博士高级英语阅读

ADVANCED READING FOR Ph D

■ 董会庆 编著

西北农林科技大学出版社

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前　言

　　信息时代，获取信息的方法可谓多种多样，但阅读无疑是知识人类获得社会进步和科学发展最新信息的第一可靠途径。这也就是为什么在人类习得知识的过程中，始终以"读"字领先的原因所在了。从浩如烟海的文献中如何获取所需信息，很强的阅读能力必不可少。依照语言交际功能理念理解，阅读能力为领会式能力（receptive ability），绝非产出式技能（productive ability），体现出的是阅读者内心心理活动过程。在习得外语的过程中，如何提高阅读者这一心理活动的绩效，是本书作者长期思考的焦点。故本书旨在协助读者掌握阅读技巧，提高理解能力，加快阅读速度，克服信息偏差，扫除阅读障碍。真正达到以"读"为本的目的。

　　本书选材以现代科技内容为主，但不过深涉及具体专业，共由十八个章节组成。各章节安排循序渐进，内容由浅入深，篇幅从短到长。题材广泛，内容新颖，涵盖生物技术、信息网络、管理科学、风险投资、环境保护、农业科学、旱地农业等与现代主体学科相关内容。在突出科技英语语言特点的同时，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。

　　作者认为要具有较好的英语语言运用能力，一是要大量阅读高层次的英文书面语文章，二是要对这些文章中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，而是一门有机且充满活力的语言，是在社会变革中不断创新和发展的语言。学习者对英语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，以达学以致用的学习原则。

　　《博士高级英语阅读》虽多年蕴蓄，一朝脱稿，即将付梓，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。

编　者

2005 年 9 月

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THE CYBERMAGNATE AND NET FLAWS

Bill Gates

The phone in Gates' office almost never rings. Nor do phones seem to ring much anywhere on the suburban Microsoft "campus", a cluster of 35 low-rise buildings, lawns, white pines and courtyards that resemble those of a state polytechnic college. Gates runs his company mainly through three methods: he bats out a hundred or more e-mail messages a day (and night), often chuckling as he dispatches them; he meets every month or so with a top management group that is still informally known as the boop (Bill and the Office of the President); and most important, taking up 70% of his schedule by his own calculation, he holds two or three small review meetings a day with a procession of teams working on the company's various products.

There is a relaxed, nonhierarchical atmosphere as the seven young managers of the "WebDVD" group, all in the standard winter uniform of khakis and flannel shirts, gather in a windowless conference room near Gates' office. They have been working for almost a year on a digital videodisc intended to provide content along with Web browsing for television sets, and he wants to review their progress before leaving for Japan, where he will meet with such potential partners as Toshiba.

Craig Mundy, the veteran Microsoft exec who oversees all noncomputer consumer products, lets the younger team members lead the discussion. Gates quickly flips ahead through the deck of papers and within minutes has the gist of their report. He starts rocking, peppering them with questions that segue from the politics of their potential partners, the details of the technology, the potential competition and the broad strategy. The answers are crisp, even as

Gates drills down into arcane details. No one seems to be showing off or competing for attention, but neither do any hesitate to speak up or challenge Gates. To a man (and they all are), they rock when they think.

"Does this allow scripting in HTML?" he asks, referring to the authoring language used to create Websites. They explain how. He challenges them about why it requires four megabytes of memory. They explain; he drills down more; they finally prevail. There is an intense discussion of layers, sectors, modes, error corrections and MPEG-2 video-compression standards. "Our basic strategy must be processor agnostic," Gates decrees. Everyone nods. Then he shifts without missing a beat to corporate tactics. "Are we going to get Philips and other manufacturers and the moviemakers to agree on a standard?" We'll get to that in a minute, he's told. He wants to get to it now. There is a rapid discussion of the internal politics of Philips, Sony, Time Warner, Matsushita and Toshiba, along with their respective Hollywood alliances.

Gates doesn't address anyone by name, hand out praise or stroke any egos. But he listens intently, democratically. His famous temper is in check, even when he disagrees with someone's analysis of the DVD's capability to handle something called layering. "Educate me on that," he says in challenging the analysis, and after a minute or so cuts off the discussion by saying, "Send me the specs."

Gates does not hide his cutthroat instincts. "The competitive landscape here is strange, ranging from Navio to even WebTV," he says. He is particularly focused on Navio, a consumer-software consortium recently launched by Netscape and others designed to make sure that Windows and Windows CE (its consumer-electronics cousin) do not become the standard for interactive television and game machines. "I want to put something in our product that's hard for Navio to do. What are their plans?" The group admits that their intelligence on Navio is poor. Gates rocks

harder. "You have to pick someone in your group," he tells Mundy, "whose task is to track Navio full time. They're the ones I worry about. Sega is an investor. They may be willing to feed us info." Then he moves on to other competitors. "What about the Planet TV guys?" Mundy explains that they are focusing on video games, "a platform we haven't prioritized." Gates counters: "We can work with them now, but they have other ambitions. So we'll be competitive with them down the line."

Though the videodisc is not at the core of Microsoft's business, this is a competition Gates plans to win. The group argues that the $10-per-unit royalty is too low. "Why charge more?" he asks. They explain that it will be hard to make a profit at $10, given what they are putting in. Gates turns stern. They are missing the big picture. "Our whole relationship with the consumer electronic guys hangs in the balance," he declares. "We can get wiped." Only the paranoid survive. "The strategic goal here is getting Windows CE standards into every device we can. We don't have to make money over the next few years. We didn't make money on MS-DOS in its first release. If you can get into this market at $10, take it." They nod.

His mother may have come to terms with this competitive intensity, but much of the computer world has not. There are Websites dedicated to reviling him, law firms focused on foiling him and former friends who sputter at the mention of his name. Companies such as Netscape, Oracle and Sun Microsystems publicly make thwarting his "plan for world domination" into a holy crusade.

The criticism is not just that he is successful but that he has tried to leverage, unfairly and perhaps illegally, Microsoft's near monopoly in desktop operating systems in ways that would let him dominate everything from word processing and spreadsheets to Web browsers and content. The company is integrating its Internet Explorer browser and Microsoft Network content into its Windows operating

system, a process that will culminate with the "Active Desktop" planned for Windows 97, due out in a few months. Critics see a pattern of Microsoft's playing hardball to make life difficult for competing operating systems and applications: Microsoft Word has been buggy on Macintosh operating systems, users have found it tricky to make Netscape their default browser when going back and forth from Windows to the Microsoft Network, and application developers have complained that they don't get the full specs for new releases of Windows as quickly as Microsoft's own developers do.

"They are trying to use an existing monopoly to retard introduction of new technology," says Gary Reback, the Silicon Valley antitrust lawyer representing Netscape and other Microsoft competitors. The stakes are much higher than whose Web browser wins. Netscape is enhancing its browser to serve as a platform to run applications. "In other words," says Reback, "if Netscape is successful, you won't need Windows or a Microsoft operating system anymore. " On the other hand, if Microsoft is allowed to embed its Web browser into its operating system in a manner that maintains its monopoly, Reback warns, "where will it stop? They'll go on to bundle in content, their Microsoft Network, financial transactions, travel services, everything. They have a game plan to monopolize every market they touch. "

Gates makes no apologies. "Any operating system without a browser is going to be f ___ out of business," he says. "Should we improve our product, or go out of business?" Later, on his trip to Japan, he returns to the subject in a two-page e-mail. "Customers are benefiting here in the same way they benefited from graphical interfaces, multitasking, compressions and dozens of other things," he writes. "If improving a product based on customer input is willful maintenance of trying to stay in business and not have Netscape turn their browser into the most popular

operating system, then I think that is what we are supposed to do. "

Though the stakes are clear, the law (which was developed in the era of railway barons) is not. After deadlocking, the U. S. Federal Trade Commission in 1993 surrendered jurisdiction over Microsoft to the Justice Department. FTC Commissioner Christine Varney, an expert in the field, says it's hard to apply antitrust law in a fluid situation. "My concern is with the law's ability to keep pace with market conditions in fields that change so rapidly," she says. "Once it's clear a practice is anticompetitive, the issue may already be moot. "

Longtime competitors raise a more philosophical issue about Gates: his intensely competitive approach has poisoned the collaborative hacker ethos of the early days of personal computing. In his book Startup, Jerry Kaplan describes creating a handwriting-based system. Gates was initially friendly, he writes, and Kaplan trusted him with his plans, but he eventually felt betrayed when Gates announced a similar, competing product. Rob Glaser, a former Microsoft executive who now runs the company that makes RealAudio, an Internet sound system, is an admirer who compliments Gates on his vision. But, he adds, Gates is "pretty relentless. He's Darwinian. He doesn't look for win-win situations with others, but for ways to make others lose. Success is defined as flattening the competition, not creating excellence. " When he was at Microsoft, for example, Glaser says the "atmosphere was like a Machiavellian poker game where you'd hide things even if it would blindside people you were supposed to be working with. "

It comes down to the same traits that his psychologist noted when Gates was in sixth grade. "In Bill's eyes," says Glaser, "he's still a kid with a startup who's afraid he'll go out of business if he lets anyone compete. " Esther Dyson, whose newsletter and conferences make her one of the

industry's fabled gurus, is another longtime friend and ad-
mirer who shares such qualms. "He never really grew up in
terms of social responsibility and relationships with other
people," she says. "He's brilliant but still childlike. He can
be a fun companion, but he can lack human empathy."

"If we weren't so ruthless, we'd be making more cre-
ative software? We'd rather kill a competitor than grow the
market?!?" Gates is pacing around his office, sarcastically
repeating the charges against him. "Those are clear lies,"
he says coldly. "Who grew this market? We did. Who sur-
vived companies like IBM, 10 times our size, taking us on?"
He ticks off the names of his rivals at Oracle, Sun, Lotus,
Netscape in an impersonal way. "They're every bit as com-
petitive as I am."

"We win because we hire the smartest people. We im-
prove our products based on feedback, until they're the
best. We have retreats each year where we think about
where the world is heading." He won't even cop a plea to
the charge that Microsoft tends to react to competitors'
ideas—the graphical interface of Apple, the Web browser of
Netscape—more than it blazes new trails of its own.
"Graphical interfaces were done first at Xerox, not Apple.
We bet on them early on, which is why Microsoft Office ap-
plications became the best."

Gates is enjoying this. Intellectual challenges are fun.
Games are fun. Puzzles are fun. Working with smart people
is superfun. Others may see him as ruthless, cold or bru-
tal; but for him the competition is like a sport, a blood
sport perhaps, but one played with the same relish as the
summer games at Hood Canal. He sprawls on a couch, un-
coils and pops open a Fresca. Though rarely attempting the
social warmth of his mother, Gates has an intensity and en-
thusiasm that can be engaging, even charming. He takes a
piece of paper and draws the matrix of strategies he faced
when creating applications to compete with WordPerfect
and Lotus. See what an exciting puzzle it was? His language

is boyish rather than belligerent. The right "stuff is really neat" and "supercool" and "hardcore," while bad strategies are "crummy" and "really dumb" and "random to the max."

His office is rather "modest, sparsely decorated and filled with standard-issue furniture. The biggest piece of art is a huge photo of a Pentium processor chip. There are smaller pictures of Einstein, Leonardo da Vinci and Henry Ford, though he admits that he has little admiration for the latter. The few personal pictures include one of the original dozen Microsoft employees (most with scruffy beards, except him), one of Ann Winblad on a trip to Germany, and one with Melinda and nine friends on a 1995 vacation to Indonesia. There are no pictures of Jennifer displayed, but he pulls a snapshot out of his desk showing him proudly cradling her.

He hopes to be running Microsoft for another 10 years, he says, then promises to focus as intensely on giving his money away. He says he plans to leave his children about $10 million each. "He will spend time, at some point, thinking about the impact his philanthropy can have," Buffett says. "He is too imaginative to just do conventional gifts." Already he's given $34 million to the University of Washington, partly to fund a chair for human genome-project researcher Leroy Hood; $15 million (along with $10 million from Ballmer) for a new computer center at Harvard; and $6 million to Stanford. An additional $200 million is in a foundation run by his father, and he has talked about taking over personally the funding of Microsoft's program to provide computers to inner-city libraries, to which he's donated $3 million in book royalties. "I've been pushing him gently to think more about philanthropy," his father says. "I think his charitable interests will run, as they do now, to schools and libraries."

Asked about his regrets, Gates talks about not getting a Microsoft e-mail application to the .market quickly

enough. "We were too busy, and at a retreat where I wrote our next priorities on a board, everyone said I had to take one off, so we took off e-mail."

It is hard to get him to delve more personally. But especially since Jennifer's birth, friends say, he has begun to reflect more on his life and what he might end up contributing. He speaks of the promise of computing, not just in business terms but in social ones. "Everyone starts out really capable," he says. "But as you grow and turn curious, either you get positive feedback by finding answers or you don't, and then this incredible potential you have is discouraged. I was lucky. I always had a family and resources to get more and more answers. Digital tools will allow a lot more people to keep going the next step rather than hitting a wall where people stop giving them information or tell them to stop asking questions."

He has also become less enamored with pure intelligence. "I don't think that I. Q. is as fungible as I used to," he says. "To succeed, you also have to know how to make choices and how to think more broadly."

So has family life dulled Gates' intensity? "Well, predictably, he's pumped and focused on Jennifer," says Ballmer. "He showed a picture of her at our last sales conference and joked that there was something other than Netscape keeping him awake at nights. He may be a bit less exhausting and a bit more civil. But he still pushes as hard, still keeps score." Gates likes repeating Michael Jordan's mantra—They think I'm through, they think I'm through—and the one Intel's chief executive Andrew Grove used as a book title, "Only the paranoid survive." As Ballmer says, "He still feels he must run scared." Gates puts another spin on it: "I still feel this is superfun."

And what about his feeling that there is nothing unique about the human mind, that intelligence can someday be replicated in binary code? Has watching a daughter learn to smile at a father's face changed that at all? At our last

meeting, these questions don't seem to engage him. As I wander out of his office, he offers none of life's standard see-you-again someday pleasantries, but he agrees that I should feel free to e-mail him. So I pose the questions, along with some more mundane technical ones, in a message a few days later. Answers to the tech issues come promptly. But he ignores the philosophical ones. Finally, weeks later, a note pops up in my mailbox, dispatched from storm-swept Seattle:

"Analytically, I would say nature has done a good job making child raising more pleasure than pain, since that is necessary for a species to survive. But the experience goes beyond analytic description. Evolution is many orders of magnitude ahead of mankind today in creating a complex system. I don't think it's irreconcilable to say we will understand the human mind someday and explain it in software-like terms, and also to say it is a creation that shouldn't be compared to software. Religion has come around to the view that even things that can be explained scientifically can have an underlying purpose that goes beyond the science. Even though I am not religious, the amazement and wonder I have about the human mind is closer to religious awe than dispassionate analysis."

Internet's Hidden Flaws

You've got mail—and the news seem good! For many people the Internet has changed their way of living. They have become virtual masters of the world. With one push of the mouse button, everybody can visit the Pope at the Vatican, the CIA, Harrods and the British Museum. Humans are able to expand their horizons almost immediately. Ordinary people can chat with the great and famous people from all over the planet. In the past, it was easy to speak out, but expensive to be heard. Now, individuals can voice their opinions on a worldwide stage. Everybody has their own mini-publishing house in their living room. Information can

move more freely, giving more power to citizens than ever
before. Universally accessible e-mail puts people in touch
with their friends around the globe, anywhere, at anytime.
Consumers can window-shop and purchase all kinds of
products without ever leaving the house. Even government
agencies deliver their services on-line, eliminating the need
for long lines and be harassed by rude and slow bureau-
crats. Education becomes available to everybody via dis-
tance learning. All this is great! And it represents only a
very small selection of what is available now and will be
possible in the future. Despite the simplicity of the basic
idea, the Internet is a technological wonder with revolution-
ary potential.

Opinion leaders and mass followers all have been quick
to praise the enormous advantages of the Internet. Alas,
cybermania makes them overlook its hidden, potentially
lethal traps. They then run the danger of getting lost not
only in cyberspace, but in the real world as well. There are
tremendous risks at the personal, interpersonal, national
and international level. Throughout the world, many, of-
ten older politicians, who do not have a firm grasp on new
technology, do not fully understand the dangers. The same
is true for consumers. Curiously, very few people even talk
about the risks of the World Wide Web.

On a personal level, the Internet often makes people a
"web-holic"—a term I took the liberty to create. They be-
come addicted to spending an ever-increasing amount of
time in a virtual and synthetic world. Surveys have shown
that users feel guilty about wasting too much time with
their new "toy." Given the absence of powerful search en-
gines, people often lose much time tapping in the dark.
Since there is no quality control on content, the retrieved
information is often irrelevant, superficial and sometimes
even wrong. Besides, human greed and curiosity lead
browsers to follow the new seducer in web world: "Hyper-
links." They lead them to information they were not

looking for at all. In the virtual maze, hours after hours fly away. This happens literally at the speed of light, which dramatically exceeds the pace of any previous gadgets.

The fact that there is also no content control also compounds the problem. Popular (un)culture, violence, dirty erotic material all enter households effortlessly, byte by byte. Many minority associations that are dangerous to the fabric of society can spread their poison, including pseudo-religious cults and others. The "silent majority" just stands by and watches. Even children consume these uncensored evil products on a daily basis and become addicted— during a time in life when natural beauty and spiritual pureness should surround and uplift our innocent little angels. We see the dire consequences of this "democratization" in the US society: shootings in schools, moral degradation and the breakdown of the family. If unchecked, the Internet will spread these US "gifts" and "blessings" to the rest of the world, including China.

There are also serious privacy and personal security concerns. Any e-mail is like a postcard. People can intercept and read it. The ease with which hackers were able to penetrate Microsoft's free e-mail service and get access to 40 million free Hotmail e-mail accounts via an Internet site is a good demonstration of this "openness." Despite reassurances to the contrary, these security leaps are likely to happen again. Ironically, the very accessibility and openness of the Internet make it an ideal object for hackers. Managers in most organizations also read their employees' e-mails. A large number of other interested observers follow every step (or better, click) on the Internet. Web-based databases, built on the basis of such "intelligence" or voluntarily submitted personal details, already now contain an enormous wealth of information on individuals.

At the interpersonal level, instead of fulfilling the promise of greater interconnectedness of people, humans will become more isolated. Community structures and the