目标英语阅读阶梯系列

英语扩充词汇阶梯阅读

——精通10 000词汇

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内 容 提 要

本书为‘目标英语阅读阶梯系列’书第八册。编写词汇量基于10 000词左右。全书收集文章40篇，题材广泛，涵盖政治经济、科技文化、社会轶闻、卫生保健和热门话题；体裁多样，有议论文、说明文和记叙文。本书内容新颖，融知识性、趣味性和可读性于一体，注重学生阅读能力的培养和扩大词汇量。每篇文章后均有难句分析、难点注释和关于重点和难度较大的词汇和词组的练习。每5篇后编有一个总结练习，以起到复习和检查之目的。

本书可作为大学英语六级以上水平读者、研究生、博士生及英语专业学生的阅读辅助教材，也可作为准备出国人员及其他英语爱好者的读物。

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编 者 的 话

词汇量是衡量英语水平的重要标志之一。在英语教学中，我们看到很多学生由于词汇量贫乏而影响了他们阅读理解和考试答题速度。为了扩充词汇，一些学生往往急于求成，孤立地背单词或盲目使用各种词汇强化练习参考书。这些方法最初可能有一定的效果，但随着词汇量的增加，多数人会感到负担过重或因枯燥乏味而难以持续下去，从而降低了学英语的兴趣。

扩大词汇量决非一朝一夕之功，切实可行的办法就是大量地阅读。通过阅读来扩充和掌握词汇，既有助于记住单词本身，又可同时熟悉词的用法和搭配。实践证明，这比孤立地背记单词要好得多。

阅读无疑是扩充词汇的重要手段，而选材是否得当则是能否吸引读者深入下去的重要因素。要兼顾材料的难易程度、词汇量的范围和文章本身的趣味性、知识性是件不易的事。这对编者的能力和水平提出了很高的要求。为了达到这一目的，本系列书的编者都是具有多年英语教学经验的骨干。通过大量地选材、比较、征求意见，基本上使本系列书在诸多方面达到统一。您只要浏览一下每本书的目录就会被文章的题目所吸引！所选文章，避免一般英语读物题材单一的倾向，代之以广博的内容，包括政治经济、社会生活、历史地理、风土人情、名人轶事，体裁多样，包括记叙

文、说明文、议论文、应用文、故事和诗歌等，内容新颖，语言规范，结构严谨，可读性强。

篇篇妙文，字字珠玑，思想深邃，哲理通达，似神笔天成。从妙趣横生的童话到力透纸背的檄文，从娓娓动听的故事到慷慨激昂的演讲，你可感受到伦敦塔叙诉历史的深沉、密西西比河奔腾咆哮的豪迈、古代印度的神秘、澳大利亚的奇异,你可跟上当今科技发展的步伐，能触摸到现代社会发展的脉搏。

短文中超纲词汇和难点均加注释，以便读者巩固和扩大词汇量，加深对短文的理解。每篇短文后编有形式多样的词汇练习，可以帮助读者复习和巩固所学过的重点词汇和短语。

攀登峭壁总没有沿梯而上轻松。要使阅读成为一件轻松愉快的事，除了有精彩的内容外，读者还要根据自己的程度，选定适合自己的阅读材料。为了达到这一目的，本系列书的编者们特编辑 8 本扩充词汇阶梯阅读材料，词汇量依次为 1 000、2 000、3 000、4 000、5 000、6 000、8 000、10 000。这是一架助你摘取桂冠的‘云梯”，读者通过这架‘云梯’还可以积累语言经验和培养语感，以达到提高语言运用能力之目的。如果您认真地读完本系列书并掌握书中的关键词和重点词，可以说您已达到专业英语学生的水平，并为出国留学考试打下坚实的基础。

朋友，如果本系列书能激起你智慧的火花、情感的涟漪，这正是我们的心愿。

由于编者水平的局限，难免有疏漏和错误之处，诚请读者不吝指正。

目　　录

1 The Age of Cloning
克隆时代

多利唤醒了一个时代——一个科技飞跃的时代？一个道德沦丧的时代？

Even now, a week after news of the achievement first flew around the globe, traces of astonishment linger in the air like a contrail. The landmark paper published late last week in the journal *Nature* confirmed what the headlines had been screaming for days: researchers at the Roslin Institute[1] near Edinburgh, Scotland, had indeed pulled off what many experts thought might be a scientific impossibility. From a cell in an adult ewe's mammary gland, embryologist Ian Wilmut and his colleagues managed to create a frisky lamb named Dolly (with apologies to Ms. Parton), scoring an advance in reproductive technology as unsettling as it was startling. Unlike offspring produced in the usual fashion, Dolly does not merely take after her biological mother. She is a carbon copy, a laboratory counterfeit so exact that she is in essence her mother's identical twin.

What enabled the Scottish team to succeed where so many others have failed was a trick so ingenious, yet so simple, that any skilled laboratory technician should be able to master it—and therein lies both the beauty and the danger: once Wilmut and his colleagues figured out how to cross that biological barrier, they ensured that others would follow. And although the Roslin researchers had to struggle for more than 10 years to achieve their breakthrough, it took political and religious leaders around the world no time at all to grasp its import: if scientists can clone sheep, they can probably clone people too.

Without question, this exotic form of reproductive engineering could become an extremely useful tool. The ability to clone adult mammals, in particular, opens up myriad exciting possibilities, from propagating endangered animal species to producing replacement organs for transplant patients. Agriculture stands to benefit as well. Dairy farmers, for example, could clone their champion cows, making it possible to produce more milk from smaller herds. Sheep ranchers could do the same with their top lamb and wool producers.

But it's also easy to imagine the technology being misused, and as news from Roslin spread, apocalyptic scenarios proliferated.[2] Journalists wrote seriously about the possibility of virgin births, resurrecting the dead and women giving birth to themselves. On the front page of the New York *Times*, a cell biologist from Washington University in St. Louis, Missouri, named Ursula Goodenough quipped that if cloning were perfected, "there'd be no need for men."

Scientists have long dreamed of doing what the Roslin team did. After all, if starfish and other invertebrates can practice asexual reproduction, why can't it be extended to the rest of the animal kingdom? In the 1980s, developmental biologists at what is now Allegheny University of the Health Sciences came tantalizingly close. From the red blood cells of an adult frog, they raised a crop of lively tadpoles. These tadpoles were impressive creatures, remembers University of Minnesota cell biologist Robert McKinnell, who followed the work closely. "They swam and ate and developed beautiful eyes and hind limbs," he says. But then, halfway through metamorphosis, they died.

Scientists who have focused their cloning efforts on more forgiving embryonic tissue have met with greater success.[3] A simple approach, called embryo twinning (literally splitting embryos in half), is commonly practiced in the cattle industry. Coaxing surrogate cells to accept foreign DNA is a bit trickier. In 1952 researchers in Pennsylvania successfully cloned a live frog from an embryonic cell. Three decades later, researchers were learning to do the same with such mammals as sheep and calves. "What's new," observes University of Wisconsin animal scientist Neal First, "is not cloning mammals. It's cloning mammals from cells that are not embryonic.[4]"

Embryo cells are infinitely easier to work with because they are, in the jargon of cell biologists, largely "undifferentiated." That is, they have not yet undergone the progressive changes that turn cells into skin, muscles, hair, brain and so on. An undifferentiated cell can give rise to all the other cells in the body, say scientists, because it is capable of activating any gene on any chromosome. But as development progresses, differentiation alters the way DNA—the double-stranded molecule that makes up genes—folds up inside the nucleus of a cell.[5] Along with other structural changes, folding helps make vast stretches of DNA inaccessible, ensuring that genes in adult cells do not turn on at the wrong time or in the wrong tissue.

The disadvantage of embryonic cloning is that you don't know what you are getting. With adult-cell cloning, you can wait to see how well an individual turns out before deciding whether to clone it. Cloning also has the potential to make genetic engineering more efficient. Once you produce an animal with a desired trait—a pig with a human immune system, perhaps—you could make as many copies as you want.

In recent years, some scientists have speculated that the changes wrought by differentiation might be irreversible, in which case cloning an adult mammal would be biologically impossible. The birth of Dolly not only proves them wrong but also suggests that the difficulty scientists have had cloning adult cells may have less to do with biology than with technique.[6]

To create Dolly, the Roslin team concentrated on arresting the cell cycle—the series of choreographed steps all cells go through in the process of dividing. In Dolly's case, the cells the scientists wanted to clone came from the udder of a pregnant sheep. To stop them from dividing, researchers starved the cells of nutrients for a week. In response, the cells fell into a slumbering state that resembled deep hibernation.

At this point, Wilmut and his colleagues switched to a mainstream cloning technique known as nuclear transfer. First they removed the nucleus of an unfertilized egg, or oocyte, while leaving the surrounding cytoplasm intact. Then they placed the egg next to the nucleus of a quiescent donor cell and applied gentle pulses of electricity. These pulses prompted the egg to accept the new nucleus—and all the DNA it contained—as though it were its own. They also triggered a burst of biochemical activity, jump-starting the process of cell division. A week later, the embryo that had already started growing into Dolly was implanted in the uterus of a surrogate ewe.

An inkling that this approach might work, says Wilmut, came from the success his team experienced in producing live lambs from embryonic clones. "Could we do it again with an adult cell?" wondered Wilmut, a reserved, self-deprecating man who likes gardening, hiking in the highlands and drinking good single-malt Scotch (but who was practical enough to file for a patent before he went public).

It was a high-risk project, and in the beginning Wilmut proceeded with great secrecy, limiting his core team to four scientists. His caution proved to be justified; the scientists failed far more often than they succeeded. Out of 277 tries, the researchers eventually produced only 29 embryos that survived longer than six days. Of these, all died before birth except Dolly, whose historic entry into the world was witnessed by a handful of researchers and a veterinarian.

Rumors that something had happened in Roslin, a small village in the green, rolling hills just south of Edinburgh, started circulating in scientific circles a few weeks ago. It was only last week, when the rumors were confirmed and the details of the experiment revealed, that the real excitement erupted. Cell biologists, like everybody else, were struck by the simple boldness of the experiment. But what intrigued them even more was what it suggested about how cells work.

Many scientists had suspected that the key to getting a donor cell and egg to dance together was synchronicity—getting them started on the same foot.[7] Normal eggs and sperm don't have that problem; they come pre-divided, ready to combine. An adult cell, though, with its full complement of genes, has to be coaxed into entering an embryonic state. That is probably what Wilmut did by putting the donor cell to sleep, says Colin Stewart, an embryologist at the National Cancer Institute. Somehow, in ways scientists have yet to understand, this procedure seems to have reprogrammed the DNA of the donor cell. Thus when reawakened by the Roslin team, it was able to orchestrate the production of all the sells needed to make up Dolly's body.

Like most scientists who score major breakthroughs, Wilmut and his colleagues have raised more questions than they have answered. Among the most pressing are questions about Dolly's health. She is seven months old and appears to be perfectly fine, but no one knows if she will develop problems later on. For one thing, it is possible that Dolly may not live as long as other sheep. After all, observes NCI's Stewart, "she came from a six-year-old cell. Will she exhibit signs of aging prematurely?" In addition, as the high rate of spontaneous abortion suggests, cloning sometimes damages DNA. As a result, Dolly could develop any number of diseases that could shorten her life.

Indeed, cloning an adult mammal is still a difficult, cumbersome business—so much so that even agricultural and biomedical applications of the technology could be years away.[8] PPL Therapeutics, the small biotechnical firm based in Edinburgh that provided a third of the funding to create Dolly, has its eye on the pharmaceutical market. Cloning, says PPL 's managing director Ron James, could provide an efficient way of creating flocks of sheep that have been genetically engineered to produce milk laced with valuable enzymes and drugs. Among the pharmaceuticals PPL is looking at is a potential treatment for cystic fibrositis.

Nobody at Roslin or PPL is talking about cloning humans. Even if they were, their procedure is obviously not practical—not as long as dozens of surrogates need to be impregnated for each successful birth. And that is probably a good thing, because it give the public time to digest the news—and policymakers time to find ways to prevent abuses without blocking scientific progress. If the policymakers succeed, and if their guidelines win international acceptance, it may take a lot longer than the editorial writers and talk-show hosts think before a human clone emerges—even from the shadows of some offshore renegade lab. "How long?" asks PPL 's James. "Hopefully, an eternity."

Notes

1. the Roslin Institute　罗斯林研究所。该所于1997年2月23日宣布世界上第一头名叫多利(Dolly)的克隆羊培育成功。
2. … and as news from Roslin spread, apocalyptic scenarios proliferated.　……随着来自罗斯林的消息的广泛传播,令人惊心的情景也弥漫开来。
3. Scientists who have focused … greater success.　那些将克隆的努力专注于更有耐受力的胚胎组织的科学家们取得了更大的成功。
4. It 's cloning mammals from cells that are not embryonic.　而是使用非胚胎细胞克隆出哺乳动物。
5. …differentiation alters the way … the nucleus of a cell.　……分化改变了细胞核中DNA(组成基因的双股分子链)的交叉方式。
6. The birth of Dolly … than with technique.　多利的诞生不仅证明了他们观点的错误,而且也说明科学家们在克隆成熟细胞上的困难与其说是生物学本身的,倒不如说是技术上的。
7. … the key to getting a donor cell … the same foot.　使所供细胞和卵子相互协调的关键是共时性,即使它们步调一致。此句用舞蹈和舞步来表示两者的相互配合。start on the same foot 意为跳舞时两人同出相应的脚。
8. … so much so that even … be years away.　……如此的困难和繁重,所以这一技术在农业和生物医学上的应用尚需相当的时月。此句的 so much 后可认为省略了 difficult, cumbersome。

Exercises

1. Read the following sentences, then choose from among the four answers the one that is closest in meaning to the underlined part in each sentence.

   1) A week later, the embryo that had already started growing into Dolly was implanted in the uterus of a <u>surrogate</u> ewe.

      A) delivery　　B) substitute　　C) background　　D) virgin

   2) Once you produce on animal with a desired <u>trait</u>—a pig with a human immune system…

      A) mixture　　B) flavor　　C) organ　　D) characteristic

3) … researchers at the Roslin Institute near Edinburgh, Scotland, had indeed pulled off what many experts thought might be a scientific impossibility.

A) accomplished B) postponed C) abandoned D) touched

4) The ability to clone abult mammals, in particular, opens up myriad exciting possibilities …

A) boundless B) incredible C) mystic D) more

5) … the series of choreographed steps all cells go through in the process of dividing.

A) delayed B) timed C) accompanied D) arranged

2. Match each word in Column 1 with that in Column 2 that is an explanation of the underlined part in the word.

Column 1	Column 2
1) oocyte	A) time
2) fibrositis	B) ovum, egg
3) synchronicity	C) quality
4) cytoplasm	D) material forming tissue
5) cumbersome	E) abnormal condition
	F) cell

3. Find in the material one or two (if there are) synonyms for each of the following common words.

1) fake

2) breast

3) doze

4) lively

5) traitor

2　How Hard Is Chess？
胜耶？败耶？

头脑的较量、智力的角逐，就在这黑白相间的方寸之间。电脑的胜利是否就是人类打败了自己？

We already knew that computers are first-rate at solving equations，entertaining children，burying friends and enemies under E-mail and doing many other useful chores. They have also been brushing up on their chess. By the end of the second game between Deep Blue[1] and Garry Kasparov[2] last week，it was clear that

IBM's extraordinary computer was playing better chess than any machine ever had before. After Saturday's game ended in a draw, the match was still tied at one win and three draws apiece,[3] but technology watchers were pretty well agree: if the machine doesn't triumph this time, it is likely to triumph before long.[4]

And why bother about the actual date on which the computer finally vanquishes the human world champion? After all, it can already beat you. That in itself is suggestive and important, because no human being can play chess without thinking. And no human could beat the chess champion of the world, even in a single game, without bringing significant intelligence to bear. Shouldn't we conclude that Deep Blue must be a thinking computer, and a smart one at that, maybe brilliant? Maybe a genius? Aren't we forced to conclude that Deep Blue must have a mind? That henceforth *Homo sapiens*[5] will be defined as "one type of thinking thing"?

No. Deep Blue is just a machine. It doesn't have a mind any more than a flowerpot has a mind.[6] Deep Blue is a beautiful and amazing technological achievement. It is an intellectual milestone, and its chief meaning is this: that human beings are champion machine builders. All sorts of activities that we *thought* could be done only by minds can in fact be done by machines too, if the machine builders are smart enough. Deep Blue underscores the same lesson about human thought we learned a couple of generations ago from mechanical calculators. You can't do arithmetic without using your mind, but when a calculator does arithmetic, we don't conclude that it has a mind. We conclude that arithmetic can be done *without* a mind.

Winning at chess, of course, is much harder than adding numbers. But when you think about it carefully, the idea that Deep Blue has a mind is absurd. How can an object that wants nothing, fears nothing, enjoys nothing, needs nothing and cares about nothing have a mind? It can win at chess, but not because it wants to. It isn't happy when it wins or sad when it loses. What are its apres-match[7] plans if it beats Kasparov? Is it hoping to take Deep Pink out for a night on the town? It doesn't care about chess or anything else. It plays the game for the same reason a calculator adds or a toaster toasts: because it is a machine designed for that purpose.

Computers as we know them will never have minds. No matter what amazing feats they perform, inside they will always be the same absolute zero. The philosopher Paul Ziff laid this out clearly almost four decades ago. How can we be sure, he asked, that a computer-driven robot will never have feelings, never have a mind? "Because we can program a robot to behave any way we want it to behave. Because a robot couldn't mean what it said any more than a phonograph record could mean what it said." Computers do what we make them do, period.[8] However sophisticated the computer's performance, it will always be a performance.

Not so fast, someone might say. The human brain is a machine too. How can we dismiss Deep Blue as just a machine when we don't dismiss the human brain as just a machine?

Because if your brain is just a machine, it's a machine that can do one trick that computers have no hope of doing. A trick that is intrinsic to the machinery, that can't be duplicated onto some other machine, stored on a disc, reworked by smart programmers or appropriated by Microsoft[9]. Because of the stuff it is made of, or the way its parts are arranged, the brain is a machine that is capable of creating an "I." Brains can summon mental worlds into being, and computers can't.

But might not scientists be able one day to build a machine in the laboratory with the same remarkable capacity? I doubt it. But if they do, that machine will be, chances are, an exact replica of the brain itself.

That said, don't sell computers short. What's important about Deep Blue's success is what it tells us about the nature of computer science. We like to think of it as a fast-moving field. In fact, it is plodding but not easily discouraged. In the 1950s, many scientists decided that chess playing was an area in which computers could make rapid headway. Some predicted the imminent coming of a world-champion computer. But the problem turned out to be much harder than they imagined, as did many other problems is artificial intelligence. Outsiders tended to write the whole effort off; computer scientists, they figured, talked a good game but couldn't deliver. The researchers themselves dug in their heels, set to work and produced Deep Blue. Progress has been made on other long-standing problems also: getting computers to translate English into Russian, for example, or to identify objects by sight.

Simulating thought in general, as opposed to solving a particular, sharply defined problem, has proved considerable harder. One of the biggest obstacles has been technologists' naiveté about the character of human thought, their tendency to confuse thinking with analytical problem solving. They forget that when you look out the window and let your mind wander, or fall asleep and dream, you are also thinking. They tend to overlook something that such mind-obsessed poets as Wordsworth[10] and Coleridge[11] understood two centuries ago: that thought is largely a process of stringing memories together, and that memories are often linked by emotion. No computer can achieve artificial thought without achieving artificial emotion too. But even in that arcane field, some progress has been made.

The key technique behind Deep Blue is "parallel computing." To solve a hard problem fast, use lots of computers simultaneously. Deep Blue is a computer ensemble: 32 general-purpose computers, each one attached to eight special-purpose processors. Parallel computing used to be (believe it or not) controversial. Some computer scientists were worried that programmers wouldn't be able to manage lots of computers simultaneously. In retrospect, it was a piece of cake.

The more powerful your computer, the more sophisticated the behavior it can imitate. In the long run I doubt if there is any kind of human behavior computers can't put on. It is conceivable that one day, computers will be better than humans at nearly everything. I can imagine that a person might someday have a computer for a best friend. That will be sad—like having a dog for your best friend but even sadder.

Computers might one day be capable of expressing themselves in vivid prose or fluent poetry, but unfortunately they will still be computers and have nothing to say. The gap between human and surrogate is permanent and will never be closed. Machines will continue to make life easier, healthier, richer and more puzzling. And human beings will continue to care, ultimately, about the same things they always have: about themselves, about one another and, many of them, about God. On those terms, machines have never made a difference. And they never will.

Notes

1. Deep Blue **深蓝(由 IBM 公司研制的超级计算机。1997 年 5 月由 IBM 公司主持,进行了深蓝与国际象棋大师、世界冠军卡斯帕罗夫之间的人机对弈大战。此次大赛以卡氏的失败而告终。)**
2. Garry Kasparov **卡斯帕罗夫**
3. … the match was still tied … apiece **比赛因各一胜三平仍处于平局。**
4. … if the machine doesn't triumph … before long. **如果深蓝这次没赢,那么不久它也会赢的。**
5. *Homo sapiens* = Modern man
   此词源于拉丁语:*homo*, man + *sapiens*, wise
6. It doesn't have a mind … a mind. **它像花瓶一样也是没有头脑的。**
7. après-match = after-match,**此词源于法语。**
8. … period. **句号,意即仅此而已。**
9. Microsoft **美国的微软公司**
10. Wordsworth **华兹华斯(**William, 1770—1850,**英国诗人,于** 1843—1850 **年为桂冠诗人)**
11. Coleridge **科勒律治(**Samuel Taylor, 1772—1834,**英国诗人及哲学家)**

Exercises

1. Match each word in Column 1 with the word or phrase in Column 2 that is opposite of the word in Column 1.

Colomn 1	Column 2
1) vanquish	A) commonplace
2) arcane	B) far-off
3) duplicate	C) prospect
4) retrospect	D) yield
5) imminent	E) originate