现代英语研究

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目 录

英语中的学术论著语体

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科技英语(Scientific English)是一个现成的用语，为什么要提出"学术论著语体"呢？有一层意思是："科技"或"科学"一般使人想起的总是自然科学，而从语体的角度看，自然科学、人文科学或社会科学的语言并没有实质的区别，用"学术"来概括这几者比较好。但这还不是主要的。还有一个 D. Crystal 和 D. Davy 所称的"领域"和"程式"、"话语"等之间的区分问题①。无论"科学"或"学术"都是指一种职业性的活动领域。在这个领域中使用语言，还须看是讲话还是写作(即两种不同的所谓"话语媒介")，是独白还是对话(即所谓"话语的参与情况")，是论述还是记叙(即所谓"程式")，而采用不同的表达手段。以下试举几个例子来说明。

第一段引文摘自一篇答记者问。谈的虽然是尖端技术问题，但因为是口头答复，所以除个别专业术语，以及总的说来语言比较"正规"外，口语的特点依旧不少。

(1) Correspondent: ... Dr. Emmett, what part is the laser playing in the fusion method ?

Dr. Emmett: Well, basically, there is more than one approach to burning fusion fuel. The problem is that you have to get the fuel up to a hundred million degrees centigrade in order to burn it and you have to keep it at that temperature long enough for a reasonable portion of it to burn up. There are a couple of ways of doing this. The first is as stars do it: they hold the fuel in their centres at extremely high temperatures and densities by their immense gravitational fields. This is the case with the sun, for instance. The next way it can work is as in the atomic bomb, where the fuel is heated up instantly to a hundred million degrees and it burns up so fast that it is consumed before it can fly apart. That's approximately what we're going to try to do with the laser: scale down the amount of fusion fuel to an amount about the size of a pinhead, but instead of heating it up by an atomic bomb device, heat it by using a laser beam. We think that with a laser we can take it from room temperature to a hundred million degrees in a very small fraction of a billionth of a second and get it to burn and release its energy very rapidly. That's how the laser is applied to the fusion process. (*Hemisphere*, June 1978)

这段话听起来就象口头评论的语言，具体分析起来属于口语特征的有：泛指人称而非第二人称的 you（比较不带口语色彩的 one）；以 a couple of ways 来替代 two ways；采用缩略式的 that's（两次）和 we're；在 get the fuel up to a hundred million degrees 和 take it [the fusion fuel] from room temperature to a hundred million degrees 二语中

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① 参看本刊1979年第三期.第45—46页.

用非专指的多义常用动词 get 和take 代替专指的词②，等等。相反，在这一段话中，典型的书面科技语言的特征却几乎没有。因为虽然有三个 被 动 结 构，the fuel is heated up, it is consumed 和 how laser is applied，但数量既不算多（比较(3)的分析），而且其中后两者经常是以被动式出现的，应属于所谓共同核心成份，即不起明显的语体作用。

第二段引文是关于发现脱氧核糖核酸 (DNA) 的双螺旋线结构过程中突破关键性问题瞬间情景的记叙。

(2) When I got to our still empty office the following morning, I quickly cleared away the papers from my desk top so that I would have a large, flat surface on which to form pairs of bases held together by hydrogen bonds. Though I initially wnet back to my like-with-like prejudices, I saw all too well that they led nowhere. When Jerry came in I looked up, saw that it was not Francis, and began snifting the bases in and out of various other pairing possibilities. Suddenly I became aware that an adeninethymine pair held together by two hydrogen bonds was identical in shape to a guanine-cytosine pair held together by at least two hydrogen bonds. All the hydrogen bonds seemed to form naturally. No fudging was required to make the two types of base pairs identical in shape. Quickly I called Jerry over to ask him whether this time he had any objection to my new base pairs.

When he said no, my morale skyrocketed, for I suspected that we now had the answer to the riddle of why the number of purine residues exactly equaled the number of pyrimidine residues. Two irregular sequences of bases could be regularly packed in the centre of a helix if a purine always hydrogen-bonded to a pyrimidine. Furthermore, the hydrogen-bonding requirement meant that adenine would always pair with thymine, while guanine could pair only with cytosine. Chargaff's rules then suddenly stood out as a consequence of a double-helical structure for DNA ... (James Watson, *The Double Helix*, 26)

这一段文章中记载的是具有极其重大意义的科学发现，按照与作者合作的科学家的说法是："我们发现了生命的秘密"，为此作者及其合作者获得1962年诺贝尔奖。而且作者正面从专业内容上叙述了发现的实质。但因为是叙述而不是论述，整段的语气很生动，个人和主观的成份很明显。另一方面却缺乏一些公认的 "科技英语" 的特征：只有一个 被 动 结 构 (could be regularly packed)，没有 it 结构，没有抽象名词，没有表明逻辑关系的副词、插入语等。有一些较长的句子，却都不是结构严密，框架性强的句型，而是平直的铺叙："当我到某地，我做某事，目的是为了什么"；"我突然发现什么与什么相等同"；"当他怎么说的时候，我大为鼓舞，因为我猜想我们已解决了什么问题"等等。

与第二段相比，第三段的内容仅是一种很粗浅的基础知识阐述，但因为用的是学术论著的语体，所以给人以行文周密严谨，客观而且力戒感情用事的印象。

(3) The performance of a jet engine depends very largely upon the efficiency

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② 关于口语语体的这一特点，请参阅本刊1979年，第三期，第15—17页。

of its turbines, and enormous technological progress in their design has been made in recent years. Very high temperatures and stresses are involved, for air issuing from the combustion chamber may be travelling at over 2,000 feet per second, and may exceed 1,000 °C in temperature. In addition, a turbine is the more efficient the faster it rotates, but limits are imposed by the fact that stresses increase as the square of speed. The problems of turbine design can be appreciated when it is realized that the blades, while glowing red hot, may be moving at more than 1,300 feet per second at their tips. Only very special materials can withstand such conditions without soon suffering from creep, corrosion, fatigue or thermal shock. At the same time, the blades must be made of materials that can be formed with accuracy, and machined by current manufacturing methods.

It is in the turbine that much can be done to reduce engine noise, a problem that is causing world-wide concern as air traffic increases. Triple-spool systems that are efficient yet quiet are an important development in the war against "noise pollution". (Stephen Jay, *The Jet Engine*, Collier-Macmillan, pp. 37–38)

这段话所以给人行文谨严、客观的印象是因为短短几句话中，应用了九个被动结构 (… has been made, … are involved, … are imposed, … can be appreciated, … is realized, … must be made, … can be formed … and machined, … can be done)；两个 it 结构 (when it is realized that …, It is in the turbine that…)；三个表明逻辑关系的词语 (in addition, but, at the same time)，以及一些抽象性和概括性名词的应用 (the *performance* of …, the *fact* that …, a *problem* that is …) 等。

正由于同样三篇都属于科技领域的材料，却具有这样明显的语体区别，所以我们认为"科技英语"不是一个单一的语体，而提出"学术论著的语体"这一名称来称呼以上第三段引文所代表的那种语体。这种语体的使用范围包括学术论文、专著、讲授、教科书等③，笼统讲来包括了一个专业工作者所需接触外语材料的主要部分，因此值得加以注意。

以下就谈谈这一语体的某些特征。

（一）强 调 客 观 性

学术论著的主要任务是阐述客观现象，揭示它的规律性。因此所用语言也很自然地要求能有助于强调所述内容的客观性。影响到语体客观性的，很重要一点是以什么作为主语，也就是以什么作为论述的主要对象。如果我们说："某事物是怎样怎样的"，或"某事物被发现是怎样怎样的"，甚至"某事物被认为是怎样怎样的"，就显得是客观性的论述。而如果说："我（你、他）发现某事物是怎样怎样的"，更不用说"我（你、他）认为某事物是怎样怎样的"，那就显得突出主观。这里涉及的是逻辑问题——以什么为论述的对象——为人类思维所共同。

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③　D. Crystal 和 D. Davy 的书中语体特征的分析比较细致，基本上是从具体的言语着眼，考虑到各种非语言因素，所以认为讲授、报告、论文、专著和教科书均属于不同的程式。我们的分析着眼于语言，不考虑非语言成份，从这个角度看，论文、专著、讲授、教科书等可作为一个语体对待。

但为了强调客观性而采用的语言手段，则各个语言中并不相同。例如汉语就因为比较少用被动结构而时常不便于把事物倒过来作为主语，但汉语中可以避免用主语，如可以说："这里要涉及很高的温度和应力"（比较：Very high temperature and stress are involved)。或者可用"我们"来冲淡"我"的主观色彩，如常说："我们认为……"，实际上仅是作者一人认为。而英语则众所周知常用被动结构和 it 结构，来加强语言的客观性。

被动结构以上（2）中已经有九例之多，不再多引了，请参看。

所谓"it结构"，其用途之一是把需要强调的部分突出出来。例如以上（2）中的 "*It is in the turbine* that much can be done to reduce engine noise ..." 意义相当于 "much can be done in the turbine to reduce engine noise ..."。用了 it is in the turbine that ... 的结构，就把需要强调的部份，即 in the turbine, 突出了出来。同时因为主语是抽象的 it, 并无具体内容，接近于汉语中的无主语结构，同样也起到强调客观的作用。

除此以外，需要补充的是：it构结还常用来构成被动式，以避免使用指人的主语。例如以下几个句子中，假使使用指人的主语，构成主动结构，都很为方便：X said that ..., X proposed that..., X could hardly have foreseen that...。但因为要避免这个指人的 X，而把 that 所引导的从句作为主语虽然合乎语法，却很臃肿不方便，所以先用 it 来充一下主语，满足结构上的需要，具体内容由后随的 that 从句详细表明：

（4）*It is said*, for example, that the day is close at hand when a small fraction of the USSR's growing number of land-based nuclear warheads will be able to hit more than 75 percent of the 1,000 silos containing minuteman missiles ... (*Scientific American*, Oct. 1978)

（5）*It is proposed* that the U. S. ... press ahead with the development of the mobile Missile X ... (Ibid.)

（6）*It could hardly have been foreseen* that within five years of the Pharaoh's death his son and successor, Amenophis IV, would revolutionize Egypt and that then, before the end of the century, nearly every trace of the royal revolution would have been obliterated. (*SA*, Dec. 1978)

以上所述，是说明在学术论著的语体中，因为要强调客观性，所以较多用被动结构，以避免用指人的主语。但这当然并不是说完全不用指人的主语。那是不可能的。何况人的思想、行动也能作为客观事实，而成为研究、论述的对象，例如下文（9）中就有这种情况。

（二）重视逻辑关系以及其它关系的文字交待

一段话总要有个逻辑关系，否则就显得语无伦次。但这逻辑关系的语言表达，在各种语体中却差别很大。日常口语中力求少用表示关系的词语，最好一切都能不言而喻，或于必要时借助语调来表达一下。我们在"英语中的日常口语语体"一文中已经引用过以下一段话，着眼于指出词句按迫切性排列，叙述的次序基本上是颠倒的④。这里要进一步指出：即使这样颠倒的叙述，却全然不用表示各句间关系的词语。先请看例句：

（7）"Where do you mean, you'll be?"

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④ 参看本刊1979年第三期，第14页.

"There. In the operating room. It's all in order. I have Tompkin's permission. I've never seen one of these operations. I should like to..." (C. P. Snow)

维持原来的词序，加进表示关系的词语，可以说：“There. *I mean* in the operating room. It's all in order — *my being there, since* I have Tompkin's permission. *I want to be there because* I've never seen one of these operations *and* I should like to ...” 事实上学英语的人时常是这样说话的。特别初学者，每一个环节都不敢放掉，所以常这样说：“"I got up early today. Then I had my breakfast and left home. But as the bus was crowded and went very slowly, therefore when I arrived I was a little late." 这就给人以“说话象本书”的感觉。因为实际的说话中，不仅表示关系的词尽量少用，甚至整个整个环节都可能被略掉，而须由听话者去自行补足。试看以下一段记录的话（所读的内容是医院应如何对待孤苦的病人）：

(8) *R. M.* But presumably, once the bed in a hospital becomes occupied ... by a person who has no home er there, it's not possible to move the person out is it？

  MO. No, you find that *this* really kills them off very very often.

  R. M. It oh ... the moving kills them *whereas they may stay alive longer*？

这里不仅在 MO. 说的一句话中 this 一词所指不明确，只能笼统体会出是指 to move them out，而且在 R. M. 的话中略掉了整整一个条件从句，补足后应为：whereas *if they are allowed to stay in the hospital bed* they may stay alive longer. 这可能是一个比较极端的例子，属于说话有漏洞之类，然而却是口语中所允许的。

但是在学术论著中，这就显然不行了。这里重要的是要把客观现象之间的关系，以及认识和思想的过程交待清楚，应该尽量排除歧义，防止误解，因此时常在一句话的前面，中间，或后面点明所述内容发生的时间、地点、适用的程度、范围以及与前后内容的关系等等。结果在有些学术论著的段落中，在大多数的句子甚至分句前面，都要用上一个状语词组，再加上句子中间表示关系的插入语，以及后面的补充说明，就几乎每个句子之间，甚至每个分句之间的关系都在字面上有明确交待。以下一段话就是这样情况：

(9) *In considering the history of ideas*, we tend to focus our attention on the successful version of an idea, the victor in a final bout after many preliminaries with unhappier resultes. We see the victorious idea successfully weathering storms of opposition, its author greater than his opponents, *as he often is. Then*, in the writing of history, those lesser lights may be forgotten, *and* what we remember is a tale of victors.

  In the history of ideas, the persecutors are often among the vanquished; *thus* the importance of persecution may be much diminished in historical perspective.

  Taken by itself, this would be relatively small distortion and readily corrected by going back to public sources. *But* the error is magnified and correction made far more difficult by another and more private factor.

We tend to think of the persecution of men for their ideas as occurring publicly and after the fact. How, *indeed*, could it be otherwise? An idea cannot be suppressed or ridiculed or used as a basis for action against its author *until* the idea has been conceived and publicly presented. *If* the idea threatens some existing establishment, suppression must await its development and expression; *and* punishment must be public *if* it is to inhibit the spread of the offending thought. *So* it would seem.

But it is possible to argue that the prevalence of persecution inhibits the very creation of new ideas, as well as their diffusion. *If* an idea develops gradually, through the efforts of many workers, its earliest expressions will be the most vulnerable, both to honest criticism and to the defensive reactions of whatever establishment the new idea appears to threaten. This establishment will mount its counterattack against the fledgling thought, *and* the struggle will be known to the public at large, including those thinkers likely to carry the new strain of thought forward.

这段引文摘自 H. E. Gruber, *Darwin on Man*, 1974, 为第二章 The Threat of Persecuticn 的开头几个段落。这是一本心理学专著,其中第二章叙述教会的思想迫害对达尔文进化论思想形成所构成的威胁,是全书的中心主题。为了有力地展开这一论点,作者先从反面说起:在考虑到思想史的时候,我们一般只注意取得胜利的思想和思想家。在思想史中,迫害者常遭到失败,所以迫害的意义也就被缩小。本身这不是什么重大的歪曲,而且也不难根据社会资料予以纠正。但是另有一个比较地属于个人性质的因素,使得错误更形严重,纠正也较为困难。接着在引文倒数第二段中作者又回过来说明为什么一般总认为迫害只能发生在"危险"思想公开露头之后,也就是说成为"社会资料"之后。然后在最后一段才点破所谓"个人性质的因素"是什么:迫害妨碍新思想的产生,萌芽状态的新思想遭到攻击,就使具有同样思想倾向的人望而生畏,不敢去发展这种思想。而这正是达尔文唯物主义进化论思想当时所处的境况。

缩小迫害的危害性,这是在一定范围之内而言的,所以要加上各种限制语,为"在考虑到思想史的时候","在思想史中","本身……不是……"等。为的都是反过来强调指出:"但是另有一个……因素"。倒数第二段中回过来再讲一般人的想法:既然说某种思想威胁现存体制,那么必然须等它表达出来后再加以镇压;而既然目的在于禁止违法思想的传布,惩罚也必须是公然进行的。"说真的 (indeed),怎能不是这样呢?""看来是这样的"。而说这些又为了反过来强调地说:"但是可以争辩说……"

可以说,为了展开一个重大的论点(达尔文关于人的唯物主义思想蕴酿了二十余年之久),这样反反复复的论述是既恰当而又必要的。而为了使读者明确无误地领会这些话之间曲折的关系,在学术论著语体中就有必要应用较多的各种表示关系的词语。

(三) 简 炼 性

语言总忌拖沓累赘,因此各语体都有一种求简的倾向,只是各自对"简"的具体概念以及所用的手段都不相同。曲折语体是以简为退,目的是以退求进。日常口语中求的是"简捷",

它与交际效率直接有关，所以不仅多用各种省略形式，而且有时宁损于"严密"而偏爱"My watch is two-thirty", "The wool shirt was right" 之类的表达⑤。学术论著语体尽管如上文所述，倾向于要把各种关系交待清楚，但这并不意味是求"繁"，它所追求的是"简炼"，即思想要严密，表达要凝炼，精中求简，以达到科学性和实用性的统一。以下暂且先看一段美国裁军问题专家 Paul Walker 和著名核物理学家 Philip Morrison 所写的文章。

(10) ... The U. S. "triad" of 1,054 land-based missiles, 656 submarine-based missiles and 380–plus long-range bombers could theoretically deliver more than 6,500 megatons of nuclear explosive on more than 11,000 targets. Over a four-year period following the signing of the SALT I agreement in May, 1972, the U. S. increased the number of nuclear warheads in its constant inventory of land- and submarine-based missiles at a rate of more than 100 per month, three times the rate achieved by the U. S. S. R. in the same period. The total strategic-warhead count now stands at 9,000 for the U. S. to 4,000 for the U. S. S. R. Over-all the U. S. has more than 30,000 nuclear weapons, of which 22,000 are designed for tactical purposes ...

The argument that the present triad is necessary to carry out this broad mission fails quantitatively. The safe undersea missiles have ample capability for reaching hundreds of subsidiary targets. Can the Department of Defense seriously maintain that the destruction of so many targets represents a "flexible option" short of an all-out nuclear war ? (*SA*, Oct. 1978)

这段文字可以说较有代表性。它不算突出地"简炼"，但体现了不少同类文章中求"简炼"所使用的手段。

首先可指出 triad 这个词。这一类意义上相当于数量词组 的 词，如 a number (= a certain amount), a multitude (= a great number), a variety (= various kinds), a quartet (= a group or set of four)等，用在句中，不仅比相应的词组比较简短，而且起到提纲挈领，先概括提一下的作用，整个句子的结构就显得更为严密。例如引文中的这句话，有了 triad 一词，读者一开头就知道整个长句要谈到三个类别的武器，不必等看完全句后再概括出这一点，因此就显得更为 "简炼"。以下两句中的 a variety 和 a spectrum 也起到类似的作用。

(11) ... in 1973 many Israeli fighters were hit at various altitudes by a *variety* of Russian-made surface-to-air missiles (SAM's) and radar-directed guns. (*SA*, Oct. 1978)

(12) There is a wide *spectrum* of views on the optinum rate of population growth in the developed world. (*SA*, Dec. 1978)

引文(10)第二段中的 the present triad, 则表明这类词有时还能用来代表包括所有列举项目的整个扩大了的词组 (the present triad = the U. S. triad of 1,054 land-based missiles, 656 submarine-based missiles and 380-plus long-range bombers)。这样，"简炼"

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⑤　见本刊1979年第三期，第10—11页。

的作用就更充分地体现了出来。正因为如此，作者在文章中多次利用了这一点，如 "…to perpetuate its two legs of *the triad*: land-based missiles and long-range bombers", "bomber aircraft, the third leg of *the thriad* …" 等。

第二点可以指出的是：学术论著中既倾向于要表明各种类系，而表明的手段又力求简短。在引文(10)中我们看到 could *theoretically* deliver …; *overall* the U. S. has …; the argument … fails *quantitatively*. 其中，overall 作 all together, in total 解是比较新的意义，O. E. D. 尚无记载，韦氏三版有，原来可能为美国用法。副词 theoretically 在意义上相当于 theoretically speaking, 而 quantitatively 在句中相当于 in terms of quantity, 总括起来这两个副词都有"在……方面"的意思，试再比较：… the baby boom was a temporary (but *demographically* significant) excursion …, 这句中的 demographically 一词用法也同。副词的这种用法无疑能使表达更为简炼。顺便提一下，在学术论著中形容词也常有类似求简炼的用法，即以一词代一语。试看以下两例句：

(13) … "precision-guided munitions" offer the "*single* greatest potential for force multiplication" …

(14) … the potential *demographic* impact of outlawing abortion …

这两句中 single 和 demographic 仅作为"单一的"和"人口统计的"解，显然不通。实际的意义，前者为 as a single item, 后者为 (impact) on demography, 更直截地讲则为 (impact) on birthrates 译成汉语相应地也应为"最大单项潜力"和"对人口的潜在影响"。

再回过来谈引文(10)，第三点可以指出的是两种自由构成的形容词。一种是由名词＋形容词（或分词）构成的复合形容词，如(10)中的 submarine-based (missiles)。这种复合词在构成的数量上以及使用的频率上看来都在增长。这是因为构成既方便，使用起来又富有简炼的效果。如以 -free 为例，可构成：tuition-free, tax-free, duty-free, interest-free 等等，比相应的 which is free from tuition (tax, duty, interest) 明显简短。以下试举一些用例：

(15) The fuel processor converts utility fuel, such as coal, into a *hydrogen-rich* gas … (比较： a gas which is rich in hydrogen)

(16) It is derived by summing the *age-specific* birthrates in a given year. (比较：the specific birthrates for various age-groups)

(17) A third example of a smart weapon for which data are publicly available is the German Kermoran, an *aircraft-launched*, *radar-homing* antiship missile designed in the early 1970's. (比较：an antiship missile designed in the early 1970's, which is launched by aircraft and directed with the help of radar)

另一种是由前置的名词或名词性词组所构成的形容词，在(10)中以 strategic-warhead (count) 为代表。这种构词法近来谈论得很多了，这里只想补充一点：正因为这种结构很简便也很明确，所以看来有些用语是直接用这种方法构成的新的表达法，应该从语言不断丰富的角度来探讨，而不必在后置修饰语中去寻找原有的同义语。例如常用的 zero growth, zero growth rate, zero population growth 等，要把 zero 搬到后面去恐怕不太容易。可以说 (population) growth rate which is equal to zero, 但太累赘了。为了说明这些词组的实质，应该说 zero 完全用作形容词。

再看以下一句：

(18) According to one report, "90,000 women ... have accepted the government's invitation to go into *baby* production." (*SA*, Dec. 1978)

句中的 baby production 语法上讲当然可以改为 the production of babies, 不过这样的用语见诸于科学论著简直要骇人听闻。原因是：baby boom 是谈到二次大战后出生率增长时期常用的时髦语,在它的影响下直接构成的 baby production 人们能够接受(但可能各人在不同程度上也感到勉强,上面的例句中所以要把这段话放在引号里,可能就因认为这一语用得特别),可是倒成后置修饰语就完全不行了。

以下两句也有同样的情况。斜体的词组直接当作形容词使用：

(19) There is no evidence that the Carter Administration ... has followed the method of *zero-base* budgeting ... In this method each agency of the Government would have to review and justify every one of its program from scratch, regardless of the previous level of spending ... (*SA*, Oct. 1978)

(20) The best estimate of the capital cost of a molten-carbonate power plant in mass production is \$350 per kilowatt-hour (in 1980 dollars) ...

第一句中的 zero-base budgeting 是"从零起点打预算"的意思,改为后置修饰语很难办,除非借用下文中的词语,称之为 budgeting from scratch, 但意义仍不明显。第二句中的 in 1980 dollars 是"以1980年的美元值计算",意义很清楚,但要改为后置就不好办。

第四点可以指出的是起加确作用的插入语 three times the rate achieved by the U. S. S. R. in the same period (见(10)第六—七行)。各种插入语的应用, 使语言更富于学究气息,而同时又能维持结构紧凑,防止松夸的感觉,试比较在语言较松懈的讲课等场合这句话很可能说成：... *which is* three times the rate ...,这就会增加一个从句。

第五,在引文(10)中有学术论著中喜欢用的缩略词形式。一是首字母缩略词 (acronym) 尤其受到欢迎的是能读出的,类同于普通词的,如这里的 SALT (*Strategic Arms Limitation Talks*——限制战略武器会谈),读音和 salt(盐)一样。在缩略词的基础上,表示第一轮会谈加罗马字 I,第二轮加上 II,分别读作 salt one 和 salt two,已经和全称的 the first (second) round of Strategic Arms Limitation Talks 没有对应关系。二是并列的复合词中省略共同的部份,仿佛是运用这样的公式：A—X+B—X+C—X...=(A-+B-+C-...)X,这里的具体词是：land- and submarine-based.

以上就引文(10)评论了一下学术论著语体中常用的一些增进简炼性的手段。一小段引文当然不可能包括所有常用的手段。这里再补充一种。那就是以名词或名词性词组来代替有谓语性的结构。这样,句子的谓语性更集中于主要谓语,结构就显得更紧凑。例如以下一句话,意义很明显：

(21) Men frequently fall into avoidable error because of a *failure to reason correctly*.

这句话不用说相当于：''Men frequently fall into avoidable error because they fail to reason correctly'',但是用名词 failure 来表达,语气更凝炼。这里的名词 (faiture) 来源于动词 fail,所以还可以说多少带有一些谓语性,句子的意义因此也不难理解。而以下两句话中斜体的名词,则完全没有谓语性,句子的意义也就较难理解：

(22) The search for a moment of *truth* is probably misguided. Perhaps the concept of a single, crucial, sudden *insight* is suitable for describing someone solving

a simple well-defined problem. But we are dealing here with a different sort of thinking ... (H. E. Gruber, *Darwin on Man*)

这段话的意思是：重大的观点是逐渐形成的，我们在探索其形成过程时不应该着眼于寻求"豁然开朗的一刹那"。一经提出"豁然开朗"这四个字，含义必然就明显了，因为这四个字有谓语性，而 a moment of truth 和 the concept of a ... sudden insight 则没有，而实际上这里的 truth 和 insight 都是指"豁然开朗"。所以实际上这两个英语词组的意义是：a moment of perceiving the truth 和 the concept of a ... sudden enlightment。类似情况在学术论著中时有所见，很值得学习英语的人注意。

我们在这里说的谓语性结构，自然也包括"系词十表语"的结构。在英语学术论著中，以名词代替 "to be + adj." 结构的例子是相当常见的。例如：

(23) The plant will provide ... an opportunity to validate the claims of fuel-cell advocates about the advantages of the technology in terms of *versatility and ease of siting*. (*SA*, Dec. 1978)

这里借助于带有"文气"的语言中所常用的复合前置词 in terms of, 以导入一个名词 versatility 和一个名词词组 ease of siting, 以代替现成的说法：the advantages of the technology *in being versatile and easy to site*。只要我们掂量一下 easy to site 和 ease of siting 在使用率上的区别（前者很常用，后者 ease 的用法相当罕见），就不难体会到作者宁可选择后者的语体意图是要尽量避免谓语性结构，而多用名词词组以增进句子的紧凑性。

可以用以取代谓语性结构的另一种结构是后置修饰语，包括后置形容词、分词短语、同位语等几种。它们的使用率在学术论著中特别高，常使人感到这些形式是受到偏爱的，以便能少用一些从句。这做法也符合于尽量使句子的谓语性集中于主要谓语的倾向，同时也就起到简炼的效果。以下就各种类型各举一例：

(24) Of the manuscripts transcribed in this volume, most have never been printed before and have consequently been accessible only to the privileged few *able* to use the libraries in which they were kept, and *able* to spend many months poring over handwritten notes... (*Darwin on Man*, Preface)

(25) The examination of the inward working of Darwin's mind becomes a study of a man *struggling*. (*Darwin on Man*)

(26) A total fertility rate of 1.5 is below the rates now prevailing in Europe and below the lowest rate *known to have been experienced* by an actual cohort of women (1.8 for women born in 1907 in England and Wales). (*SA*, Dce. 1978)

(27) ... would interfere with missiles X or with the development of cruise missiles, the *highly accurate jet-powered weapons* carriers that can be launched from land, sea or air.

以上各句都有较明显的倾向避免谓语性结构以增进句子的紧凑性。例 (24) 中以 able 作为后置修饰语，显然是为了避免较罗嗦的"正规"讲法："the privileged few *who are* able to use ... and *who can afford* to spend ..."。以上 (10) 中最后一句末也有类似的用法：... short of an all-out nuclear war (= ... *which is* short of ...)。

例 (25) 中的 a man struggling 比 a struggling man 更富于谓语性，更容易使人想起

a man *who was* struggling,但又比后者简短：

例(26)中完全可以用两个从句：below the rates *which* now prevail in Europe and below the lowest rate *which is* known to have been experienced by …，或前面用 prevailing 而后面用 which is known to have …。然而现在类似的情况下却常以 known+inf 的结构作为后置修饰语，以增进简炼性。

至于同位语，实际上起的是定语从句的作用，但它不是谓语结构，所以显得更紧凑。上列例(27)中同位语的应用避免了定语从句套定语从句的拖沓表达（比较：… cruise missiles, *which are* highly accurate jet-powered weapons carriers *that can be launched* from land, sea or air)。

（四）生 动 性

写到这里，我们可能给读者留下一个印象：学术论著语体尽量追求客观、严密、紧凑，没有一点文字上的情趣。这印象大体上不错。应该说，这种语体比较地少变化，基本上要求把话正面用明确的语言说清楚，与曲折语体相比较少修饰雕琢，与日常口语相比却又较少过份简略，以及隐蔽或含蓄甚至正话反说，要人体会出真意的情况。在我们分析材料的过程中，没有遇到什么词或句的意义在语段一级上发生很大变化的例证。这些都说明学术论著的语法，尽管有时语句较长，结构比较复杂，但一般都比较正规，所以学习英语的人总是起先觉得它难，多学一步以后又觉得还是这种语体比较容易掌握。但因此就说这种语体一概没有情趣，那就不符合事实。

且不谈一些历史上以文字优美著称的学术著作，即以一般的作品而论，也常遇到一些写得生动有趣的文章或段落。以下仅就表达的多样性和新颖性两方面来举些例子，以说明这一点。

学术论著中在适当的场合采用一些其他语体包括文学的手法，用得得当仍然跟学术语体很协调，而文彩上则大为增色。例如下面两句话，说的是巨型航空母舰因为太大容易成为新式武器的目标：

> (28) For the modern smart missile the most inviting target of all may well be the aircraft carrier. The U.S. currently deploys 13 such vessels; the largest *is* nuclear-powered, *displaces* 94,000 tons, *is* 1,100 feet long, *has* a deck with an area of six acres and *carries* a cargo of 100 combat aircraft and 6,100 sailors and airmen. (*SA*, Oct. 1978)

最后一个分句中共有五个并列谓语，四个用阿拉伯字母写出的长数目字和三个 and！为什么要写这样臃肿笨重的句子呢？正是为了以句状物，通过这样的语句在感官上加深这些庞大舰只的印象。这里用的是形象语言的文字手法，但是无论内容以及每一个单词放在上下文中全然不会令人产生突兀的感觉，全然不使人感到所谓的"文艺腔，"然而文学效果却很显著，这是文学手法与学术语体妥贴结合的一例。

再看一段雄辩滔滔的话：

> (29) The subject of creative thinking draws its fascination from sources deep within the human animal——*the attractive odor* of mystery and unpredictability: How does something genuinely new arise out of that which has gone before? What,

indeed, is novelty ? *The desire* to share in great achievements, at least vicariously, by following their chronicles and understanding how they came about, or perhaps by participating more directly in the creative process. *The hope* of bettering the human condition, and now even of rescuing our species from premature oblivion, by adding some great vision or insight to the store of human understanding. *The simple need* to express oneself as a unique person, or to join with others in an intriguing search, or to admire something beautiful. *The pleasures* of understanding and of puzzlement. (H. E.Gruber, *Darwin on Man*)

这段话所以给人以滔滔不绝的印象，是因为连用五个排比式的名词词组（分别以 the attractive odor, the desire, the hope, the simple need, the pleasures 为主要词），这些词组都很长，很复杂，带有自己的从句（第一个词组中有两个问句：How does … 和 What, indeed, …），但它们本身只是揭示 sources deep within the human animal 的内容的并列列举性成份，本可以并在一个句子里，分列出来成为一连串不完全句，读起来仿佛波涛起伏，有政论文的气势。

严谨常容易使人联想起守旧，因而认为学术论著的语体恐怕不太欢迎语言中的新现象。其实并非各此。科学家总是乐于接受新事物的，不过我们常能感觉到，他们总的态度不是猎奇，而是以一种求实的精神吸取语言中有利于实用的新成份。例如我们已经谈过的以名词作为前置修饰语。这种结构近年很流行，在学术论著中也很常见，但我们不觉得它们的应用是为了赶时髦，而是因为它们明确而且直截了当，有助于简炼性。在词汇方面也能看到同样的情况，不仅一些已经确立的新词语，如 a new high, a new low, trigger (vt.) 等在学术论著中常用。而且一些属于争论性的新词或新用法，如 scenario 作"计划，"甚至"理论"解，viable 作"有用的"或"有效的"解，在论著也有反映。以下举一些这类词语的用例：

(30) Every time the birthrate records a new *Low* … a demographer receives inquires from journalists about what the decline can be attributed to … (*SA*, Dec. 1978)

(31) Did a Supernova *Trigger* the Formation of the Solar System ? (*SA*, Oct. 1978) （文章题目）

(32) Proponents of larger defence expenditures … have often observed that if their "present danger" *scenario* is in error, all that is lost is a few billions (or perhaps tens of billions) of dollars. (*SA*, Oct. 1978)

(33) The present ICBM's will be *viable* only if they are launched on the mere warning of a nuclear strike. (*SA*, Oct. 1978) (ICBM's—Intercontinental ballistic missiles)

由此可见，论术论著语体中各种语言现象也是很多样的。这一事实，从理论的角度讲，又一次表明了各语体的特征是相互渗透的，一般不能说哪些特征为某一语体所独有，区别时常仅在于不同的使用频率。从实用的角度讲，则说明尽管学术论著的英语总的说来比较正规、少变化（这有利于各学科的工作者树立学会英语的信心），但即使对学术工作者说来，真正要学好英语，仅掌握这一语体中最典型的一些表达方式，还是很不够的，还必需把眼界开阔起来，熟悉英语中各种主要语体，才能够做到应付自如。

略论科技文章中一些动词的主动形式及其被动意义

周 敦 仁

请看下面三个句子：

(1) One *divides* into two.

(2) I'm afraid my letter *has miscarried*.

(3) The clock *winds* up at the back.

以上例句的谓语动词有一个共同的特点，即主动的形式、被动的意义。例（1）说的是我们大家都熟悉的"一分为二。"这是人们研究和分析事物的哲学手段，事物 one 是被分的对象，但谓语动词 devides 却是主动语态。例（2）也很清楚，信件不能自投，乃是由于某种原因而被误投了。但 miscarry 这个动词表示"投递"时似乎只能用于主动语态形式。例（3）指的是这只钟上发条的地方在背面。想想上发条的动作，钟只能是动作的对象。

这种语法现象颇为有趣。说它有趣，是因为在许多英语刚入门的中国学生的心目中，总觉得英美人对主动和被动的语法概念分得十分清楚，没有半点含糊。殊不知他们的语言里也有这种形式上主动而意义上被动的东西，和汉语颇为相似。当然就其使用的范围与具体的含义而言，两种语言的差别还是很大的。这种现象在英语中出现的情况似乎可以说是虽不常有，亦不鲜见。

在日常生活中，wash, wear, write, read, blow, sell, soak 等动词有这样的用法。此外，我们还可以看到以下的例子：

(4) ... he went on, as though speaking of certain others, and spilled a drop of whiskey on his trouser but did not notice. She wondered if it would *stain*.

(5) Dried food stores easily in camping.

(6) The 16–footer handles a 30–hp outboard and *retails* for a modest $486.

裤子是被沾污的对象；脱水食物是被贮藏的对象；这种 16 英尺长的小艇也是在零售商店被出售。

这种语法现象在科技文章中用得似乎更多一些。就笔者的观察而言，不少语法书和词典对此并没有给予足够的重视。若是给英美本国人用的词典不予注明，看来尚情有可原，因为这是那些读者视为理所当然的东西。Oxford Advanced Learner's Dictionary 是给外国学生看的，在这方面下了功夫。可惜在处理上把及物用法和不及物用法放在一起，只有细心人反复比较和研究其释义、例句与动词句型，才能看出端倪。

下面就这种语法现象在科技文章中的情况举一些例子。各例均摘自七十年代的英美科技杂志。例句不逐字翻译，只是说明大意，应与解释部分连系起来理解。

(7) PPG Industries makes these fiberglass-reinforced modules to simplify low-rise building construction. The 250–lb modules *bolt* to angle irons without additional support.

建筑低层房屋的予制构件只消用螺栓固定在角铁上就行了。构件是被固定的对象。

(8) Clipped onto store merchandise, this 'alligator' tag triggers an alarm if you carry it past electronic sensors at an exit. It *fastens* on quickly and is reusable without replacement parts.

这种"鳄"式附件是被超级市场工作人员装在商品上的。第二句中的 it 指 this tag,形式上是主语,实际上是动词 fasten 的对象。

(9) Snapper, with a 28-inch cut, comes with an eight-or-ten-hp option. Bag-N-Wagon *pulls* behind to collect 30 bushels of grass and litter without auxiliary power, and doubles as a dump wagon for general around-yard hauling.

Bag-N-Wagon 是拖在割草机后面的小车,它本身没有动力,被拖着前进。

(10) This vinyl-coated bike rack *screws* to wall studs and holds up two bikes out of the way. It doubles as repair stand too.

自行车架是被螺钉拧在墙筋上的。但有的词典提到动词 screw 这方面意义时,只说到物件的自转自拧。

(11) Most small pumps are piston-operated. To use one, special ready-mix is dumped into the hopper, where it *feeds* by gravity into the pump cylinder.

这里 it 指的是 special ready-mix,即一种预先搅拌好的特制混凝土浆,是被送进泵缸的对象。在这里是靠重力的作用,在其他情况下则是靠压力压进去的。

(12) A ni-cad battery unit gives 15 minutes of 700°F tip temperature, *recharges* overnight. It's good for 500 chargings.

镍镉电池给电烙铁提供能量,因此电烙铁不需要连接交流电源的导线。但是电池用过后要重新充电,电池是被充电的对象,这一点从第二句的 chargings 也可以看出来。

(13) Molded elastic PVC cover *slips* over expensive carbide saw blades to keep them sharp.

保护昂贵的钢锯齿,可以在上面套上一种弹性的塑料套。这里 cover 是被套上去的对象。

(14) Does someone always steal your parking space? This two-foot-high metal post might solve the problem. It *locks* upright until you are ready to park.

私人停车区的中央竖起一根金属椿。这椿是被锁住以保持竖立状态的对象。只有能够开锁的人才能在此停车。

(15) A total of 23 modular elements make the Harvey Probber Cantilever Wall one of the most versatile wall systems going. Included are shelves, drawers, doors, open and bar cabinets, lamp units, mirrors, graphic display, etc. The Cantilever Wall *installs* a few inches in front of existing walls, concealing its wiring.

一种新式的室内布置把几乎所有的家俱都安排到一个墙壁一样的整体结构中,然后再把这段"墙"安装在原有的墙壁的前面。