in the U. S. last year, sales have increased 40 percent since 1993. Bob Arellano, one of Coover's former students, recently completed *@ltamont*, an electronic novel soon to be available on CD-ROM. The