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编写说明

本书的编写以培养和提高学生准确理解和顺利阅读英语医学文献的能力为主旨，并兼顾应付研究生和其他类似考试所需要的语言基础知识，供衔接本套教材一、二册之用，还可供具备一定英语水平的医务人员开班或自学使用。

本册共有18课，课文单词和词组800个，阅读材料单词330个，可供讲授100学时左右。现就其主要内容简述如下：

1. **课文与阅读材料** 课文18篇，选材时注重科学性、系统性、思想性、趣味性以及应有的深度和难度。每两课围绕一个中心内容，故可看作一个单元。每课附有2篇阅读材料，其中一篇(Reading Faster)紧扣课文，除可巩固课文所学外，还可作快速阅读材料来检查知识掌握程度。另一篇(Free Reading)体裁多样化，描写生动，其中有9篇可以自成体系；这部分材料供学生独立阅读，不附单词和解释。
2. **语言要点** 共9篇，带有专论性质，在每一单元之后安排一篇，大多数内容与课文和阅读材料默契配合。每一语言要点针对解决阅读中的一大难点，例如医学英语的特征、英语的句子衔接、长难句的处理等。
3. **练习** 练习主要分为两大部分，一是为了巩固课文所学内容，二是提高构词能力，但这两部分互为补益。练习方法灵活多样，形式活泼，富有启发性，并从课文单词中选择部分词根编排练习。考虑到有相当一部分练习的难度较大，故附有全部练习答案。

4. **课文译文** 译文除照顾专业上习惯表达外,还考虑到学生对它的可接受程度。我们相信绝大多数学生都不会依赖译文而放弃自己对课文的刻苦钻研,而只最后借助译文来进一步提高自己的理解和翻译能力。

本册的编审工作以张庆镒、陈慕竹为主,并得到在湖南医学院执教的 Alice Hadler 和 W. Watkins 两位美籍教师的帮助,陈清、陈伟两位研究生协助通读并担任课文译文的翻译,还得到其他许多老师的宝贵支持,在此一并致以最诚挚的谢意。

由于编者的水平有限,加之时间仓促,错漏在所难免,恳切希望读者不吝指教。

编 者

1983年8月于湖南医学院外语教研组

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LESSON ONE

TEXT Comparative Anatomy

Comparative anatomy, also called comparative morphology, is the study of the body structure and proportions of man and other animals. It is the basis for classification in both the Plant Kingdom and Animal Kingdom. Morphology means the science of form or structure and applies to both plants and animals¹. It may be concerned merely with their external features, but the internal structures are more abundantly stressed. There are more internal parts to be studied and their functions and relationships are more extensive and important. The word "anatomy" comes from the Greek language, and its prefix, *ana*, together with the root, *tom*, means "cutting up". The term was originally applied to the human body and is almost always restricted to it in medical schools. When comparisons between different kinds of animals are stressed, the term comparative anatomy is used. It sometimes means merely a comparative study of animals other than man² and may limit itself to the study of vertebrate animals only, excluding all animals without backbones. Where comparative anatomy is taught chiefly as a basic

course for human anatomy³, the invertebrates are usually not included. The subject of comparative anatomy as taught in colleges and universities usually deals only with animals⁴.

Animals naturally fall into large groups having gross anatomical features in common⁵. Then, as these large groups are separated into smaller groups, the members of the smaller groups share more detailed anatomical features. It has long been known that animals of similar anatomical structures have similar embryological developments; for example, very different animals such as frogs and birds go through almost indistinguishable early embryological stages of development. So perfectly are the embryological developments and anatomy correlated, that they are relied upon for the purpose of classification to justify the arrangement of species of both plants and animals into their orders and families⁶. Thus, the anatomical structure is the end product of embryological development.

Animals and plants coming down from a common remote ancestor not only have similar embryological developments but pass successively through similar, often almost identical, developmental stages. Hence, an animal in its embryological development passes through or repeats the embryological stages of its ancestors, not in exact detail, but in broad general anatomical features. As a result, we can see that comparative anatomy is essential to a good understanding of human anatomy, classification, and embryology. Comparative

physiology is also dependent upon and intimately related to comparative anatomy⁷. Physiology is the study of the functions of anatomical structures; the more alike the structures are, the more similar is their physiology.

Although comparative anatomy is the study of structures, it relies upon physiology for the outline of its sequential presentation of these structures. Ten physiological systems, each depending on one or more organs for its operation, may be differentiated and defined in the higher animals. In the sequential presentation of comparative anatomy, the organs of these systems are studied one after another for all animals treated. The external features, including the skin and its structures, are considered first. The skin is the outside of the body and may be observed, for the most part, without dissection. The skeleton is the next system. The muscular system is the third system because it operates the skeleton. The nervous system is considered fourth because it functions chiefly in relation to the movement of the muscles and skeleton. The digestive, circulatory, and respiratory systems are the next three. They are all in the body cavity and so closely associated with each other that some of their organs function in two or all three of the systems. In vertebrates, the excretory and reproductive systems both share in the use of some structures and are placed eighth and ninth in order. Finally, the glands of internal secretion (endocrine glands) are described and compared. Other glands, such as skin glands, are

compared along with the organs with which they occur⁸.
(647 words)

NEW WORDS AND EXPRESSIONS

- comparative [kəm'pærətɪv] *a.* 比较的
- morphology [mɔ:'fɒlədʒi] *n.* 形态学
classification [klæsɪfɪ'keɪʃən] *n.* 分类
- kingdom ['kɪŋdəm] *n.* (自然)界
merely ['miəli] *ad.* 仅仅
external [eks'tɜ:nl] *a.* 外部的
feature ['fi:tʃə] *n.* 特征
abundantly [ə'bʌndəntli] *ad.* (限用本课)经常, 丰富地
extensive [iks'tensɪv, eks-] *a.* 广泛的
- originally [ə'ridʒɪnəli] *ad.* 原先, 起初
- comparison [kəm'pærɪsn] *n.* 比较
- vertebrate ['vɜ:tɪbrɪt] *a.* 有脊椎的;
n. 脊椎动物
- chiefly ['tʃi:flɪ] *ad.* 大半, 主要
- invertebrate [ɪn'vɜ:tɪbrɪt] *a.* 无脊椎的; *n.* 无脊椎动物
- subject ['sʌbdʒɪkt] *n.* 1. 学科, 科目;
2. 受实验者; *vt.* 使遭受
- gross [ɡrɒs] *a.* 肉眼可见的
anatomical [ænə'tɒmɪkəl] *a.* 解剖学的
- share [ʃeə] *v.* 共同具有, 分享
- embryological [embriə'ɒdʒɪkəl] *a.* 胚胎的
- indistinguishable [ɪndɪs'tɪŋɡwɪʃəbl] *a.* 难辨别的
- stage [steɪdʒ] *n.* 阶段
- perfectly ['pɜ:fɪktli] *ad.* 完全地
- correlate ['kɒrɪleɪt] *v.* (使)相互关联
- rely [ri'laɪ] *vi.* 信赖, 依靠
~ upon 信赖, 依靠……
- justify ['dʒʌstɪfaɪ] *vt.* 证明……是正当的
- arrangement [ə'reɪndʒmənt] *n.* 排列
- species ['spi:ʃi:z] *n.* (pl. unchanged)(生物)种
- remote [ri'maʊt] *a.* 遥远的
- ancestor ['ænsɪstə] *n.* 祖先
- successively [sək'sesɪvli] *ad.* 连续地
- identical [aɪ'dentɪkəl] *a.* 完全相同的
- developmental [dɪveləp'mentl] *a.* 发展的

hence [hens] <i>ad.</i> 因此	规定
repeat [ri'pi:t] <i>v.</i> 重复	muscular [ˈmʌskjʊlə] <i>a.</i> 肌肉的
exact [ig'zækt] <i>a.</i> 精确的	circulatory [ˈsə:kjuːlətəri] <i>a.</i> 循环的
embryology [embri'ɒlədʒi] <i>n.</i> 胚胎学	cavity [ˈkæviti] <i>n.</i> 腔, 洞
sequential [si'kwɛnʃəl] <i>a.</i> 相继的, 有顺序的	closely [ˈkləʊsli] <i>ad.</i> 紧密地
presentation [prezən'teɪʃən] <i>n.</i> 描述; 提出	excretory [eks'kri:təri] <i>a.</i> 排泄的
differentiate [dɪfə'renʃieɪt] <i>v.</i> 区别	reproductive [ri:prə'dʌktɪv] <i>a.</i> 生殖的, 复现的
define [di'faɪn] <i>vt.</i> 给……下定义;	eighth [eɪtθ] <i>num.</i> 第八
	ninth [naɪnθ] <i>num.</i> 第九

NOTES

1. Morphology means the science of form or structure and applies to both plants and animals: 形态学是一门研究形态(或)结构的科学, 它适用于植物和动物。apply to 适用于, 又如 This rule does not apply to all the cases of insomnia. 这条规律不能适用于所有的失眠症。试比较 apply……to 把……应用于……, 例如 apply theory to practice 把理论应用于实践。
2. It sometimes means merely a comparative study of animals other than man: 它有时仅指动物间的比较研究而不包括人类在内。句中 other than = except 除……以外, 又如 There is no one here other than me. 这里除了我以外没有别的人。
3. Where comparative anatomy is taught chiefly as a basic course for human anatomy: 在主要以比较解剖学作为人体解剖学的基础课程时。句中 where 为连接副词, 引进状语从句, 其本身意义相当于 in case, if, in the place where 等, 又如 Where there is struggle, there is sacrifice. 要奋斗就会有牺牲。
4. The subject of comparative anatomy as taught in colleges and universities usually deals only with animals: 高等院校里设置比较解剖学这门课程通常只研究动物。句中 as 引起的过去分词短语作定

语, 修饰 the subject.

5. Animals naturally fall into large groups having gross anatomical features in common: 动物依其肉眼可见的、共同的解剖学特征而自然分类。注意 fall into 的多种用法, 例如 fall into four parts 分为四个部分, fall into coma 陷入昏迷, (a river) fall into the sea (河) 流入海洋, fall into the same category 属于同一范畴。
6. So perfectly are the embryological developments and anatomy correlated, that they are relied upon for the purpose of classification to justify the arrangement of species of both plants and animals into their orders and families: 由于胚胎发生与解剖学关系十分密切, 故两者均作为动植物分类依据以准确判别应属的科目。此复合句的主句含有部分倒装结构用以强调 so perfectly, 自然语序为 the embryological developments and anatomy are so perfectly correlated that...。
7. Comparative physiology is also dependent upon and intimately related to comparative anatomy: 比较生理学也以比较解剖学作为基础, 两者关系十分密切。句中 (dependent) upon 和 (intimately related) to 共用一个宾语 comparative anatomy, 这种用法较常见, 又如 Anatomical barriers between and within tissues prevent and restrict the spread of infection by simple extension. 组织之间及组织内部的解剖屏障能够防止或限制感染通过单纯扩散而蔓延。
8. Other glands, such as skin glands, are compared along with the organs with which they occur: 对于另一些腺体如皮肤腺, 随同它们所依附的器官进行比较。句中 which = organs. 这种“介词 + which”结构引进定语从句的现象在医学英语中常见。

EXERCISES

I. Identify each statement as true(+) or false(-):

- () 1. Comparative anatomy and comparative morphology are a pair of antonyms.
- () 2. The term anatomy has been applied to both plants and animals since its first appearance in the Greek lan-

guage.

- () 3. Comparative anatomy is the study of body structure and proportions between man and animals or between different kinds of animals other than man.
- () 4. The smaller the animal groups are, the more detailed the anatomical features they share.
- () 5. To justify the arrangement of species of either plants or animals into their orders and families, we must depend upon both their embryological development and a -
natomy.
- () 6. Any animal in its embryological development passes through or repeats the embryological stages of its ancestors in exact detail.
- () 7. Physiology deals with structural features of man and animals.
- () 8. Comparative anatomy is closely related not only to embryology but also to physiology.
- () 9. The circulatory system is considered the seventh system according to the order arranged by the writer.
- () 10. The tenth system includes all the glands in the human body.

II. Fill in the blanks with proper words:

1. There are three great divisions of natural objects, and they are often called the _____, _____, and _____ kingdoms.
2. The importance of the internal structures is more _____ stressed, because there are more _____ parts to be studied, and their functions and relationships are more _____ and important.
3. The study of comparative anatomy is essential to a good understanding of _____, _____, and _____.
4. The systems which are grouped together as 'the next three' are the _____, _____, and _____ systems.
5. The three places where anatomy is taught which were men-

tioned by the author are: _____, _____, and _____.

6. The two scientific terms used in the text to describe arrangement of either plants or animals are: _____ and, _____.
7. The author mentioned two branches of comparative science, they are: _____, _____ or _____.

III. Read the two paragraphs to answer these questions:

1. Why were anatomy and physiology taught in a single course many centuries ago?
2. Why are they treated again as one integrated subject now?

Many centuries ago anatomy and physiology were taught in a single course not so much for the benefit of the student, but because the two fields of knowledge were not really separate even in the minds of researchers and educators. At the time there was insufficient knowledge of either science to warrant separate treatment. As the years passed, intensive studies were completed by methodically curious scientists in both fields. These investigations were aided by the progressive development of the physical and chemical sciences and by advances in technology providing more refined methods for observation and experimentation.

Gradually, the accumulation of facts and the elucidation of general concepts made specialization necessary; so anatomy and physiology were taught as individual sciences. Recent years have witnessed a return to the older philosophy of treating them as one integrated subject matter in the hope that students more readily understand life as the truly integrated process it is.

IV. Choose single words from the text which are antonymical to the following:

- | | |
|--------------------|--------------------|
| A. external(a.) | F. separate(a.) |
| B. different (a.) | G. detailed (a.) |
| C. extensive(a.) | H. originally(ad.) |
| D. vertebrate (n.) | I. close (a.) |
| E. exclude (v.) | |

V. Choose single words or phrases from the text with meanings sim-