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Lesson 7 Bats

蝙蝠 非限定性定语从句 宾语从句

与课文关联的 14 个单词(点击每个单词可查看详细介绍)



bat /bæt/ n. 蝙蝠

strictly /'striktli/ adv. 明确的

utilitarian /ju:'ti:lɪ'teəriən/

adj. 实用的

obstruction /əb'strʌkʃn/

n. 障碍物

elapse /ɪ'læps/ v. 消逝

hull /hʌl/ n. 船体

interval /'ɪntəv(ə)l/ n. 间隔

receipt * /ri'si:t/ n. 收到

apparatus /,æpə'reɪtəs/ n. 仪器

shoal /ʃəʊl/ n. 鱼群

herring /'herɪŋ/ n. 鲱鱼

cod /kɒd/ n. 鳕鱼

squeak /skwi:k/ n. 尖叫声

appreciation /,ə,prɪ:'fi:ʃɪn/

n. 理解

发现 难度：7 级

※ Bats 课文介绍 Introduction

- **Bats** are interesting animals. They are famous for their echo-location ability. 蝙蝠是有趣的动物，以回声定位能力著称。
- Echo-location in **bats** is often compared with radar. 蝙蝠的回声定位常被拿来与雷达作比较。

Text style features (课文文体特点)

1. 倾向于将动词名词化 (使文章更加正式)。 Tendency to nominalize verbs (formal style)
2. 倾向于使用被动语态 (显得客观)。 Tendency to use passive voice (objective tone)

❖ Not all sounds made by animals **serve as** language, and we **have only to** turn to that extraordinary discovery of echo-location in bats to **see a case in** which the voice **plays a strictly utilitarian role**.

『 **not ... all / every / both** 连用**多**表示部分否定 』

- **All** that glitters is not gold. 闪光的都不是金子(部分否定)
- **None of the arrows** hit the target. 所有的箭都没有命中(All of the arrows 有歧义: 并非所有的箭都没有命中)。
- **All** civilized people can't be cannibals. 所有文明人都不吃人肉 (全部否定)
- **Not all** the water in **rough, rude sea** can wash the balm off from an anointed king. 所有汹涌澎湃的沧海之水都洗不掉神圣国王头顶的芬芳 (全部否定)
- **Every machine** here **is** not produced in our plant. 并非这里的每台机器都是我们厂生产的。
- **Both of the substances** do not dissolve in water. 这两种物质并非都能溶于水。
- **Not every** sound made by animals **serves** as language. 无歧义替换

『 **serve as** 当作...来使用 』

- **She serves as an impressive reminder of the great ships of past.**
- Outside directors are supposed to serve as helpful, yet less biased, advisers on a firm's board. 外部董事应当成为公司董事会得力又客观的顾问。
- Only a few of its islands can serve as huge breeding grounds for king penguins. 只有一小部分岛屿可以作为帝企鹅的繁殖地。

act as 起...作用	She acted as interpreter during the meeting. 她在会议上充当翻译。
serve as 作为...使用	The old school serves as a museum now. 这所老学校现在作为博物馆使用。
function as 起...功能	The sofa functions as a bed at night. 这张沙发晚上当床用。
be used as 被用作...	The ship was used as a training base. 这艘船被用作训练基地。

『 **have only to do ... to do ...** 只须...就可以... 』

- You **have only to press** the button **to call** the nurse. 你只要按下按钮就能叫护士。
- You **have only to click** the link **to download** the software. 你只需点击链接就能下载软件。

We **have only to turn to** **the example of the 1936 Olympics to know** that sports can cause hatred. 我们只需借助1936年奥运会的例子就知道体育会导致仇恨。

We **have only to turn to** the concrete example of the 1936 Olympic Games **to know** that international sporting contests lead to orgies of hatred.

『 **strictly** adv. exactly and completely 完全地, 确切地 』

- She is **strictly** a beauty. 她完全算得上是个美人。
- It's **strictly** a neutral organization. 这是一个完全中立的组织。
- He spoke **strictly** according to the facts. 他完全根据事实发言。

『 **play a ...role / part in sth. ...** (派生含义) 发挥某个作用;在...中起...作用 』

- The river which forms the eastern boundary of our farm has always **played an important part in our lives**.
- The government should **play a more prominent role in** promoting human rights. 政府应在促进人权方面发挥更突出作用。
- Chance discoveries **play a large part in** chemical industries. 偶然发现对化学工业起着重要作用。
- This applies particularly to chemical industries, where chance discoveries **play a much larger part** than they do in physical and mechanical industries.
- The fact of first-rate importance is **the predominant role** that custom **plays in** experience and in belief, and the very great varieties it may manifest.
- John Dewey has said in all seriousness that **the part played** by custom in shaping the behavior of the individual, **as against** any way in which he can affect traditional custom, **is as** the proportion of the total vocabulary of his mother tongue **against** those words of his own baby talk that are taken up into the vernacular of his family.

play the role of 扮演...	He played the role of Othello. 他扮演奥赛罗。
perform the role of 表演... 的角色	She performed the role of Juliet in the school play. 她在学校戏剧中饰演朱丽叶。
act the part of 扮演...的部分	He acted the part of a brave soldier. 他扮演一个勇敢的士兵。

解释 难度: 6 级

※ To get a full appreciation of what this means we must turn first to some recent human inventions.

『 **appreciation** 理解 (书面语) 』

- There is a growing **appreciation** of the need for environmental reforms. 有越来越多的人理解需要在环境中改革。(appreciation 当动词翻译)
- He showed little **appreciation** of her efforts. 他对她的努力几乎没有理解。
- The manager has an **appreciation** of good design. 这位经理对优秀设计很有鉴赏力。

『 熟词僻意 』

- There is, I think, much truth in Patricia Nelson Limerick's observation that "lecturing is an unnatural act, an act for which God did not design human."
- With the start of BBC World Service Television, millions of viewers in Asia and America can now watch the Corporation's news coverage, as well as listen to it. 考研
- Social science disciplines include geography, economics, political science, psychology, and sociology.
- "The test of any democratic society," he wrote in a Wall Street Journal column, "lies not in how well it can control expression but in whether it gives *freedom* of thought and expression the widest possible latitude, however disputable or irritating the results may sometimes be."

名词化表达 更正式、更书面	原始表达 普通表达
To get a full appreciation of what this means 要充分理解这意味着什么	... to fully appreciate what this means ... 去充分理解这意味着什么

『 **turn to** 求助于、借助于 』

- When in doubt, **turn to** your teacher for help. 有疑问时，求助于老师。
- Many people **turn to** music for comfort. 许多人借助音乐获得安慰。
- In times of crisis, they **turn to** their friends. 在危机时，他们会求助朋友。

resort to 诉诸于（不得已、不愉快）	We can solve this problem without resorting to legal action. 我们无需诉诸法律手段即可解决此问题。
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※ Everyone **knows** that if he **shouts in the vicinity of** a wall or a mountainside, an echo **will come back**.

『 **in the vicinity of** 在...附近 』

- a famous arcade **in the vicinity of** Piccadilly 位于皮卡迪利附近的拱廊
- Both of these grow in coastal waters, often **in the vicinity of** coral reefs. 这两种植物都生长在沿海水域，且通常生长在珊瑚礁附近。
- The KTV newly opened **in the vicinity of** my living area was forced to shut down under pressure coming from every aspect. 在我生活的小区附近的一家KTV因为各方面的压力下被关闭了。
- The average density of interstellar material **in the vicinity of** our Sun is 1,000 to 10,000 times less than the best terrestrial laboratory vacuum. 在我们的太阳附近，星际物质的平均密度比最好的地球实验室真空还要低1000到10000倍。
- Uncontrolled airspace is designated Class F, while controlled airspace below 5,490m above sea level and not **in the vicinity of** an airport is Class E. 无交通管制的空域被定为等级 F，而低于海拔 5490米、不在机场附近的管制空域是等级 E。
- Crowds gathered **in the vicinity of** Trafalgar Square. 成群结队的人聚集在特拉法尔加广场周围。

near 在...附近	a famous arcade near Piccadilly 皮卡迪利附近的一家著名拱廊
close to 靠近	a famous arcade close to Piccadilly 靠近皮卡迪利的著名拱廊
around 在.....周围	a famous arcade around Piccadilly 皮卡迪利周围的著名拱廊
off 离开、靠近	a famous arcade off Piccadilly 靠近皮卡迪利的一条拱廊街
in the neighbourhood of 在附近	There are shops in the neighbourhood of my house. 我家附近有些商店。

『 come back 返回来 』

- The echo will **come back** from the wall. 回声会从墙上返回。
- I'll **come back** to the land of my forebears. 我将回到祖先的土地。
- We watched the boats **come back** in the gathering gloom. 我们注视着船只在越来越浓的暮色中返航。

bounce back 反弹回来	The ball hit the wall and bounced back . 球撞到墙后反弹回来。
be reflected 被反射	A sound made by tapping on the hull will be reflected from the sea bottom. 敲击船体产生的声音会被海底反射回来。

※ The further off this solid obstruction (is), the longer time will elapse for the return of the echo. §

『 far / farther / further 远 / 更远 / 更深入 』

- **further** development / investigation 更深入的调查(抽象的远)
- He lives **far off** in the mountains. 他住在山里很远的地方。
- She walked **further** into the forest. 她走得更深入森林。
- The **farthest** star can only be seen by telescope. 最远的星星只能用望远镜看到。

The time and the distance **are in proportion**. 时间和距离成正比(本句话总结)

※ A sound made by tapping on the hull of a ship will be reflected from the sea bottom, and by measuring the time interval between the taps and the receipt of the echoes, the depth of the sea at that point can be calculated.

『 **be reflected** 被反射 』

- The sound will **be reflected** from the mountain. 声音会从山上反射回来。
- Light **is reflected** from the surface of water. 光线从水面反射。
- The sound **was reflected** from the walls. 声音被墙壁反射回来。

『 **sea bottom** 海床 』

- Divers explored the **sea bottom**. 潜水员探索海底。
- The asuras live on the **sea bottom**. 阿修罗住在大海底。
- The ship was completely buried in the soft loam of the **sea bottom**. 这条船被完全埋到海底松软的肥土里。

sea bed 海床	Many corals grow on the sea bed . 许多珊瑚生长在海床上。
sea floor 海底平面	Scientists study the sea floor for minerals. 科学家研究海底以寻找矿物。

『 **名词动词化** 』

- ... between the **taps** and the **receipt** of the echoes ... (科技英语)
- ... between the **tapping** and **receiving** the echoes ... (普通英语)

『 ... sb. can calculate sth. 中式英语 ⇒ **sth. can be calculated** 』

- sound will **be reflected** depth can be calculated
- Benefit is calculated on the basis of average weekly earnings. 补助金按平均周收入计算。
- Interest is calculated on the monthly bases. 利息是以月为单位计算。

※ **So was born the echo-sounding apparatus, now in general use in ships.** 倒

装，避免头重脚轻

『 **倒装句** 强调句首状语(The echo-sounding apparatus was born so.) 』

- **So was born** the idea of democracy. 民主理念就这样诞生了。
- **So began** a new era in science. 科学的新纪元由此开始。
- **So ended** the long war. 漫长的战争就此结束。

『 **in use** 应用 (in general use 广泛使用) 』

- **In general use** good, operate simple. 通用性好，操作简便。
- That would be the confirmation that it was **in general use**. 这将证明它的使用是十分普遍的。
- The Changchun subway will be **in use**. 长春地铁将投入使用。

※ Every solid object will reflect a sound, varying according to the size and nature of the object.

『 vary according to 因...而异 』

- Prices **vary according to** demand. 价格随需求而变化。
- Fees **vary according to** the course chosen. 学费因所选课程而异。
- The results **vary according to** temperature. 结果因温度而不同。

Every retired worker can receive a pension, **varying according to** his post and working period. 每一个退休工人都可以得到一笔退休金，根据职务和工作年限而有所不同。

※ A shoal of fish **will do this**.

『 shoal of fish 鱼群 』

- A **shoal of fish** swam past the boat. 一群鱼从船边游过。
- We saw a **shoal of fish** shimmering in the sunlight. 我们看到一群鱼在阳光下闪闪发光。
- The **shoal of fish** changed direction suddenly. 这群鱼突然改变了方向。

※ So it **is** a comparatively simple step from locating the sea bottom to locating a shoal of fish.

『 comparatively 相对地 (It is a comparatively simple step from. A to B.) 』

- It is **comparatively** easy to learn. 这相对容易学习。
- The test was **comparatively** simple. 考试相对简单。
- Living costs here are **comparatively** low. 这里生活成本相对较低。

『 small step 一小步 』

- That's one **small step** for a man, one giant leap for mankind. — Neil Armstrong
- It is a small **step from** loving a man to hating him. ⇒ It is a small **step from** loving a man to the bone to hating him to the core.

※ With experience, and with improved apparatus, it is now possible not only to locate a shoal but to tell if it is herring, cod, or other well-known fish, by the pattern of its echo.

『 **with experience** 随着经验(不可数)的积累 ~~with accumulating experience~~ X 错误搭配 (赘词) 』

- **With experience**, you will handle problems better. 随着经验的积累, 你会更好地处理问题。
- **With time**, things will get easier. 随着时间推移, 事情会变得更加容易。
- with seasons 随着季节地更替 ~~with changing seasons~~ X 错误搭配 (赘词)
- **With practice**, your skills will improve. 通过练习, 你的技能会提高。

『 **Brevity is beauty.** 简洁即是美。 』

Vigorous writing is concise. A sentence should contain no unnecessary words, a paragraph no unnecessary sentences, for the same reason that a drawing should have no unnecessary lines and a machine no unnecessary parts. — 斯特伦克 (William Strunk Jr.)
生动有力的写作是简洁的。一个句子不应有多余的词, 一个段落不应有多余的句子, 这与绘画不应有多余的线条和机器不应有多余的部件相同。

- the cause of justice ✓
- ~~the cause of~~ national reunification X
- ~~the cause of~~ socialist construction X
- accelerate ~~the speed of~~ economic reform X
- The captain knew that **his attempt** would not be **the only attempt**. (重复)
- The captain knew that ~~his attempt~~ would not be **the only one**. (没有简洁多少)
- The captain knew that ~~his~~ would not be **the only attempt**. (简洁)
- **Our age is a tragic age**. (重复)
- **Our age is a tragic one**. (没有简洁多少)
- **Our's is a tragic age**. (简洁) — Shakespeare

『 **to tell if** 判断是否 (+宾语从句) 』

... to **distinguish** different species of fish ... 替换

- He tried **to tell if** she was lying. 他试图判断她是否在撒谎。
- It is hard **to tell if** the news is true. 很难判断这消息是否真实。
- We need **to tell if** the system is working properly. 我们需要判断系统是否正常运作。

『 **by** prep. according to ... 根据 』

- **Even by modern standards, the 46,000 ton Titanic was a colossal ship.**
- He judged the distance **by eye**. 他凭目测判断距离。
- We can estimate age **by appearance**. 我们可以根据外貌估算年龄。
- They decided **by voting**. 他们通过投票决定。

结束语 难度: 3 级

※ **It has been found** that certain bats **emit** squeaks and **by receiving the echoes**, they **can locate** and **steer clear of obstacles** -- **or locate flying insects on which they feed**.

『 **emit** 放射, 发射 (声音、光线、信号) 』

- The factory **emits** smoke into the air every day. 工厂每天向空气中排放烟雾。
- Radioactive materials **emit** radiation. 放射性物质会释放辐射。
- He **emitted** a loud sigh of relief. 他松了一口气。

emit e(out)+mit(send)	The volcano suddenly emitted a huge cloud of smoke. 火山突然喷出一团浓烟。
submit sub(under)+mit	Please submit your report before Friday. 请在星期五之前提交报告。
transmit trans(across)+mit	The US Open will be transmitted live via satellite. 美国网球公开赛将通过卫星直播。
omit o(ob,away)+mit	He omitted an important detail in his speech. 他在演讲中遗漏了一个重要细节。
vomit vo(eat)+mit	The child vomited after eating spoiled food. 孩子吃了变质的食物后呕吐了。

『 **steer clear of** 避开, 躲开 (= avoid ... = get around ...) 』

- We tried to **steer clear of** political issues. 我们尽量避免涉及政治问题。
- I **steered clear of** the main roads where I might be recognized. 我避开了可能被认出的主干道。
- He always **steers clear of** trouble. 他总是远离麻烦。

『 **feed on** 以...为食 』

- Cows **feed on** hay. 奶牛以干草为食。
- Deer **feed on** grass and leaves. 鹿吃草和树叶。
- These birds **feed on** small insects. 这些鸟以小昆虫为食。
- However, certain other species **on which** the larvae **feed** do not harbor the bacterium. 然而, 幼虫所食的某些其他物种却不存在这种细菌。

prey on 动物以...为食	Owls prey on mice. 猫头鹰捕食老鼠。
live on 人以...为主食	Many people live on rice in Asia. 亚洲许多人以大米为主食。

※ This echo-location in bats is often compared with radar, the principle of which is similar.

『 compare A with / to B 将A与B比较 』

- People often **compare** the heart **to** a pump. 人们常把心脏比作泵。
- Let's **compare** our results **with** theirs. 让我们把结果和他们的比较一下。
- He **compared** her voice **to** music. 他把她的声音比作音乐。

contrast A with B 对比A与B
(强调不同)

It's interesting to **contrast** European culture **with** Asian culture. 对比欧洲文化与亚洲文化是很有趣的。

『 名词 + 介词 + 关系代词 引导非限定性定语从句(修饰先行词一部分或者相关部分) 』

- He has two sons, one of whom died in the war. 他有两个儿子，其中一个死于战争。
- The speaker posed four questions, the answers to which proved very illuminating. 演讲者提出了四个问题，其答案被证明非常有启发性。
- The most valuable find was the ship's log book, parts of which were still readable. (不修饰先行词本身，而是与先行词相关的部分)



Shake a leg.

赶快；跳舞；迅速行动

受限于个人水平，笔记若有疏漏之处，恳请发送邮件至 hibenba@gmail.com 批评指正。

同时可通过网址(ncego.com)页面底部“举报”错误 (更新于:2026-03-01)。

一场孤独的修行，需要相信积累的力量。专注当下、珍惜时间、心怀感恩、顶峰相见。