

SELECTED WORKS OF
PRECLINICAL MEDICINE
IN ENGLISH

基础医学

学院外文教研組編

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苏州医学院外文教研组编

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编者的话

一、为了提高读者对英语医学书刊的阅读能力，我们继《临床医学英语文选》之后，又试编了这本《基础医学英语文选》，供医学院校高年级同学及具有一定英语基础的医务人员自学。

二、本书选收文章 30 篇，内容包括基础医学各科，其中以解剖、生理、微生物学科文献居多。

三、文章大部分选自七十年代英美出版的高级医学教材及刊物。

四、文章大体按解剖、生理、生化、寄生虫学、微生物学、病理生理、病理解剖、药理学、免疫学的顺序编排；尽可能由浅入深，由短而长；既照顾语文深度，又考虑医学系统；力求词汇比较常用，文体较为多样。

五、每篇文章后面有词汇、词组及语法注释，并附由我院基础医学各教研组提供的参考译文，以减少理解困难。在此，我们谨向参加编译工作的兄弟教研组表示衷心的感谢。

由于我们水平的限制，缺点错误在所难免，请读者批评指正。

苏州医学院外文教研组

1980年8月

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1. THE HUMAN BODY

The human body is, as we have seen^①, an example of a highly developed, multicellular organism. It consists of billions of cells, developed on special lines to form tissues^② — e.g. muscle, bone. It develops from one single cell, the fertilized egg cell or ovum. This cell develops into a ball of cells which continue to multiply rapidly and differentiate to form all the various tissues of the body.^③ Each tissue has its special function to carry out.^④ These tissues are further grouped together to form organs. An organ is a group of tissues arranged in a special manner to carry out a special task — e.g. the stomach, the heart, the kidney, an individual bone or muscle. These organs again are grouped together to form systems. A system is a group of organs which together carry out one of the essential functions of the body — e.g. the digestive system is for the purpose of digestion and absorption of food, the respiratory system for the taking in of oxygen and giving off of carbon dioxide.^⑤ These systems grouped together form the human body.

The body is thus formed of the following nine systems:

1. The skeletal system, to provide a movable framework, which gives support and protection to the softer tissues.^⑥
2. The muscular system for movement from place to place.
3. The respiratory system for taking in oxygen and giving off carbon dioxide.
4. The digestive system for the breaking down of food into

simple substances which can be absorbed, and are taken in by it.

5. The circulatory system for transport between part and part; this is essential if there is to be dependence of one tissue on another⑦ for the taking in of food and oxygen supplies and for excretion of waste products.

6. The excretory system for the throwing off of waste matter.

7. The reproductive system for the reproduction of the species.

8. The nervous system for communication between part and part. This is the controlling system which governs the activities of the various organs. Through it we are made aware of our environment and are able to respond to it; it enables the activity which we have spoken of as irritability to occur.⑧

9. The glandular system. This is made up of numerous different glands which are like the laboratories of the human body producing secretions.

The division of the human body into systems is a division according to function or physiology; the body can also be divided up according to anatomy into anatomical parts.

(From *Aids to Anatomy and Physiology for Nurses* by K. Armstrong, 6th ed., 1959, pp.35—36)

Words and Expressions

| | |
|--|---|
| human body ['hju:mən 'bɒdi] <i>n.</i> 人体 | billions of ['biljənz əv] 亿万 of, 无数的 |
| highly ['haɪli] <i>ad.</i> 高度地, 非常 | special ['speʃəl] <i>a.</i> 特殊的 |
| multicellular [mʌlti'seljʊlə] <i>a.</i> 多细胞的 | line [laɪn] <i>n.</i> 方向 |
| organism ['ɔ:gənɪzəm] <i>n.</i> 有机体 | form [fɔ:m] <i>v.t.</i> 形成 |
| consist [kən'sɪst] <i>v.i.</i> (of) 由...组成 | tissue ['tɪʃju:] <i>n.</i> 组织 |
| | e.g. [i:'dʒi:] (L.) = <i>exempli gratia</i> [ɪg'zemplai greɪʃiə] = for |

example 例如
muscle ['mʌsl] *n.* 肌肉
bone [bəʊn] *n.* 骨
single ['sɪŋɡl] *a.* 单一的, 个别的
cell [sel] *n.* 细胞
fertilized ['fɜ:tɪlaɪzd] *a.* 受精的
egg [eg] *n.* 卵
ovum ['ouvəm] (L.) *n.* (*pl.* ova)
卵
ball [bɔ:l] *n.* 团, 球
multiply ['mʌltɪplai] *v.t.* 增殖, 繁殖
rapidly ['ræpɪdli] *ad.* 迅速地
differentiate [ˌdɪfə'renʃieɪt] *v.t.* 使
分化
various ['veəriəs] *a.* 各种的
function ['fʌŋkʃən] *n.* 功能
carry out ['kæri aʊt] 执行
further ['fɜ:ðə] *ad.* 进一步
group together [gru:p tə'geðə] 组
合
organ ['ɔ:gən] *n.* 器官
arrange [ə'reɪndʒ] *v.t.* 排列
manner ['mænə] *n.* 样式
task [tɑ:sk] *n.* 任务
stomach ['stʌmək] *n.* 胃
kidney ['kɪdni] *n.* 肾
individual [ˌɪndɪ'vɪdʒuəl] *a.* 单独
的, 个体的
system ['sɪstəm] *n.* 系统
essential [ɪ'senʃəl] *a.* 不可缺少的,
必须的
digestive [dɪ'dʒestɪv] *a.* 有消化力
的
purpose ['pɜ:pəs] *n.* 目的
digestion [dɪ'dʒestʃən] *n.* 消化〔作
用〕
absorption [əb'sɔ:pʃən] *n.* 吸收
respiratory [rɪs'paɪərətəri] *a.* 呼吸

的
take in 摄取
oxygen ['ɒksɪdʒən] *n.* 氧
carbon ['kɑ:bən] *n.* 碳
dioxide [daɪ'ɒksaɪd] *n.* 二氧化物
skeletal ['skelɪtəl] *a.* 骨骼的
provide [prə'vaɪd] *v.t.* 供给
movable ['mu:vəbl] *a.* 可动的, 可
移动的
framework ['freɪmwɜ:k] *n.* 骨架
support [sə'pɔ:t] *n. & v.t.* 支持
protection [prə'tekʃən] *n.* 保护
break down 分解
substance ['sʌbstəns] *n.* 物质
transport [træns'pɔ:t] *n.* 运输
dependence [dɪ'pendəns] *n.* (on)
依赖
supply [sə'plai] *n. & v.t.* 供给
excretion [eks'kri:ʃən] *n.* 排泄
waste [weɪst] *a.* 废弃的, 无用的
excretory [eks'kri:təri] *a.* 排泄的
throw off 抛弃, 扔掉
matter ['mætə] *n.* 物质
reproductive [ˌrɪ:prə'dʌktɪv] *a.* 生
殖的
reproduction [ˌrɪ:prə'dʌkʃən] *n.* 生
殖
species ['spi:ʃi:z] *n.* (*sing. & pl.*)
(生物的)种
nervous ['nɜ:vəs] *n.* 神经的
communication [kə'mju:nɪ'keɪʃən]
n. 联系
control [kən'trəʊl] *v.t.* 控制
govern ['gʌvən] *v.t.* 统治, 支配
activity [æk'tɪvɪti] *n.* 活动
through [θru:] *prep.* 通过
be aware [ə'weə] of 知道
environment [ɪn'vaɪəmənt] *n.* 环
境

respond [ris'pɒnd] *v.t. & v.i. (to)*

(对...)起反应

enable [i'neɪbl] *v.t.* 使能

speak [spi:k] *v.i. (of)* 讲起,讲到

irritability [i'ritə'biliti] *n.* 应激性

occur [ə'kɜ:] *v.i.* 发生,现出

gland [glænd] *n.* 腺

glandular ['glændjələ] *a.* 腺的

be made up of 由...组成

numerous ['nju:mərəs] *a.* 许多的

secretion [si:'kri:fən] *n.* 分泌物

division [di'viʒən] *n.* 划分

according to [ə'kɔ:diŋ tə] *prep.*
依据,按照

physiology [fizi'ɒlədʒi] *n.* 生理学

anatomy [ə'nætəmi] *n.* 解剖学

anatomical [ænə'tɒmikəl] *a.* 解剖
的

Notes

- ① as we have seen 为定语从句。as 为关系代词,指 the human body,在从句中用作宾语。
- ② developed on special lines to form tissues 为过去分词短语,修饰 cells, to form ... 为结果状语。
- ③ which continue to multiply rapidly and differentiate to form all the various tissues of the body. 为定语从句,修饰 a ball of cells.
- ④ 不定式 to carry out 作定语,修饰 function.
- ⑤ ... the respiratory system for the taking in of oxygen and giving off of carbon dioxide 可理解为在 system 之后省去了系动词 is (在并列复合句中,第二分句里与第一分句相同的部分常被省略); the taking in 和 the giving off 为名词化动名词,与 of oxygen 和 of carbon dioxide 之间保持一种动宾关系,注意与动名词直接要求宾语者不同。
- ⑥ softer tissues 作“软组织”解。比较级单独在文中出现,形式上没有被比较对象时,有时可按原级翻译。如 upper lip (上唇), lower animals (低等动物)等。
- ⑦ if there is to be dependence of one tissue on another ... 中谓语为 be + 不定式结构,表示客观上准会发生的事情,可翻译成:如果有一个组织要依靠另一个组织来.....。
- ⑧ Through it we are made aware of our environment and (we) are able to respond to it; it enables the activity which we have spoken of as irritability to occur.
1) 句中第一、第三个 it 指 nervous system, 第二个 it 指 our environment.
2) aware of our environment 作主语补语。

- 3) which we have spoken of as irritability 为定语从句,修饰 activity, which 在从句中作宾语, as irritability 作宾语补语。
- 4) to occur 为宾语 activity 的补语,是受 enables 支配的。

参 考 译 文

人 体

正如我们已经看到的那样,人体是高度进化的多细胞有机体的一个例子。它由亿万细胞所组成,这些细胞朝着专门的方向发育而形成组织——例如,肌肉、骨骼。人体是从一个单细胞即从受精的卵细胞——受精卵发育而成。这个细胞发育成一团细胞。这些细胞继续迅速地增殖分化,形成了人体所有的各种组织。每一种组织都有其特有的功能。这些组织进一步组合成为器官。器官为按照专门形式排列、执行专门任务的一群组织——例如、胃、心、肾、一块骨头或一块肌肉。这些器官再组合在一起,形成系统。系统是一组器官,共同完成人体的一个重要功能,——如消化系统的功能是消化和吸收食物,呼吸系统的功能是吸入氧气和排出二氧化碳。这些系统有机地组合在一起,形成了人体。

人体由下列九个系统所组成:

1. 骨骼系统——它提供给人体一个活动的支架,对软组织起支持和保护作用。
2. 肌肉系统——它的功能是为了从一处到另一处的运动。
3. 呼吸系统——它的功能是吸入氧气,放出二氧化碳。
4. 消化系统——它的功能是把食物分解成为能被其吸收的、而后又被其所摄取的简单物质。
5. 循环系统——它的功能是担负人体各部之间的运输。如果有一个组织要依靠另一个组织来摄取食物、供应氧气和排除废物,则这种运输是必不可少的。
6. 排泄系统——它的功能是排出废物。

7. 生殖系统——它的功能是延续种族。

8. 神经系统——它的功能是担负人体各部分之间的通讯。它是控制各个器官活动的控制系统。通过神经系统，我们能了解所处的周围环境，并能对它作出反应；神经系统能使我们称为应激性的那种活动得以发生。

9. 腺系统——它由许多不同腺体所组成，这些腺体就像是人体制造分泌物的试验室。

人体的系统是根据功能或生理来划分的，但人体也可以按照解剖关系划分为若干解剖部位。

2. THE STOMACH

The adult organ^① is the most dilated part of the digestive tract and is about 25cm long, and 12.5cm wide, and normally holds about 1 liter of "fluid".^② It is highly dilatable but can also shrink to a "tubular form" when empty.^③ It is somewhat fixed by the esophagus at the diaphragm and with its connection to the duodenum. Its position and shape, however, are not fixed and may vary considerably, depending on body posture, gastric contents, stages of digestion, degree of abdominal and gastric muscle contraction, pressure of surrounding viscera, respiration, and gastric tonus.^④ The organ resembles a "horn of plenty"^⑤ and lies in the upper left part of the abdomen. It has two openings, two curvatures, two surfaces, and two incisurae (notches).

The two openings are the cardiac junction between esophagus and stomach (cardia) and the pyloric orifice where the stomach enters the duodenum. The two curvatures are the lesser on the right and the greater on the left. The former affords attachment for the lesser omentum (gastrohepatic part connecting stomach to liver) and contains the arterial circle of right and left gastric arteries. The greater curvature gives attachment to the greater omentum. The right and left gastroepiploic vessels create an arterial circle here between peritoneal layers. The two surfaces are anterior and posterior, and the two incisures or notches are the cardiac notch on the left border where the esophagus meets the stomach and the angular notch in

the lesser curvature.⑥

The stomach is subdivided into a fundus (above and to the left of the cardiac notch): a body (between cardiac notch and angular notch) which is the area that secretes pepsin and hydrochloric acid; and a pyloric part (the rest), the mucus-secreting area of the gastric mucosa, which is subdivided into a dilated pyloric antrum proximally and a tubular pyloric canal (distally). The pylorus is considered to be the last 1.25 cm of the stomach⑦ and has thicker walls than the rest of the stomach due to an increase in circular muscle fibers that close and relax the pyloric orifice and are referred to as the pyloric sphincter.⑧ The pylorus is normally closed but when open admits a fingertip.⑨

As indicated above, two layers of peritoneum envelop the stomach.⑩ They meet at the lesser curvature to form the lesser omentum, which attaches to the liver and diaphragm. It has two parts: the gastro-hepatic part (avascular, thin, with no important structures except near the stomach) and a duodenohepatic part (which is thick and contains the common bile duct, hepatic artery, and portal vein). The two layers of peritoneum also meet at the greater curvature to form a great fold. Different parts of the latter are named according to attachment: gastrophrenic ligament (to diaphragm), gastrosplenic ligament (to spleen), and greater omentum (to transverse colon and over it as an apron). That part of the omentum between the stomach and colon is called the gastrocolic ligament.

(From *Dynamic Anatomy and Physiology* by Benpansky, 1975, pp.423—425)

Words and Expressions

- adult ['ædʌlt] *a.* 成年(人)的
dilated [dai'leɪtɪd] *a.* 扩张(大)的
tract [trækt] *n.* 道
cm = centimetre ['sentimi:tə] *n.*
厘米,公分
normally ['nɔ:məli] *ad.* 正常地
hold [hould] *v.t.* 容纳
liter = litre ['lɪtə] *n.* 立升,公升
(=1市升)
fluid ['flu:ɪd] *n.* 液体,流体
dilatable [dai'leɪtəbl] *a.* 能膨胀的
shrink [sriŋk] *v.i.* (shrank [sfræŋk]
shrunken [sfrʌŋk]) 皱缩
tubular ['tju:bjulə] *a.* 管状的
empty ['empti] *a.* 空的
somewhat ['sʌmhwət] *ad.* 稍微
fix [fɪks] *v.t.* 固定
esophagus [i:'sɒfəgəs] *n.* 食管
diaphragm [dai'æfræm] *n.* [横]隔膜
connection [kə'nekʃən] *n.* 联系
duodenum [dju:'ou'di:nəm] *n.* 十二指肠
position [pə'zɪʃən] *n.* 位置
shape [ʃeɪp] *n.* 形状
vary ['veəri] *v.i.* 改变
considerably [kən'sɪdərəbli] *ad.* 大大,相当
depend [di'pend] *v.i.* (on) 依靠,取决于...
posture ['pɒstʃə] *n.* 姿势
gastric ['gæstrɪk] *a.* 胃的
content ['kɒntent] *n.* 内容[物],容量
stage [steɪdʒ] *n.* 阶段
degree [di'ɡri:] *n.* 程度,度
abdominal [æb'dɒmɪnəl] *a.* 腹部的
contraction [kən'trækʃən] *n.* 收缩
pressure ['preʃə] *n.* 压力
surrounding [sə'raʊndɪŋ] *a.* 周围的,四周的
viscera ['vɪsərə] *n.* (*sing.* viscus ['vɪskəs]) 内脏
tonus ['tɒnəs] *n.* 紧张
resemble [ri'zembəl] *v.t.* 类似
horn [hɔ:n] *n.* 角
plenty ['plenti] *n.* 多,丰富,充分
lie [laɪ] (*lay* [leɪ], *lain* [leɪn]) *v.i.*
躺;位于
upper ['ʌpə] *a.* 上部的
abdomen ['æbdəmen] *n.* 腹
opening ['ɔʊpnɪŋ] *n.* [开]口
curvature ['kə:vətʃə] *n.* 弯
surface ['sə:fɪs] *n.* 面
incisure [ɪn'sɪʒjʊə] *n.* 切迹
notch [nɒtʃ] *n.* 凹口,缺口
cardiac ['kɑ:dɪæk] *a.* 贲门的
junction ['dʒʌŋkʃən] *n.* 连接
pyloric [paɪ'lɔ:ɪk] *a.* 幽门的
orifice ['ɔ:rɪfɪs] *n.* 口
lesser ['lesə] *a.* (little 的比较级) 较小的
afford [ə'fɔ:d] *v.t.* 提供
attachment [ə'tætʃmənt] *n.* 附上,系上
omentum [ou'mentəm] *n.* (肠的)网膜
gastrohepatic [,gæstrəhi'pætɪk] *a.* 胃肝的
arterial [ɑ:'tɪəriəl] *a.* 动脉的
circle ['sɜ:kəl] *n.* 循环
peritoneal [ˌperɪtu:'ni:əl] *a.* 腹膜的
layer ['leɪə] *n.* 层
anterior [æn'tɪəriə] *a.* 前面的
posterior [pɒs'tɪəriə] *a.* 后面的

border ['bɔ:də] *n.* 边〔缘〕
 angular ['æŋgjʊlə] *a.* 角的
 subdivide ['sʌbdi'vaɪd] *v.t.* 细分,
 再分
 fundus ['fʌndəs] *n.* 底
 secrete [si'kri:t] *v.t.* 分泌
 pepsin ['pepsɪn] *n.* 胃蛋白酶
 hydrochloric acid ['haɪdrə'klɔ:ɪk
 æsɪd] 盐酸
 mucus-secreting ['mju:kəs-si'kri-
 tɪŋ] 分泌粘液的
 mucosa ['mju:kəʊsə] (L.) *n.* 粘膜
 antrum ['æntɾəm] (L.) *n.* 窦,腔,室
 proximally ['prɒksɪməli] *ad.* 近侧
 地
 canal [kə'næl] *n.* 管道
 distally ['dɪstəli] *ad.* 远端地
 pylorus [paɪ'lɔ:rəs] (L.) *n.* 幽门
 thick [θɪk] *a.* 厚的
 due to [dju: tə] *prep.* 由于
 increase [ɪn'kri:s] *n.* 增加
 circular ['sə:kjʊlə] *a.* 循环的,圆形
 的
 fiber ['faɪbə] *n.* 纤维
 relax [rɪ'læks] *v.t.* 使松弛
 refer [rɪ'fə] *v.t.* (to) 谈及,参考,指
 be ~red to as 被认为是
 sphincter ['sɪŋktə] *n.* 括约肌
 admit [əd'mɪt] *v.t.* 容许
 fingertip ['fɪŋgətɪp] *n.* 指头尖
 indicate ['ɪndɪkeɪt] *v.t.* 指出,指示

peritoneum [ˌperɪtu'ni:əm] *n.* 腹
 膜
 envelop [ɪn'veləp] *v.t.* 包,封
 attach [ə'tætʃ] *v.t.* (to) 附着,附属
 于
 avascular [ə'væskjʊlə] *a.* 无血管的
 thin [θɪn] *a.* 薄的,细的
 structure ['strʌktʃə] *n.* 结构
 except [ɪk'sept, ek-] *prep.* 除...外,
 除去
 duodenohepatic [dju:ou'di:nɔhi-
 'pætik] *a.* 肝十二指肠的
 bile [baɪl] *n.* 胆汁
 duct [dʌkt] *n.* 管
 common bile duct 输胆总管
 artery ['ɑ:təri] *n.* 动脉
 portal [pɔ:tl] *a.* 肝门的
 vein [veɪn] *n.* 静脉
 fold [fəʊld] *n.* 皱襞
 latter ['lætə] *a.* 后面的
 name [neɪm] *v.t.* 命名
 gastrophrenic [ˌgæstrə'frenɪk] *a.*
 胃膈的
 ligament ['lɪgəmənt] *n.* 韧带
 spleen [spli:n] *n.* 脾脏
 transverse ['trænzvɜ:s] *a.* 横〔切〕
 的
 colon ['kəʊlən] *n.* 结肠
 apron [ə'ɪprən] *n.* 围裙
 gastrocolic [ˌgæstrə'kɒlɪk] *a.* 胃结
 肠的

Notes

- ① organ 此处指 stomach.
 ② 1 liter of "fluid": 一立升液体。介词 of 在这里表示部分与数量的关系。
 例如:

a ton of steel 一吨钢

a cup of tea 一杯茶

- ③ ... when empty = when it is empty (这里 it 代替 stomach). 连接词 if, when, though (although) 后常省去与主句相同的主语与联系动词。
- ④ Its position and shape, however, are not fixed and may vary considerably, depending on body posture, ...
 1) however 为插入语, 此处起承接上文的作用, 作“但是; 然而”解。
 2) depending on 是分词短语, 作状语, 修饰动词 vary.
- ⑤ a “horn of plenty”: 作“丰饶之角”解, 源自希腊神话, 此处指胃象一个羊角, 内含多种食物。
- ⑥ ... where (=at which, 这里 which 代替 the cardiac notch) the esophagus meets the stomach ... 是定语从句, 修饰 the cardiac notch.
- ⑦ The pylorus is considered to be the last 1.25 cm of the stomach ...: to be the last 1.25 cm of the stomach 是主语 pylorus 的补语。
- ⑧ ... that ... are referred to as the pyloric sphincter: as the pyloric sphincter 是主语 that 的补语。
- ⑨ The pylorus is normally closed but when open admits a fingertip. (=The pylorus is normally closed but when it is open it admits a fingertip). closed 和 open 此处都是形容词, 用作表语。
- ⑩ As (is) indicated above, two layers of peritoneum envelop the stomach.
 as 作为关系代词, 可代替整个句子或句中的一部分内容, 这里 as 代替 two layers of peritoneum envelop the stomach.

参 考 译 文

胃

成人的胃为消化管最扩大的部分, 长约 25 公分, 宽约 12.5 公分, 正常时约容纳 1 立升“液体”。胃能高度扩大, 但在没有内容物时也能缩小成“管状”。它的活动通过横膈处的食管, 以及与十二指肠的连结而受到一定的限制。但它的位置和形态并不固定, 可有很大的变化。这些变化取决于身体的位置、胃的内容物、消化的阶段、腹肌和胃肌的收缩程度、周围脏器的压力、呼吸以及胃的张力。胃像一个“丰饶之角,” 位于左上腹部。它有二口、二弯、二面和二个切迹。