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供医学专业用·参考书
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Contents 目 录

Book Three

Lesson One	骨骼结构.....	257
Lesson Two	肌肉系统.....	265
Lesson Three	细胞的一些特征.....	273
Lesson Four	循环(系统)或血管系统.....	281
Lesson Five	量体温.....	288
Lesson Six	李时珍.....	295
Lesson Seven	食物的消化.....	305
Lesson Eight	呼吸系统.....	314
Lesson Nine	中枢神经系统.....	324
Lesson Ten	毛主席和伤员.....	331
Lesson Eleven	心脏.....	339
Lesson Twelve	淋巴结.....	348
Lesson Thirteen	向雷锋同志学习.....	357
Lesson Fourteen	抓住主要矛盾.....	366
Lesson Fifteen	肾脏.....	375
Lesson Sixteen	一个工人的断手再植.....	384
Lesson Seventeen	测量血压的方法.....	393

Book Four

Lesson One	眼的概述.....403
Lesson Two	保护耳朵.....413
Lesson Three	肝脏和胆囊.....421
Lesson Four	解剖学和生理学的实际重要性.....430
Lesson Five	维生素.....439
Lesson Six	牙齿的腐蚀或齿龋.....449
Lesson Seven	细菌的生长繁殖.....458
Lesson Eight	出血.....466
Lesson Nine	胎儿在子宫里的生长和发育.....478
Lesson Ten	我们感觉的性质.....489
Lesson Eleven	免疫.....499
Lesson Twelve	小针创奇迹.....511
Lesson Thirteen	一位钢铁工人的生命得救了(一)...523
Lesson Fourteen	一位钢铁工人的生命得救了(二)...536
Lesson Fifteen	一位钢铁工人的生命得救了(三)...550

BOOK THREE

第三册

LESSON ONE

The Bony Structure

A. Phrases and Expressions

261. (P. 1—L. 14) for instance 例如

The shape and size of bones depend upon their use, **for instance**, the flat bones of the skull are used as a covering for the brain, long bones of the legs for strength and speed, and the small bones in the ear for the transmission of sound.

骨头的形状和大小取决于它们的用途，例如，头颅的扁骨用作大脑的复盖物，大腿的长骨有增强力量和速度的作用，耳朵里的小骨则起传导声音的作用。

262. (P. 1—L. 19) so...that 如此…以致，如此…为了

Some of the bones of the skeleton are **so** arranged **that** movement cannot take place.

骨骼上有些骨头排列得无法活动。

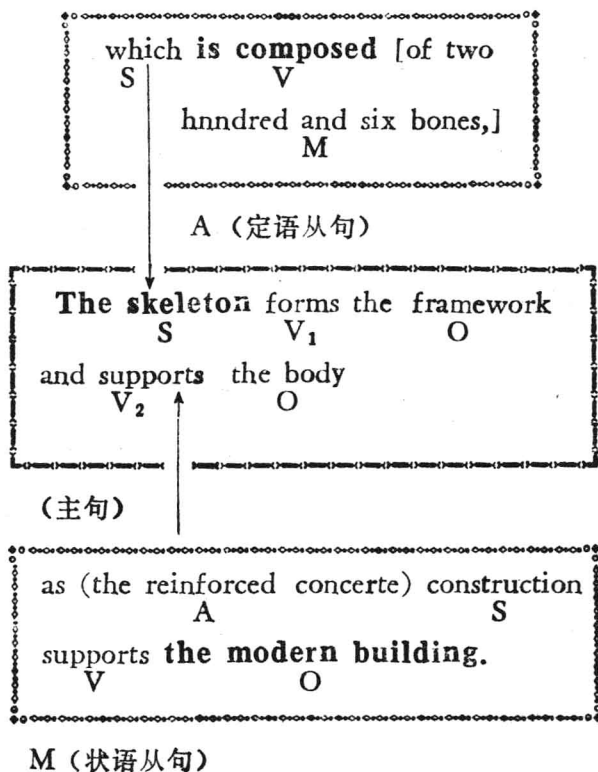
263. (P. 2—L. 8) a series of 一系列

Spinal column is made up of **a series of** thirty-three vertebrae.

脊柱是一连串的三十三块椎骨组成。

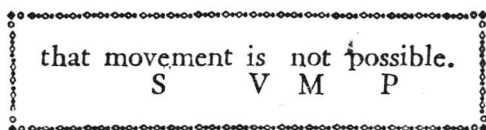
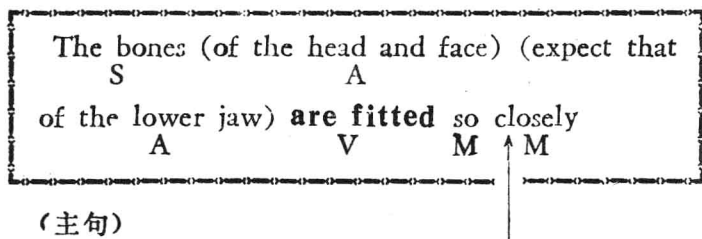
B. Sentence Analysis

1. (P. 1—L. 8) The skeleton, which is composed of two hundred and six bones, forms the framework and supports the body as the reinforced concrete construction supports the modern building.



译文：由二百零六块骨头组成的骨骼形成骨架，就象钢筋水泥结构支撑着现代化建筑那样支撑着人体。

2. (P. 1—L. 20) The bones of the head and face except that of the lower jaw are fitted so closely together that movement is not possible.



(M状语从句)

说明：except that 的 that 是代词，代替前面的名词 bone，避免重复。

译文：除了下颚骨头外，头骨和面骨吻合得很紧密，以致不能活动。

C. Chinese Translation

第一课 骨骼结构

由二百零六块骨头组成的骨骼形成骨架，就象钢筋水泥结构支撑着现代化建筑那样支撑着人体。骨头在肌肉运动中起着杠杆的作用，并且保护诸如大脑、心脏和肺等一些重要

器官。骨头的形状和大小取决于它们的用途，例如，头颅的扁骨用作大脑的复盖物，大腿的长骨有增强力量和速度的作用，耳朵里的小骨则起传导声音的作用。骨头的外表面——骨膜有许多血管和神经。

骨骼上有些骨头排列得无法活动。除了下颚骨头外，头骨和面骨吻合得很紧密以致不能活动。在肋骨和胸骨之间可以稍微活动，在膝盖和肘处有一种屈戌关节，髋和肩部活动很自由。肌肉和韧带使骨头保持适当的相互关系，使肌肉附在骨头上的是一种白色、无弹性的纤维组织，叫做腱。

脊柱是由一连串的三十三块椎骨组成。椎骨是一块带有突起的、形状不规则的骨头。在椎体和突起的结合处，形成一种环，脊髓通过其中。正是因为脊柱柔软易弯，我们才能使身体做各种姿势。

D. Key to Exercises

1. a. 重读闭音节中的元音字母读短音。

- | | | |
|-----------|-----------|----------|
| 1) [tent] | 3) [leg] | 5) [ækt] |
| 6) [sæd] | 7) [sætʃ] | 9) [rib] |
| 11) [səm] | | |

b. 重读开音节中的元音字母读其名称音。

- | | | |
|------------|------------|-----------|
| 2) [tju:b] | 4) [səu] | 8) [drai] |
| 10) [bəun] | 12) [feip] | |
3. 1) viruses 2) vertebrae 3) energies
4) deaths 5) uses 6) sterna
7) processes 8) jaws 9) mysteries
10) rays 11) leaves 12) teeth

4. 1) Yes, I am. No, I am not.

2) Yes, she is. No, she isn't.

3) Yes, there is. No, there isn't.

4) Yes, there are. No, there aren't.

5) Yes, I have. No. I have not.

6) Yes, he does. No, he doesn't.

5. 1) Is the skeleton composed of 206 bones?

2) Do the bones act as levers for the muscles in movement?

3) Does the outside covering of bones contain many blood vessels and nerves?

4) Did he see how serious the burn was?

5) Will a hinge joint be found at the knees and elbows?

6) Had the wound healed up in less than twenty days?

7) Is he suffering from great pain?

8) Did Dr. Li's warm-hearted concern for his patients gradually win over the herdsmen?

6. 1) Some (of the bones) (of the skeleton) are so

S A A V M

arranged **that movement cannot take place.**

P

结果M从句

2) [At the union of the projections with the body

M

of the vertebrae], a ring is formed through

S **V**

which the spinal cord passes.

A 从句

3) It is [through the flexibility of the spinal col-

M

umn] that we are able to bring the body

S

V

O

[into various positions.]

M

[It is...that...是强调句型的结构, 这句是强调作M的介词短语 through...column。]

7. 1) The skeleton, which is composed of two hundred and six bones, forms the framework of the body.
- 2) The bones protect such vital organs as the brain, heart, and lungs.
- 3) The shape and size of bones depend upon their use.
- 4) I know several kinds of bones, such as flat bones, long bones and small bones.
- 5) The periosteum contains many blood vessels and nerves,
- 6) Because the bones of the head are fitted closely together.
- 7) A hinge joint is found at the knees and elbows.
- 8) By muscles and ligaments the bones are kept in

proper relation to each other.

9) A kind of white, inelastic fibrous tissue, called tendons, attaches muscles to bones.

10) The spinal column consists of a series of thirty-three vertebrae.

9. My brother fell ill last Saturday. He was infected with scarlet fever. He was sent to an infection hospital.

Now he is in No. 2 ward. The doctor comes to the ward to examine him every day, and the nurse takes good care of him.

We aren't permitted to go to see him, because scarlet fever is an infectious disease.

10. 1) The spinal column is composed of many irregularly shaped vertebrae.

2) The periosteum which contains many blood vessels and nerves covers the bones.

3) The bone covering the brain is flat.

4) The tendons attaching muscles to bones are a kind of white inelastic fibrous tissue.

5) The patient you examined yesterday is his brother.

11、翻译练习;

骨骼中的矿物质

骨骼必须坚硬以支持体重和经受强有力的肌肉牵拉而不致弯曲。据估计，一块一般的长骨要比同样大小的橡木硬一倍。骨骼还必须坚硬得足以使我们抵御生活中遇到的冲击。正如大楼有钢筋架一样，也要有特殊材料使骨骼具有强度。所用的物质不是钢材，而主要是由钙和磷两种元素组成的化合物。由于钙和磷从来不在食物中单独出现而经常与其它矿物质结合在一起，因此提供足量的钙和磷的食物也提供了其它必要的矿物质。把一块骨骼放在5%的盐酸溶液中浸泡一周可显示矿物质的硬度。此溶液将溶解骨骼中的矿物质，并使之松软得能打成结。另外，如果在炉火中燃烧一块骨头，其残余物为纯白色的主要由化学物质磷酸钙组成的矿物灰烬。

LESSON TWO

The Muscular System

A. Phrases and Expressions

274. (P. 11—L. 8) to consist of 由…组成

265. (“) a large number of 许多的, 极多的

266. (—L. 9) to make up 组成

The muscular system **consists of a large number of** units known as muscles, which together **make up** the flesh of the body.

肌肉系统是由许多称为肌肉块的单位组成的。这些肌肉块集合起来组成人体的肉。

267. (P. 11—L. 11) to be true of 符合于, 对…适用

The greater part of the substance of the limbs is composed of muscles, and the same **is true of** the back of the neck.

肢体的大部分物质是由肌肉组成的, 颈后部也是如此。

268. (P. 12—L. 8) as a general rule 通常地, 往往,
一般说来

Although muscles are **as a general rule** attached to bones, this is not always the case; for example, a number of small muscles in the face are attached by one end to bone and by the other end to the skin.

虽然肌肉通常附着在骨头上，但不都是这样，例如，脸部的一些小肌肉一端附着在骨头上，另一端附着在皮肤上。

269. (P. 12—L. 12) in fact 事实上

These muscles are **in fact** known collectively as the muscles of expression.

事实上，这些肌肉就总称为表情肌。

B. Sentence Analysis

1. (P. 11—L. 13) All muscles are capable of shortening or contraction, and it is by the contraction of groups of muscles that all movements of any part of the body are produced.

All muscles are capable [of shortening]

S V P M

or contraction,

Ap

(主句₁)

and

it is by the contraction of groups of

S V P

↑
muscles

(主句₂)

that **all** ^Smovements (of any part of the ^Abody) **are produced.**
V

S (主語从句)

说明: 主句₂的 it 是强调 it, 按原书编者的看法, that 所引导的从句为 S 从句。本参考书的各课练习中, 有出现这样句型的句子则按另一种方式分析。

译文: 所有的肌肉都能缩短或收缩, 而正由于各组肌肉的收缩才产生了人体各部份的运动。

2. (P. 12—L. 21) Sometimes the tendon is so short that the muscle appears to be directly attached to the bone but more often it is a definite cord-like or band-like structure.

Sometimes the tendon is so short
M S V M P ↑

(主句₁)

that the muscles appears
 S V

M (状语从句)

to be directly attached to the bone,
 动词不定式短语作 P

but

[more often] it is a definite cord-like
 M S V P
 or band-like structure.

(主句₂)

译文: 有时候腱很短, 看起来好象肌肉直接附着在骨头上, 但更为经常的是一种明显索状或带状结构。

C. Chinese Translation

第二课 肌肉系统

肌肉系统是由许多称为肌肉块的单位组成的, 这些肌肉块集合起来组成人体的肉。肢体的大部分物质是由肌肉组成的, 颈后部也是如此。

所有的肌肉都能缩短或收缩, 而正由于各组肌肉的收缩才产生了人体各部分的运动。为了使肌肉行使产生运动的功能, 肌肉的两端通常附着在骨头上。当肌肉收缩时, 就产

生关节的运动。肌肉靠称为腱的纤维结构附着在骨头上。有时腱很短，看起来好象肌肉直接附着在骨头上，但更为经常的是一种明显的索状或带状结构。当肌肉扁平成板状时，它的腱同样是扁平板状的，象这样的腱叫做膜。在许多情况下，在枯骨上可以看见有明显的压痕，表明各个特定肌肉所附着的部位。

虽然肌肉通常附着在骨头上。但不都是这样，例如，脸部的小肌肉一端附着在骨头上，另一端附着在皮肤上。肌肉收缩时，面部表情发生变化。事实上，这些肌肉就总称为表情肌。另外，舌肌一端附着在骨头上，另一端附着在复盖舌上的粘膜上。

D. Key to Exercises

3. 1) shorter, shortest
- 2) closer, closest
- 3) fitter, fittest
- 4) more difficult, most difficult
- 5) more, most
- 6) healthier, healthiest
5. 1) What does the muscular system consist of?
- 2) What occurs when the muscle contracts?
- 3) Why does sometimes the muscle appear to be directly attached to the bone?
- 4) How do the small muscles in the face produce changes in facial expression?
- 5) What is a tendon?

6. 1) The greater part (of the substance of the limbs)

3

A

is composd [of muscles,] and the same is true

V

M

\$

V P

[of the back of the neck.]

M

2) It is [by the contraction of groups of muscles]

M

that **all movements** (of any part of the body)

S

A

are produced.

V.

[It is...that... 是强调句型的结构, 这句是强调作M的介词的短语 by...muscles.]

3) [In many instances] **definite impressions can**

M

S

be seen [on dried bones,] [indicating the areas

V

M

of attachment of particular muscles.]

M 分词短语

7. 1) A large number of muscles together make up the flesh of the body.

2) All muscles are capable of shortening or contraction.

3) In order to produce movement at a joint, a muscle must be attached to bones at both its extremities.