

科技英语

阅读与实用英语写作

总主编 黄锦华

主 编 胡春华 刘甜甜



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Soochow University Press

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前 言

《科技英语阅读与实用英语写作》体现了教育部关于本科院校向应用技术型大学转型的指导意见,主要用于大学英语提高阶段的教学。旨在巩固并熟练应用在基础阶段所学的英语语言知识和阅读技能,拓宽语言知识面,扩大词汇量,同时提高对科技类英语文章的理解能力以及掌握常用应用文写作的技巧,为今后专业文献的阅读、科技信息的获取和常用应用文的书写打下良好的基础。

本书的阅读文章全部选自国内外原版科技书籍和网站,内容涉及汽车、机械、土木、电气与计算机、食品与化工、经济与管理等领域,选材广泛,信息量大,内容新颖,具有强烈的时代气息,体现了现代科技发展的成果和科技英语的特点。

本书由多年从事大学英语教学和科技英语教学的一线教师精心设计和编写。全书分为三个部分:第一部分为阅读基础篇,共4个单元;第二部分为阅读专业篇,共7个单元;第三部分为应用文写作。每个单元分Text A和Text B。应用文写作部分分6个单元进行讲解:说明书、简历、通知、常用信函、摘要以及参考文献。

全书语言规范,篇幅适中,语言难度略高于大学英语四级阅读。每单元的练习都提供了参考答案及解析。本书附录附有常见院系名称双语对照、常见大学专业学科双语对照、常见专业技术职称名称双语对照和常见公司企业各部门名称双语对照。另外,还有生词表供学生学习。

在编写过程中,编者参阅了国内外大量的期刊以及其他各种材料,在此向提供材料的各位同仁表示感谢。由于时间仓促,编者水平有限,遗漏、错误之处在所难免,望各位同仁和读者不吝指正。

编 者

2016年5月



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阅读基础篇





Unit 1

Linguistics

Text A

The Language Fossils Buried in Every Cell of Your Body

Voice can't be inherited like fossils; this makes studies of language origin be more difficult. But the charm of human languages still inspires explorers to **advance wave upon wave**.

A British family with a bizarre speech **deficit** has led linguists to FOXP2: a gene that begins to explain how our ancestors acquired languages.

It is a shame that grammar leaves no fossils behind. Few things have been more important to our evolutionary history than languages. Because our ancestors could talk to each other, they became a powerfully cooperative species. In modern society we are so **submerged** in words—spoken, written, signed, and texted—that they seem inseparable from human identity. And yet we cannot **excavate** some fossils from an Ethiopian hillside, point to a bone, and declare, “This is where languages began.”

Lacking **hard evidence**, scholars of the past speculated broadly about the origin of languages. Some claimed that it started out as cries of pain, which gradually **crystallized** into distinct words. Others traced it back to music, to the **imitation** of animal grunts, or to birdsong. In 1866 the Linguistic Society of Paris got so **exasperated** by these **unmoored musings** that it banned all communication on the origin of languages. Its English counterpart felt the same way. In 1873 the president of the Philological Society of London declared that linguists “shall do more by tracing the historical growth of one single work-a-day tongue, than by filling wastepaper baskets with reams of paper covered with **speculations** on the origin of all tongues”.

A century passed before linguists had a serious **change of heart**. The change came

as they began to look at the deep structure of the language itself. MIT linguist Noam Chomsky asserted that the way children acquire languages is so effortless that it must have a biological foundation. Building on this idea, some of his colleagues argued that the language is an adaptation shaped by **natural selection**, just like eyes and wings. If so, it should be possible to find **clues** about how human languages evolved from grunts or **gestures** by observing the communication of our close primate relatives. (353 words)

(<http://article.yeeyan.org/view/202015/230433>)



Words and Expressions

1.	deficit	/ˈdefɪsɪt/	n.	缺陷;赤字;亏空
2.	submerge	/səbˈmɜːdʒ/	v.	淹没;沉浸
3.	excavate	/ˈɛkskəveɪt/	v.	挖掘;开凿
4.	crystallize	/ˈkrɪstəlaɪz/	v.	结晶;使(想法、信仰等)明确
5.	imitation	/ˌɪmɪˈteɪʃən/	n.	模仿;仿制品
6.	exasperate	/ɪɡˈzæspəreɪt/	v.	使恼怒;使恶化
7.	speculation	/ˌspekjuˈleɪʃən/	n.	推断;投机;思考
8.	clue	/kluː/	n.	线索;提示
9.	gesture	/ˈdʒestʃə(r)/	n.	手势;姿势
10.	advance wave upon wave			前赴后继
11.	hard evidence			真凭实据
12.	unmoored musings			天马行空
13.	change of heart			改变心意;改变看法
14.	natural selection			自然选择;物竞天择



Notes

1. It is a shame that grammar leaves no fossils behind. Few things have been more important to our evolutionary history than languages. Because our ancestors could talk to each other, they became a powerfully cooperative species.

语法没有留下化石是件遗憾的事。对于我们人类的进化史来说,没什么东西比语言的出现更为重要,正是因为我们的祖先可以通过语言互相交流,人类之间的互助合作才显得更加强大有力。



2. In 1873 the president of the Philological Society of London declared that linguists “shall do more by tracing the historical growth of one single work-a-day tongue, than by filling wastepaper baskets with reams of paper covered with speculations on the origin of all tongues”.

1873 年, 伦敦语言学协会的主席宣布语言学家们“应该致力于探寻某一日常语言的历史发展过程, 而不应对所有语言的起源做那些吃力不讨好的无端揣测——这些揣测的文字最终都只能被扔进废纸篓里”。

3. MIT (Massachusetts Institute of Technology)

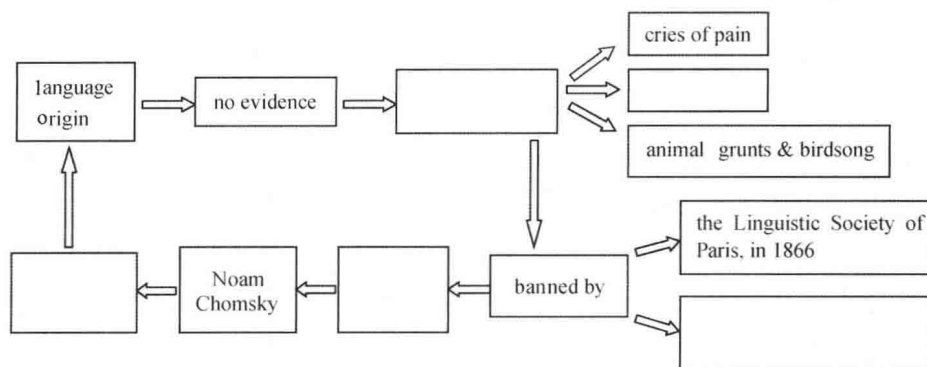
麻省理工学院, 简称麻省理工, 坐落于美国马萨诸塞州剑桥市(大波士顿地区), 是世界著名的私立研究型大学, 被誉为“世界理工大学之最”。麻省理工学院素以世界顶尖的工程学和计算机科学享誉世界, 位列 2015—2016 年世界大学学术排名 (ARWU) 工程学世界第一、计算机科学世界第二。麻省理工学院与斯坦福大学、加州大学伯克利分校一同被称为工程科技界的学术领袖, 在工程学和计算机科学方面, 三所学校长期占据世界大学学术排名、US News 最佳研究生院等权威排名的前 3 名。

4. MIT linguist Noam Chomsky asserted that the way children acquire languages is so effortless that it must have a biological foundation. Building on this idea, some of his colleagues argued that the language is an adaptation shaped by natural selection, just like eyes and wings. If so, it should be possible to find clues about how human languages evolved from grunts or gestures by observing the communication of our close primate relatives.

麻省理工的语言学家诺姆·乔姆斯基认为, 儿童之所以可以轻松地习得语言, 一定有其生物学基础。在这一观点的基础上, 乔姆斯基的一些同事提出了他们的主张——语言的进化就像眼睛和翅膀一样, 也是物竞天择的结果。果真如此的话, 通过观察与我们亲缘关系最近的灵长类动物之间的沟通交流, 就可能从中发现某些线索, 证明人类语言到底是怎样从咕啾有声或者打手势进化而来的。

Exercises

I. Structure Analysis



II. Term Matching

Directions: Match the English terms with their Chinese equivalents.

- | | |
|---------------------------|---------|
| 1. advance wave upon wave | a. 语言起源 |
| 2. speech deficit | b. 真凭实据 |
| 3. language origin | c. 痛苦哭喊 |
| 4. cries of pain | d. 前赴后继 |
| 5. hard evidence | e. 语言缺陷 |
| 6. change of heart | f. 生物基础 |
| 7. unmoored musings | g. 天马行空 |
| 8. trace back | h. 物竞天择 |
| 9. biological foundation | i. 改变看法 |
| 10. natural selection | j. 追溯 |

III. Reading Comprehension

Directions: Choose the best answer to each of the following questions.

- () 1. What makes the study of language origin be more difficult?
- A. The academic circle doesn't allow to study.
 B. The study of language origin is illegal.
 C. There are fewer explorers in this field.
 D. The voice can't be inherited like fossils.
- () 2. The speculations think that languages may originate from the imitation of _____.
- A. birdsong
 B. music
 C. cries of pain
 D. all of the above



- () 3. Why did societies ban all studies of language origin?
- A. Because the studies spent too much.
 - B. Because the studies led unmoored musings.
 - C. Because the studies made people not work.
 - D. Because the studies disordered the society order.
- () 4. What did linguist Noam Chomsky assert?
- A. Human languages originated from 6 million years ago.
 - B. Humans can study languages only when they are born.
 - C. Humans study languages with a biological foundation.
 - D. All of the above.
- () 5. The language is an adaptation shaped by _____.
- A. historical evolution
 - B. natural selection
 - C. weather condition
 - D. society development

Text B

Decoding Human Languages by Chimpanzees



Is the language unique to humans? Scientists are trying to find out the answer from chimpanzees, the animals which are the most similar to humans. Although previous studies have revealed that chimps could communicate with gestures, there has been no detailed study clearly showing what their each gesture means. Recently, a new study has decoded the expression of wild chimpanzees' body languages. It is the first time to write a "dictionary" for wild chimpanzees. The study also provides clues for the origin of human language study.

The study is accomplished by researchers from School of **Psychology and Neuroscience** of the University of St Andrews, Scotland, and published in the international **authoritative** academic journal *Current Biology*.

The scientists discovered that wild chimps communicate 19 specific messages to one another with a “**lexicon**” of 66 gestures by following and filming communities of chimps in Uganda’s Budongo Forest Reserve, and examining more than 5,000 incidents of these meaningful exchanges. “Only humans and chimps,” Dr Catherine Hobaiter, who led the research, said, “had a system of communication where they deliberately sent a message to another individual.”

Although previous research has revealed that apes and monkeys can understand complex information from another animal’s call, the animals do not appear to use their voices intentionally to communicate messages. This was a **crucial** difference between calls and gestures, Dr Hobaiter said.

Some of the chimps’ gestures, the researchers say, are **unambiguous**—used consistently to **convey** one meaning. Leaf **clipping**, for example, where a chimp very obviously takes small bites from leaves is used only to **elicit** sexual **attention**. Many others, though, appear to be ambiguous. A grab, for example, is used for: “Stop that”, “Climb on me”, and “Move away”. Although many are very **subtle**, some of the footage captured by the researchers shows very clearly what the chimps mean to convey. “The big message is that there is another species out there that is meaningful in its communication, so that’s not unique to humans,” said Dr Hobaiter.

The study not only successfully researches in a large number of natural posture language of wild chimpanzees, but also provides valuable reference to trace the origin of human languages.

Dr Susanne Shultz, an **evolutionary biologist** from the University of Manchester, said the study was commendable in seeking to **fill the gaps** in our knowledge of the evolution of human languages. But, she added, the results were “a little disappointing”. Because the **vagueness** of the gesture meanings suggest either that the chimps have little to communicate, or we are still missing a lot of the information contained in their gestures and actions. “Moreover, the meanings seem to not go beyond what other less **sophisticated** animals convey with **non-verbal** communication,” she said. “So, it seems the gulf remains.” (457 words)

(<http://www.bbc.com/news/science-environment-28023630>)



Words and Expressions

1.	chimpanzee	/tʃɪmpænˈziː/	n.	黑猩猩
2.	authoritative	/ɔːˈθɒrətətɪv/	adj.	权威的;有权利的
3.	lexicon	/ˈleksɪkən/	n.	词典;专门词汇
4.	crucial	/ˈkruːʃl/	adj.	关键性的;决定性的
5.	unambiguous	/ˌʌnæmˈbɪɡjuəs/	adj.	不含糊的,清楚的
6.	convey	/kənˈveɪ/	v.	传达;运送;表达
7.	clipping	/ˈklɪpɪŋ/	n.	修剪;剪掉
8.	subtle	/ˈsʌtl/	adj.	微妙的;敏感的;巧妙的
9.	vagueness	/ˈveɪɡnɪs/	n.	含糊,不清楚
10.	sophisticated	/səˈfɪstɪkətɪd/	adj.	复杂的;精致的;老于世故的
11.	non-verbal	/nɑːnˈvɜːbl/	adj.	不使用语言的;非语言交际的
12.	psychology and neuroscience			心理学和神经科学
13.	elicit one's attention			吸引某人注意
14.	evolutionary biologist			进化生物学家
15.	fill the gap			填补空白;弥补缺陷



Notes

1. The scientists discovered that wild chimps communicate 19 specific messages to one another with a “lexicon” of 66 gestures by following and filming communities of chimps in Uganda’s Budongo Forest Reserve, and examining more than 5,000 incidents of these meaningful exchanges.

科学家通过跟踪和拍摄乌干达布顿戈森林保护区的野生黑猩猩,记录下了超过 5000 例有意义的交流,发现野生黑猩猩使用了 66 种姿势语言,可以表达 19 种特定的意思。

2. Some of the chimps’ gestures, the researchers say, are unambiguous—used consistently to convey one meaning. Leaf clipping, for example, where a chimp very obviously takes small bites from leaves is used only to elicit sexual attention. Many others, though, appear to be ambiguous.

研究人员说,黑猩猩的有些动作是清楚的——一直只表达一种意思。例如,黑猩猩把树叶撕咬成小片只是为了吸引异性注意。然而,还有很多动作的意思是含糊不清的。

3. The study not only successfully researches in a large number of natural posture language of wild chimpanzees, but also provides valuable reference to trace the origin of human languages.

这项研究的意义不仅仅在于对野外黑猩猩的大量自然姿势语言进行成功的研究,更在于这一研究结果能够为追溯人类语言的起源提供非常有价值的参考。

4. Dr Susanne Shultz, an evolutionary biologist from the University of Manchester, said the study was commendable in seeking to fill the gaps in our knowledge of the evolution of human languages. But, she added, the results were "a little disappointing". Because the vagueness of the gesture meanings suggest either that the chimps have little to communicate, or we are still missing a lot of the information contained in their gestures and actions.

一位曼彻斯特大学的进化生物学家苏珊娜·舒尔茨博士说,这项研究是值得称道的,它填补了我们在人类语言进化方面知识的空白。她也补充说,研究结果“有点令人失望”。因为含糊不清的手势含义表明也许是黑猩猩交流极少,也许是我们遗漏了很多包含在它们的手势和动作中的信息。

Exercises

I. Reading Comprehension

Directions: Judge whether each of the following statements is true (T) or false (F) according to the text, and correct the mistakes in the false statements.

- () 1. Previous studies have not only revealed chimps could communicate with posture, but also showed each posture meaning.

Modification:

- () 2. Scientists have spent a lot on studying chimpanzees' posture language because they are the most similar animals to humans.

Modification:

- () 3. Scientists have interpreted and categorized all chimpanzees' posture into 66 kinds of expression.

Modification:



- () 4. Biting leaves into strips is in order to capture other chimpanzees' attention to fight for territory.

Modification:

- () 5. Dr Susanne Shultz thought that the study was not perfect, because we still have a lot unaccountable.

Modification:

II. Questions for Discussion

Directions: Answer the following questions with the information contained in Text B.

1. What have previous studies revealed about animals' language?
2. What is the purpose of research on chimpanzees' gesture language?
3. What did scientists do to study chimpanzees' gesture language?
4. What's your opinion on the language origin?