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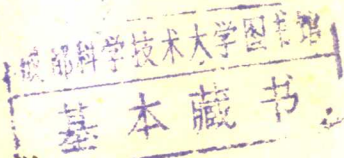
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编者的话

英语学习的目的是为了要获得信息。信息在面临新技术革命和实现我国四个现代化的时代有着特别重要的意义。科学家要做好研究工作，工程师要设计第一流的产品，厂长要管理好一个出色的工厂，贸易人员要做好生意，教师要教好学生等等都离不开掌握最新的信息。

英语教学工作的重要任务之一，是要教会学生英语，使他们具备取得最新而又广泛的信息的能力。为此，我们将选择最新英文科技新闻，编印成册，陆续出版，供学生和科技工作者

（第一辑）的出
识面，从
语教师从



扩大知
也可供英
于知识性

和趣味性以避免阅读时出现枯燥乏味之感。

参加第一辑编选工作的同志有：陈志斌、周陆翊、詹尔震、方天心 and 叶慧，由王文孟负责校阅。由于水平有限，错误和不当之处请广大读者来信指出。寄：清华大学外语系。

清华大学外语教学研究及资料中心

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1. How to Improve Your Vocabulary

Words can make us laugh, cry, go to war¹, fall in love².

Rudyard Kipling called words the most powerful drug of mankind. If they are, I'm a hopeless addict³ — and I hope to get you hooked⁴, too!

Whether you're still in school or you head up a corporation, the better command you have of words, the better chance you have of saying exactly what you mean, of understanding what others mean — and of getting what⁵ you want in the world.

English is the richest language — with the largest vocabulary on earth. Over 1,000,000 words!

You can express shades⁶ of meaning that aren't even possible in other languages. (For example, you can differentiate between “sky” and “heaven.” The French, Italians and Spanish cannot.)

Yet, the average adult has a vocabulary of only 30,000 to 60,000 words. Imagine what we're missing!

Here are five pointers that help me learn — and remember — whole families of words at a time.

They may not look easy — and won't be at first. But if you stick with them you'll find they work!

What's the first thing to do when you see a word you don't know?

1. Try to guess the meaning of the word
from the way it's used

You can often get at least part of a word's meaning — just from how it's used in a sentence.

That's why it's so important to read as much as you can — different kinds of things: magazines, books, newspapers you don't normally read. The more you expose yourself to new words, the more words you'll pick up just by seeing how they're used.

For instance, say you run across the word "manacle":

"The manacles had been on John's wrists for 30 years. Only one person had a key — his wife."

You have a good idea of what "manacles" are — just from the context of the sentence.

But let's find out exactly what the word means and where it comes from. The only way to do this, and to build an extensive vocabulary fast, is to go to the dictionary. (How lucky, you can — Shakespeare couldn't. There wasn't an English dictionary in his day!)

So you go to the dictionary. (NOTE: Don't let dictionary abbreviations put you off⁷. The front tells you what they mean, and even has a guide to pronunciation.)

2. Look it up

Here's the definition for "manacle" in The American Heritage Dictionary of the English Language, man-a-cle (mân' ə-kəl) n. Usually plural.

1. A device for confining the hands, usually consisting of two metal rings that are fastened about the wrists and joined by a metal chain: a handcuff. 2. Anything that confines or restrains. -tr. v. manacled, -cling, -cles.

1. To restrain with manacles. 2. To confine or restrain as if with manacles; shackle; fetter. [Middle English manicle, from Old French, from Latin manicula, little hand, handle, diminutive of manus, hand. See man- in Appendix.]

The first definition fits here: A device for confining the hands, usually consisting of two metal rings that are fastened about the wrists and joined by a metal chain; a handcuff.

Well, that's what you thought it meant. But what's the idea behind the word? What are its roots? To really understand a word, you need to know.

Here's where the detective work — and the fun — begins.

3. Dig the meaning out by the roots

The root is the basic part of the word — its heritage, its origin. (Most of our roots come from Latin and Creek

words at least 2,000 years old — which come from even earlier Indo-European tongues⁸!)

Learning the roots: 1) Helps us remember words. 2) Gives us a deeper understanding of the words we already know. And 3) allows us to pick up whole families of new words at a time. That's why learning the root is the most important part of going to the dictionary.

Notice the root of "manacle" is manus (Latin) meaning "hand."

Well, that makes sense⁹. Now, other words with this root, man, start to make sense, too.

Take manual — something done "by hand" (manual labor) or a "handbook." And manage — to "handle" something (as a manager). When you emancipate someone, you're taking him "from the hands of" someone else.

When you manufacture something, you "make it by hand" (in its original meaning).

And when you finish your first novel, your publisher will see your — originally "handwritten" — manuscript.

Imagine! A whole new world of words opens up — just from one simple root!

The root gives the basic clue to the meaning of a word. But there's another important clue that runs a close second¹⁰ — the prefix.

4. Get the powerful prefixes under your belt¹¹.

A prefix is the part that's sometimes attached to the

front of a word. Like — well, prefix! There aren't many — less than 100 major prefixes — and you'll learn them in no time at all just by becoming more aware of the meanings of words you already know.

Here are a few. (Some of the "How-to" vocabulary-building books¹² will give you the others.)

PREFIX		MEANING	EXAMPLES	
(Lat.)	(GK.)			(Literal sense)
com, con,	sym, syn,	with, very	conform	(form with)
co, col, cor,	syn	together	sympathy	(feeling with)
in, im,	a, an	not	innocent	(not wicked)
il, ir		without	amorphous	(without form)
contra	anti	against	contravene	(come against)
counter	ant	opposite	antidote	(give against)

Now, see how the prefix (along with the context) helps you get the meaning of the italicized words:

"If you're going to be my witness, your story must corroborate¹³ my story," (The literal meaning of corroborate is "strength together.")

"You told me one thing — now you tell me another. Don't contradict yourself." (The literal meaning of contradict is "say against".)

"Oh, that snake's not poisonous. It's a completely innocuous¹⁴ little garden snake." (The literal meaning of innocuous is "not harmful".)

Now, you've got some new words. What are you going to do with them?

5. Put your new words to work at once

Use them several times the first day you learn them. Say them out loud! Write them in sentences.

Should you "use" them on friends? Careful — you don't want them to think you're a stuffed shirt¹⁵. (It depends on the situation. You know when a word sounds natural — and when it sounds stuffy.)

How about your enemies? You have my blessing. Ask one of them if he's read that article on pneumonoultramicroscopicsilicovolcanoconiosis. (You really can find it in the dictionary.) Now, you're one up on him¹⁶.

So what do you do to improve your vocabulary?

Remember: 1) Try to guess the meaning of the word

from the way it's used. 2) Look it up. 3) Dig the meaning out by the roots. 4) Get the powerful prefixes under your belt. 5) Put your new words to work at once.

That's all there is to it — you're off on your treasure hunt.

Now, do you see why I love words so much?

Aristophanes¹⁷ said, "By words, the mind is excited and the spirit elated¹⁸." It's as true today as it was when he said it in Athens — 2, 400 years ago!

I hope you're now like me — hooked on words forever.

注 释

1. go to war 开战；参军
2. fall in love 开始恋爱
3. hopeless addict ['ædikt] 完全着迷的人
4. get you hooked [hukt] 使你上钩
5. and of getting what ... 与前面的短语并列
6. shade 此处意为“细微差别”
7. Don't let dictionary abbreviations put you off. The front tells you what they mean, and even has a guide to pronunciation. 这两句的中文意思为：“别为词典的缩写词妨碍你。扉页上对它们有所说明，甚至还有读音指南。”
8. tongue [tʌŋ] n. 舌头；语言
9. make sense 讲得通；有意义
10. run a close second 占第二位，仅次于前者

11. under one's belt 为……所有
12. "How-to" vocabulary-building book 如何扩大词汇量的书
13. corroborate [kə'ɒbəreit] vt. give support to 支持, 肯定
14. innocuous [i'nɒkjʊəs] a. harmless 无害的
15. stuffed shirt 自命不凡的人
16. be one up on someone 胜过, 超过某人
17. Aristophanes [ˌæris'tɒfənɪz] 亚里斯多芬尼斯 (约公元前 450 年—约公元前 385 年) 希腊最伟大的古代喜剧作家之一。
18. elate v. fill with pride and joy 使…兴奋

2. Earthquake Light Mystery Solved

Some people say they've seen strange lights before an earthquake. Others have spotted these lights during and after the quake rumbles. They are earthquake lights—glowing skies and lights shooting from cracks in the ground.

Scientists became curious. And when respected scientists saw and photographed the lights, they could no longer be called "crazy stories¹."

Still, nobody could figure out where the lights came from. To create the "sheet lightning²" sometimes seen with earthquakes, the Earth would have to generate a very, very strong electrical charge. Just how could the Earth do this?

Scientists from the U. S. Geological Survey³ recently offered an answer that connects earthquakes and electricity.

When the ground cracks during an earthquake, there is a great shearing force.⁴ Shearing is the quick splitting of rock in an up and down motion⁵. The splitting and rubbing rock gets very hot, and the friction of the movement makes electricity. At the same time, heat from the quake makes water in the soil vaporize (turn from

a liquid into a gas). Water, (H_2O), contains hydrogen (H), and the Earth-made electricity sparks the hydrogen to glow. To the frightened people watching, it seemed like lightning was jumping from the crack.

A similar thing happens during auroral glows⁶. Electrically-charged particles from the Van Allen belts⁷ spill into the atmosphere. They collide with oxygen and nitrogen to make the sky glow.

The East Coast⁸ was rocked by an earthquake in October. No lights were reported with the quake, however. It seems that only strong quakes make enough electricity for earthquake lights.

注 释

1. crazy stories 奇闻
2. sheet lightning 片状闪电, 这里指片状地光
3. U. S. Geological Survey 美国地质调查局
4. shearing force 剪力
5. in an up and down motion 上下错动时
6. auroral glows 极光
7. Van Allen belts 范阿伦(辐射)带, 位置在离地球赤道 600 到 3,000 英里处和 6,000 到 50,000 英里处。
8. the East Coast 美国东海岸

3. New Comet Found in 1983

A new comet! It was spotted last April. Until its discovery, the big comet news of 1983 was the scientific preparations for Halley's Comet¹ which will fly by² Earth in 1986.

The new comet was discovered by two men and a satellite. Genichi Araki³ from Japan and George Alcock from Great Britain discovered the comet with their backyard telescopes⁴. When the discovery was wired to the Harvard-Smithsonian Center for Astrophysics⁵, scientists realized that one of their own satellite, IRAS⁶ (Infrared Astronomy Satellite), had seen the same comet. So the comet was named IRAS-Araki-Alcock.

On May 11, 1983, IRAS-Araki-Alcock passed within 2.7 million miles of Earth. It was the closest comet pass⁷ since 1770.

As IRAS-Araki-Alcock got closer, scientists used radar signals to get their first clear picture of a comet's nucleus (core)⁸.

Scientists have always thought a comet's nucleus was round like a ball. But this comet's core had an irregular shape. In fact, it looked like a square cake box a half-mile across⁹. Scientists were also looking for a

cloud of fine dust surrounding the nucleus. Instead, they found tennis ball-sized pebbles swirling around the nucleus. If the data on IRAS-Araki-Alcock is correct, it could change the way we think about comets¹⁰.

Some comets appear on a regular schedule, like Halley's Comet. Others are seen just once and never return. Usually, about six new comets are discovered each year. So look up! There may be a comet in the future that's named after you¹¹.

注 释

1. Halley's Comet ['hæli] 哈雷彗星
2. by prep. 这里的词意为 past “经过…旁边”。
3. Genichi Araki (日本人名) 荒喜原一
4. backyard telescope 自用望远镜
5. the Harvard-Smithsonian Center for Astrophysics 哈佛斯密生天体物理中心。
6. IRAS 红外天文卫星
7. the closest comet pass 彗星最近地的一次飞过, pass 在这里是名词
8. comet's nucleus (core) 彗核
9. a half-mile across 直径为半英里(的), 用以修饰 a square cake box。
10. the way we think about comets 我们对彗星的想法
11. that's named after you 以你的名字命名的(彗星)。这一从句说明 comet。

4. Saved by a Satellite

Thrown from a canoe¹ in the Canadian wilderness, wet and injured, two men huddled on the shore near a small fire. Little did the unlucky travelers realize² that they were about to³ be saved by a satellite!

One of the men switched on his emergency locator transmitter⁴. This tiny transmitter sends out SOS⁵ signals-the universal help call. Then they waited.

More than 500 miles directly above them, NOAA-8, an environmental monitoring satellite equipped with search and rescue equipment, heard the call. The distress signal⁶ was relayed to a ground station in Canada.

By noon of the next day⁷ a rescue plane was circling over the stranded canoeists⁸. Within an hour, the men were airlifted to a hospital.

These men are just two of 58 people saved by satellites since September 1982. The Soviet Union, the United States, France, and Canada are partners in the satellite rescue program called SARSAT⁹ (Search and Rescue Satellite-Aided Tracking). The program uses two Russian satellites as well as the recently launched NOAA-8.

Special "ears" on these weather satellites listen to the distress signal frequency. When SOS signals are