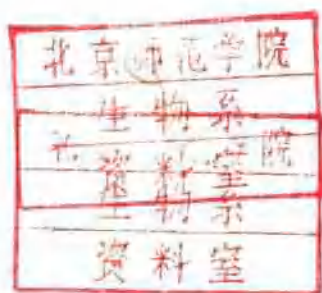


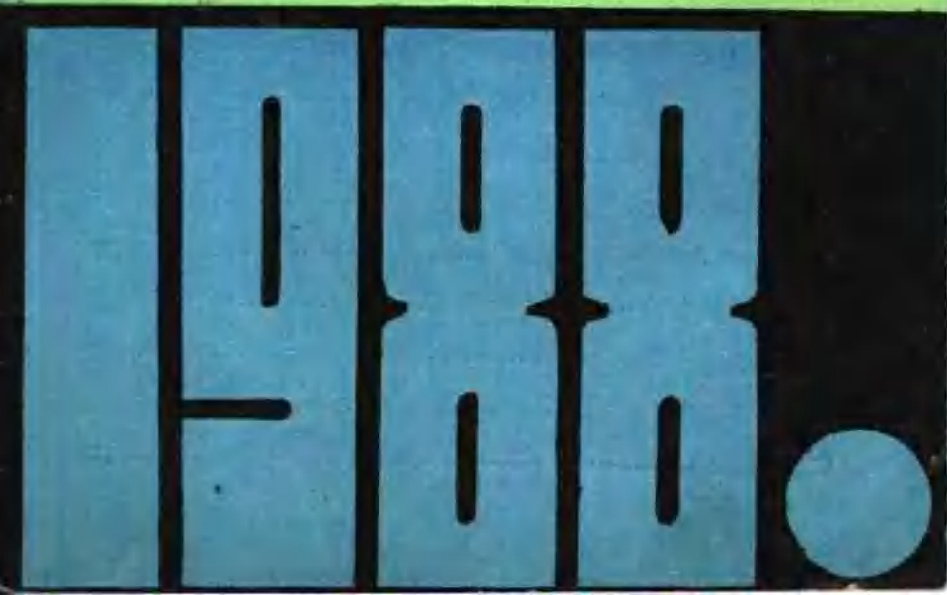
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Natural Gas — Older Than Fossils

Where do oil and gas come from? Conventional wisdom has it that① both were formed from the remains of prehistoric plants and animals. That is why prospectors② look for fossil fuels in geological structures called sedimentary basins③, which are known to have been prehistoric graveyards.

Dr Thomas Gold of Cambridge University thinks that they should look elsewhere, too. He believes that the earth contains vast untapped reservoirs of "abiogenic" methane④—gas generated not by biological means, but trapped deep inside the earth when it was formed. Dr Gold reckons that much of the gas already discovered is abiogenic gas that has seeped upwards via geological faults⑤ and settled near the earth's surface.

To test his theory, in June 1986 the Swedish State Power Board started drilling a deep well at the Sillian Ring, a 40 kilometre-wide meteorite crater⑥ 230 kilometres northwest of Stockholm. Two things make it an attractive site. First, the meteorite's impact would have cracked the earth's crust, allowing any deep methane to migrate towards the earth's surface. Second, the region is almost entirely granite⑦—an unlikely place to find any fossil fuel. Traces of tar and gas found at the site are hard for conventional theories to explain. The Swedes like the project for other reasons: Sweden has no fossil

① Conventional wisdom has it that ...: 按照传统的观点, ...; 传统的观点是……。② prospector: (矿藏等的) 勘探者。③ sedimentary basin: 沉积盆地。④ "abiogenic" methane: 非生物甲醇。⑤ geological fault: 地质断层。⑥ meteorite crater: 陨石坑。⑦ granite: 花岗岩。

fuels and is planning to shut down all of its nuclear power stations by 2010. At present, imported natural gas provides around 1% of the country's energy. Big reserves of abiogenic methane would be useful.

The main target of the \$14m^⑧ well—which is partly financed by America's Gas Research Institute—is some 7½ kilometres below the surface of the crater. Seismic surveys and a local weakening of gravity point^⑨ to a large porous region at that depth—a likely gas reservoir, Dr Gold believes. Sceptics^⑩ reckoned that porous rock was unlikely to be found at such depths because the pressure of the rocks above it would compress any cavities. The presence of high-pressure gas could prevent such compression.

At a depth of some six kilometres, the Silian team discovered their first big area of porous rock the hard way^⑪. The rig's^⑫ drill speed unexpectedly increased fivefold, and some 125 tonnes of drilling mud^⑬ (used as a lubricant) gurgled^⑭ into an underground reservoir within half an hour. The speed with which the mud was lost suggests that it displaced gas rather than water in the reservoir^⑮. Testing the contents of the reservoir proved impossible because, deprived of lubrication^⑯, the drill broke. The last 500 metres of the hole were abandoned and drilling restarted at a slightly different angle.

Dr Gold is not deterred^⑰. Small amounts of helium-3 — found only in materials derived from the earth's mantle^⑱—have been detected. It was found along with methane, hydrogen and other gases in the borehole^⑲, suggesting that they share a common source.

⑧ \$14m: 一千四百万美元(m=million). ⑨ point (to): 表明. ⑩ sceptic: 抱怀疑态度的人. ⑪ the hard way: 从较艰难处着手(做某事): 不辞辛苦地. ⑫ rig: 钻机, 钻井装置. ⑬ drilling mud: 钻井泥浆. ⑭ gurgle: 汩汩地流. ⑮ 全句意思是: 泥浆流失得这样快, 这表明它在地下储层中排开的是天然气, 而不是水. ⑯ deprived of lubricant: 由于失去了润滑剂. 作状语, 修饰 broke. ⑰ deter: 吓住, 阻止. ⑱ mantle: 地幔. ⑲ borehole: 井筒, 井眼.

Since the helium must have seeped upwards through the earth's crust from somewhere deep inside the planet, that suggests that the other gases have a deep source, too. And an increase in heavier gases at greater depths—lighter gases find it easier to migrate towards the surface—points to a deeper gas source, and perhaps some oil. The presence of hydrocarbons more than six kilometres below the earth's surface is hard to explain with the fossil-fuel theory. And methane in the borehole turns out to include various types of carbon in ratios unlike those in biologically produced methane②.

Drilling has now stopped because the project has run out of② money. Dr Gold hopes that more will be forthcoming②—he thinks another \$4m will be needed to reach his 7½ kilometre goal—so that drilling can restart in April next year. If it does, a lighter oil-based drilling-lubricant will be used, with a slower drill speed. That means that when next a porous area is encountered, the pressure of any gas in the reservoir—at least 600 atmospheres—would probably be high enough to overcome the pressure of the drilling fluid. But if, at that stage, commercial quantities of gas are not found, the project's critics expect Dr Gold's theory to bite the bedrock②.

(From *The Economist*, Oct. 31, 1987)

② 全句意思是：并且井筒里的甲烷所含各种碳的比例与因生物作用产生的甲烷不同。those 代替 ratios。③ run out of: 把...用完。④ more will be forthcoming: 能筹到更多的资金。more 后省略了 money。⑤ 全句意思是：但是，如果到那时仍未发现有经济价值的大量天然气，这项工程的批评者会认为戈尔德博士的理论是违反基本事实的。

(郑锡荣 选注)

阅读技能训练练习答案(见第14—15页)

1. b 2. d 3. c 4. b 5. b 6. a 7. a 8. b 9. c 10. d

一种由 V-ing 分词转化成的介词

秦有译 方珍宝

英语中有一种特殊形式的介词，由 v-ing 分词转化而成。先请比较下列各句中的 considering:

1. Governments are *considering* how they can make better use of the two other major fuels: coal and natural gas.

各国政府正在考虑如何能更好地利用另外两种主要燃料:煤和天然气。

2. These works free our minds from *considering* our world as fixed and immutable.

这类作品改变着人们将世界看作是永恒不变的观点。

3. *Considering* that table salt is the commonest source of sodium in food, the diet usually calls for eating salt-free foods.

由于食盐是钠在食物中最普遍的来源，医生给病人规定的饮食通常要求吃无盐食品。

以上三句中的 considering 有着不同的语法功能:句1中的 considering 是现在分词作谓语;句2中的 considering 是动名词;句3中的 considering 貌似现在分词，但实际上已失去了分词的作用，有的词典已把它列为介词。

除 considering 外，由分词转化成的介词还有 concerning, excepting, excluding, following, regarding, respecting, including. 现将这些词分别简介如下:

1. concerning, 相当于 about.

The following are some of the arguments both pro and con *concerning* computers, thinking, and artificial intelligence.

下面是有关计算机、思维和人工智能方面持赞成和反对态度的一些论据。

Balboa was given orders to write a detailed report *concerning* the land, the people, and his explorations.

巴尔博亚奉命写一份关于这一地带、当地居民以及他历次探险情况的详细报告。

2. *excepting* 可以单独使用, 可以与 *always* 或否定词 *not* 连用, 也可以与 *for*, *without* 之类介词连用。

Excepting one of his close friends, they were present at the party.

除了他的一些挚友外, 他们都来赴宴了。

Everybody is in high spirits, *always excepting* him.

大家都情绪高昂, 唯有他例外。

He is an honest man, *excepting* for his quick temper.

他是个老实人, 只是脾气暴躁。

Stress may deplete vitamin C in your body, as can smoking, drinking and a variety of drugs, *not excepting* aspirin.

生活紧张会耗尽你体内的维生素 C, 正如吸烟、饮酒, 服用某些药物 (包括阿斯匹林) 一样。

Only a few survivors, *without excepting* him, were living in the settlement.

包括他在内, 只有几个幸存者住在新拓居地。

3. *excluding* 和 *including*, 表示排除和包含。

Last year British sales to the region were more than \$8 billion, while French exports, *excluding* arms, brought in around \$3 billion.

去年, 英国对这个地区的销售额达80多亿美元, 而法国的出口额 (武器除外) 约为30亿美元。

The new apartment consists of four rooms *including* the kitchen.
这套公寓有四间, 包括厨房。

4. *following* “在……之后”, 表示时间, 相当于 *after*。

The week *following* his first visit to the newsroom he was appointed editor of the “Echoes,” an important column.

在拜访该报社编辑部的第二个星期, 他被任命为该报“回声”专栏的主笔, 这是一个十分重要的专栏。

5. *regarding* “关于”, 相当于 *about*。

Regarding research investment and number of researchers engaged in this field of research, the United States commands an overwhelming position, followed by Japan.



怎样学习英语写作

朱宝雄

英语写作一般包括两方面的训练。一是语言基础训练，即词法、句法和词汇等方面的训练；二是写作知识训练，即写作的基本技巧和常识。前一方面的训练常依附于讲读教学进行，贯彻在整个英语教学中，也就是说，写是和阅读训练有机地连在一起的。后一方面的训练则须要通过写作的专题课程来进行，使学生对写作的技巧和知识有所了解。如果说，通过语言实践使学生具备了写作的基础，那么学习写作知识和技巧就是使学生获得写好一篇文章的方法和技能。

对于初学写作者来说，除了学习写作知识外，还要注意以下几方面提高自己的写作水平和能力。

一、多阅读，选择恰当文章作为学习写作的楷模。

在初学阶段，要求模仿范文。选择那些文字精炼、又合乎英语用词习惯的文章进行阅读。比较适宜模仿的是经过改写的英语简易读物和专为初学者编写的文章、文选等，经过消化，作为自己写作的借鉴和参考。通过大量阅读，不断积累、扩大词汇和表达方式，持之以恒，必然会有助于提高自己的思维和表达能力。

二、学会用英语思维进行写作。

写作时，应避免先写成中文句子，然后按中文逐句翻译的办法。这样

关于投入该领域研究的投资额和研究人员的数量，美国占压倒优势，其次是日本。

6. respecting “关于”，“鉴于”，相当于 concerning 或 in view of. 如：

Respecting education, health, medical care as well as production and labor, technological development will have to be evaluated with due thought given to social systems and humanism.

在教育、卫生、医疗、生产劳动方面，评价技术的发展需根据社会制度和人道主义。

Respecting the heavy rain, we had to put off the test.

由于下大雨，我们不得不推迟了这项试验。

写出来的文章往往不是地道英语，而且还可能有许多“生造”之处。正确的做法应该是学会用英文思维和按英语表达方式来组织文章。要做到这一点，当然很不容易。不过可以经常背诵一些英语常用句，还要准确理解英语用词，及使用英—英词典等，不断克服靠翻译来写作的习惯。同时，也可以采取经常用英语复述或在脑中默述某一经历或某一看法的办法来进行训练。当然，其效果如何，那是和前面所讲的多阅读有密切关系的。

三、正确理解和区分英、汉语词义的差异。

写作中，切不可先入为主，想当然地把某些英、汉语意义相似的词等同起来，以致造成意义上的“错位”和误解。如：

中文：我得努力学习，要不我就要落后了。

错译：I should study hard; otherwise, I would be backward.

正译：I should study hard; otherwise, I would lag behind.

(说明：backward 是形容词，意为“落后的”，“向后的”或“缓慢的”，表示性质；lag behind 是动词词组，意为“落后”，“落在后面”，表示动作或行为。)

中文：你不要学我样，你身体没有我好。(指情况不一样)

错译：Never learn from me, since you are not so strong as I am.

正译：Don't follow my example, since you are not so strong as I am.

(说明：“learn from”是“向某人学习”，不是“照我一样做”的意思。)

此外，还要注意区别英语本身意义相似而容易造成混淆的词汇，如：accept 和 receive, permit 和 promise. call one's name (骂某人)和 call one by name (叫某人名字)。在遇到上述问题时，应勤查字典，特别是英英词典，弄清词的确切意义和用法。

四、要多写多练，勇于实践。

写好作文，光有词汇和理论知识还不行，还要靠平时勤学苦练，经常写作。如果有教师指导改正，这是最理想的。如果没有教师帮助，自己也可以在一段时间后得到提高，也可与朋友、同学交流修改。这样，在坚持实践的基础上，不断总结经验，就能更快、更好地提高写作能力。

五、要注意其他方面能力的培养。

个人的思维能力和组织能力、汉语水平、扩大知识面等，在一定程度上，对于写好英语作文也起着重要作用。

元素和单质

张 水

叶永昌主编的《化工英语文选和翻译技巧》(化学工业出版社, 1980年)第46页第二课开头是:

Elements and Compounds

There are two kinds of substances: elements and compounds. Elements are pure substances, which cannot be decomposed by a chemical change. They are the simplest forms of matter. Familiar examples are iron, carbon, sodium, oxygen, hydrogen, chlorine, silicon and so on.

[译文]

元素和化合物

存在两种物质: 元素和化合物。元素是用化学变化不能再分解的纯粹物质。元素是物质的最简单的形式。熟悉的例子有铁、碳、钠、氧、氢、氯、硅等等。

这段译文把元素与单质混淆了。由于历史上的原因(见《化学发展简史》, 科学出版社, 1980年, 第73页), 在英语中元素和单质是同一个词——element。单质的规范英文应当是 simple substance (见《英汉化学化工词汇》, 1965年科学出版社第二版, 第1087页), 有些书上 chemical elements 也用来指单质, 但少见, 而且要视上下文而定。

再者, 译文中将元素名称与单质名称混为一谈。例如, oxygen 如果表示元素, 则应译成“氧元素”, 简称“氧”; 如果是单质, 则应译成“氧气”。当然, 严格来说, 应当有这样的区别: 有时上下文足以说明作者之所指, 读者也不致误会。”

上段译文宜改成:

单质和化合物

物质有两类: 单质和化合物。单质是不能通过化学变化再分解的纯净物质, 它们是物质的最简单的形式。熟知的单质有: 金属铁、金属钠、碳单质、硅单质、氧气、氢气、氯气等。

该书同一页中有下面一段话:

“推测 MUST”的几种常见时态

张祖钢

为了叙述方便，我们不妨把情态动词 *must* 的推测性用法叫“推测 *must*”。

“推测 *must*”可以用于几种时态？初学者的回答可能是两种，即 *must* 的一般式（简单式）表示现在时，完成式表示过去时。例如：

You must be tired. (= I take it that you are tired.)

You must have been disappointed. (= It is reasonable to assume that you were disappointed.)

上述例句告诉我们，“推测 *must*”的时态是通过所连用的不定式表示出来的，而且顾名思义，都具有推测性这一情态意义。

其实，使用“推测 *must*”的时态决不局限于以上两种。

我们先来读一读下面这段文字：

While he was speaking, Usher was pointing at the door of my room. When he finished speaking, the door slowly opened. I thought it must be the wind. But then I saw someone standing at the door.

For example, sugar is a compound. It consists of the element carbon, which is a black solid when it is free, and the two elements hydrogen and oxygen, which are colorless gases when they are uncombined.

这段话中的 *element* 都应当译为“元素”。

又如上海交通大学外语教研组主编的《英语》第一册（下）（人民教育出版社，1978年）第72页上有这样一句：

When atoms of the same kind combine with one another, they form the molecules of chemical elements.

译文中将 *molecules of chemical elements* 译成“化学元素的分子”是错误的，应译成“单质分子”。全句可译为：

当同种原子相互结合的时候，形成单质分子。

It was Madeline Usher. There was blood on her white dress. She must have hurt herself badly getting out of the locked room below.

显然，上文中“I thought it must be the wind”一句中，“推测 must”的一般式表示的不是现在时，而是过去时。这种用法一般仅限于间接引语。再如：

He said there must be someone in the house because there was smoke coming from the chimney.

我们再来推敲一下这一句：She must have hurt herself badly getting out of the locked room below. 从上下文看，句中“推测 must”的完成式表示的不是过去时，而是过去完成时。该用法常见于对过去事件陈述的一定上下文里，类似的例子还有：

I know I left the door open when I went out. But when I came back, it was closed. Someone must have shut it.

有时候 must 的一般式还能表示将来时，如：

It must be a fine day tomorrow.

而 must 的完成式还可用来表示现在完成时，例如：

Why isn't he here? He must have missed the train.

此外，常见“推测 must”的时态还有现在进行时、过去进行时和现在完成进行时等。例如：

They must be waiting for us, let's hurry up. (表示现在进行时)

The day must be breaking, for the birds are singing. (相当于表示将来时的现在进行时)

It must have been raining then. (表示过去进行时)

Her eyes are red. She must have been crying. (表示现在完成进行时)

由此可见，“推测 must”的一般式不仅表示现在时，而且也表示将来时，在间接引语里还能表示过去时。“推测 must”的进行式可以表示现在进行时，也常用来表示将来时间，正如普通现在进行时常用来表示将来时间一样。

“推测 must”的完成式除表示过去时外，还常表示过去完成时和现在完成时。“推测 must”的完成进行时则可用来表示过去进行时或现在完成进行时。

科技英语单句分译

汤善声

科技英语中有的单句不亚于复句，较长，也较复杂；不讲究翻译技巧很难把它们译好。这类单句往往含若干短语和其他修饰语，汉译时宜采取“化整为零”的办法，把其中意思相对独立的尽量译成汉语分句，并按意思或用语法手段把它们组织起来。这样，译文就会层次清楚，语句简洁。请看下面的译例：

1. Care shall be taken at all times to protect the instrument from dust and damp.

应经常注意保护仪器，勿使沾染尘土，勿使受潮。（把不定式 to protect 译成两个分句。）

2. The tube consists of a short copper section followed by a longer steel section with a flange at the end.

管子由两段组成：前段短，是铜的；后段较长，是钢的，末端带法兰。（把介词 of 短语译成五个分句。）

3. All these features combine to make the Type 55 drawworks a very rugged and compact piece of machinery for easy handling, smooth operation and minimum maintenance.

这些特点综合起来使55型绞车成为非常坚实和紧凑的机器，移运方便，操作平稳，维护保养工作量最少。（把介词 for 短语译成含三个分句的独立句。）

4. The fabricating service of our company is based on abundant experience accumulated in over 100 years of designing and manufacturing complete process plants or unit process equipment for the chemical and petroleum industries.

一百多年来，我公司在设计和制造化学和石油工业用成套工艺装置或单一工艺设备方面积累了丰富的经验。我们的加工装配服务就是根据这些经验进行的。（把过去分词 accumulated 短语分译成句子。）

5. A special, patented valve cover design permits all the securing bolts to be tightened equally with the prescribed tension without



Playing Their Way Through College

Martha Revis would like to play her way through college (边打球边读大学).

So far, however, the athletic recruiters (招收人员) haven't flocked to Lexington High School, where she has earned letters in field hockey (草地曲棍球), basketball, and softball (垒球).

Dave Revis, Martha's father, learned a lot when he started studying the annual scholarship guide published by the Women's Sports Foundation, a nonprofit New York-based organization devoted to promoting sports and fitness among girls and women. After feeding all the information into a computer, he discovered a marked increase in the number of athletic scholarships just since 1986, when there were 21,000. In 1987, the figure jumped 15 percent to more than 24,000 at 775 schools.

Basketball accounts for most women's scholarships (7,000), followed by volleyball (4,655) and track and field (田径) (2,911). Smaller numbers are available in everything from golf and tennis effort.

阀盖结构特殊, 享有专利权; 不用费力就能将所有固定螺栓均匀拧紧, 达到规定的拉力。(把形容词 special 和作形容词用的过去分词 patented 以及 with 短语均译成分句。)

6. The petals are assembled to form the head, six, eight or ten often being employed, with a crown plate or nozzle opening in the centre, and welded together either by hand or automatically.

封头由分瓣组成。分瓣数常为六、八、十块不等, 用手工焊或自动焊拼焊在一起, 中央再焊接顶板或留作接管开孔。(把独立结构 six... being employed, with 短语及分词短语 welded together ... 译成三个分句。)

to fencing (击剑), skiing, and even badminton.

Like their male counterparts, the high school basketball players are in such demand that they can sit back and wait for recruiters to come to them. On the other hand the good, but not exceptional (卓越的), talents sometimes have to make their own way, whatever the sport.

"Young women in high school have to work harder at selling their abilities than young men," says Mikki Flowers, associate athletic director at Old Dominion University.

The effort, of course, can pay off handsomely (相当合算). Dave Revis figured his daughter might save him as much as \$50,000 in College bills by landing (获得) a scholarship. With his assistance, therefore, she is sending out letters and résumés (简历). This is the strategy suggested by the Women's Sports Foundation.

Some girls opt (选择) to let the College Athletic Placement Service in Asbury Park, N. J., make the contacts. The service has been in business for 17 years, charges \$400 to act as matchmaker with no guarantees, and estimates that 40 percent of its 400 to 500 clients (委托人) are women.

It wasn't that long ago, of course, that the thought of women on athletic scholarships was an alien (不合宜的) concept. That changed during the early 1970s. The women's liberation movement took root, legislation (法规) was passed prohibiting sex discrimination (男女不平等) in schools receiving federal aid, and a court suit (法律诉讼) successfully challenged the longstanding "no scholarship" rule for women athletes under intercollegiate athletic policy. Since then, women's programs have become increasingly ambitious at many schools — to the point where women are now allowed more athletic scholarships than men in certain sports. But this usually isn't seen as a sign of equality, since a major-college football program may give almost as many scholarships as the entire women's program.

Indirectly, the existence of scholarships has improved the skill

level of women athletes by encouraging them to specialize in one sport.

(From *The Christian Science Monitor*)

Choose the best answer according to the passage.

1. Select the statement which best expresses the main idea of the passage.
 - a. Martha Revis is an all-around athlete.
 - b. Nowadays, many American young women strive for sports scholarships through college.
 - c. A young woman might save her parents as much as \$50,000 in college bills by winning a scholarship.
 - d. Dave Revis is an expert in sports scholarships.
2. The Women's Sports Foundation is an organization aiming at
 - a. collecting money to build more gymnasiums for women.
 - b. organizing women's competitions all over the world.
 - c. supporting the disabled women.
 - d. improving the women's sports skills and health.
3. Since 1986 _____ have got sports scholarships.
 - a. no young women at small colleges
 - b. the great majority of girl students
 - c. more young women
 - d. less and less young women
4. Of all the women's athletic scholarship winners _____ are the most.
 - a. golf players
 - b. basketball players
 - c. fencers
 - d. volleyball players
5. It seems _____ for young women to get sports scholarships than for young men.
 - a. easier
 - b. more difficult
 - c. more exciting
 - d. more remarkable
6. Which of the following is true?
 - a. The inequality for men and women in enjoying sports scholarships still exists in the U.S.
 - b. Every year, 400 to 500 young women ask the College Athletic Placement Service to make contacts for them.