Unit 1

The History of Medicine

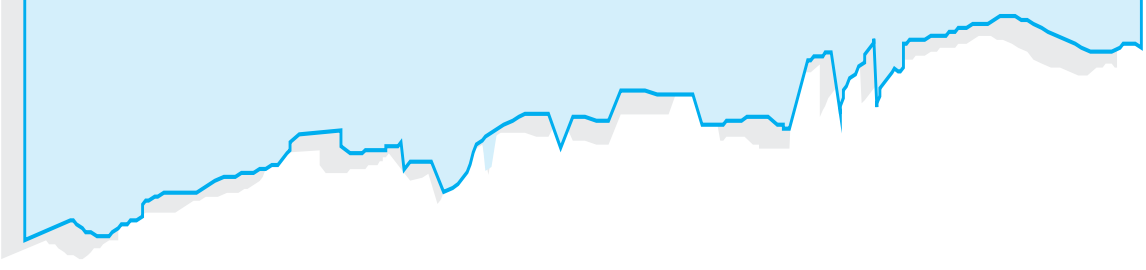
All human societies have medical beliefs that provide explanations for birth, death, and disease. Throughout history, illness has been attributed to witchcraft, demons, adverse astral influence, or the will of the gods. These ideas still retain some power, with faith healing and shrines still used in some places, although the rise of scientific medicine over the past millennium has altered or replaced mysticism in most cases.

—From Wikipeida, the free encyclopedia

Medicine was revolutionized in the 19th century and beyond by advances in chemistry and laboratory techniques and equipment, old ideas of infectious disease epidemiology were replaced with bacteriology and virology. Bacteria and microorganisms were first observed with a microscope by Antonie van Leeuwenhoek in 1676, initiating the scientific field of microbiology.

—Madigan, M & Martinko, J

China also developed a large body of traditional medicine. Much of the philosophy of traditional Chinese medicine derived from empirical observations of disease and illness by Taoist physicians and reflected the classical Chinese belief that individual human experiences expressed causative principles effective in the environment at all scales. These causative principles, whether material, essential, or mystical, correlate with the expression of the natural order of the universe.



Text A

I. Before You Read

Explore online the information of the following terms/figures from Text A and get ready to give a short presentation about it.

- the Hippocratic School of medicine
- Imhotep of ancient Egypt
- Hippocratic Oath
- Hippocratic Corpus
- the disciples of Pythagoras
- ancient Greek schools of medicine
- Hippocratic fingers
- Hippocratic face in Prognosis
- Ionic Greek
- Apollo, the healer, Asclepius, Hygieia, and Panacea
- thoracic empyema

II. Start to Read

Hippocrates

From *Wikipedia*[1]

Hippocrates of Cos[2] or Hippokrates of Kos[2] (ca. 460 BC—ca. 370 BC) was an ancient Greek physician of the Age of Pericles[3], and is considered one of the most outstanding figures in the history of medicine. He is referred to as the father of Western medicine in recognition of his lasting contributions to the field as the founder of the Hippocratic School of medicine. This intellectual school revolutionized medicine in ancient Greece, establishing it as a discipline distinct from other fields that it had traditionally been associated with (notably theurgy and philosophy), thus establishing medicine as a profession.

However, the achievements of the writers of the Corpus, the practitioners of Hippocratic medicine, and the actions of Hippocrates himself are often commingled; thus very little is known about what Hippocrates actually thought, wrote, and did. There are also claims that point to Imhotep

of ancient Egypt as history's first physician. Nevertheless, Hippocrates is commonly portrayed as the paragon of the ancient physician. In particular, he is credited with greatly advancing the systematic study of clinical medicine, summing up the medical knowledge of previous schools, and prescribing practices for physicians through the Hippocratic Oath, Corpus and other works.

Hippocrates is credited with being the first person to believe that diseases were caused naturally and not as a result of superstition and gods. Hippocrates was credited by the disciples of Pythagoras of allying philosophy and medicine. He separated the discipline of medicine from religion, believing and arguing that disease was not a punishment inflicted by the gods but rather the product of environmental factors, diet, and living habits. Indeed there is not a single mention of a mystical illness in the entirety of the *Hippocratic Corpus*. However, Hippocrates did work with many convictions that were based on what is now known to be incorrect anatomy and physiology, such as Humorism.

Ancient Greek schools of medicine were split into the Knidian and Koan on how to deal with disease. The Knidian school of medicine focused on diagnosis. Medicine at the time of Hippocrates knew almost nothing of human anatomy and physiology because of the Greek taboo forbidding the dissection of humans. The Knidian school consequently failed to distinguish when one disease caused many possible series of symptoms. The Hippocratic school or Koan school achieved greater success by applying general diagnoses and passive treatments. Its focus was on patient care and prognosis, not diagnosis. It could effectively treat diseases and allowed for a great development in clinical practice.

Hippocratic medicine and its philosophy are far removed from that of modern medicine. Now, the physician focuses on specific diagnosis and specialized treatment, both of which were espoused by the Knidian school. This shift in medical thought since Hippocrates' day has caused serious criticism over the past two millennia, with the passivity of Hippocratic treatment being the subject of particularly strong denunciations; for example, the French doctor M. S. Houdart called the Hippocratic treatment a "meditation upon death".

Direct contributions to medicine

Hippocrates and his followers were first to describe many diseases and medical conditions. He is given credit for the first description of clubbing of the fingers, an important diagnostic sign in chronic suppurative lung disease, lung cancer and cyanotic heart disease. For this reason, clubbed fingers are sometimes referred to as "Hippocratic fingers". Hippocrates was also the first physician to describe Hippocratic face in *Prognosis*. Shakespeare famously alluded to this description when writing of Falstaff's[4] death in Act II, Scene iii. of *Henry V*.

Hippocrates began to categorize illnesses as acute, chronic, endemic and epidemic, and use terms such as, "exacerbation, relapse, resolution, crisis, paroxysm, peak, and convalescence." Another of Hippocrates' major contributions may be found in his descriptions of the symptomatology, physical findings, surgical treatment and prognosis of thoracic empyema, i.e. suppuration of the lining

of the chest cavity. His teachings remain relevant to present-day students of pulmonary medicine and surgery. Hippocrates was the first documented chest surgeon and his findings are still valid.

The Hippocratic school of medicine described well the ailments of the human rectum and the treatment thereof, despite the school's poor theory of medicine. Hemorrhoids, for instance, though believed to be caused by an excess of bile and phlegm, were treated by Hippocratic physicians in relatively advanced ways. Cautery and excision are described in the *Hippocratic Corpus*, in addition to the preferred methods: ligating the hemorrhoids and drying them with a hot iron. Other treatments such as applying various salves are suggested as well. Today, "treatment for hemorrhoids still includes burning, strangling, and excising." Also, some of the fundamental concepts of proctoscopy outlined in the Corpus are still in use. For example, the uses of the rectal speculum, a common medical device, are discussed in the *Hippocratic Corpus*. This constitutes the earliest recorded reference to endoscopy.

The *Hippocratic Corpus* is a collection of around seventy early medical works from ancient Greece, written in Ionic Greek. The question of whether Hippocrates himself was the author of the corpus has not been conclusively answered, but the volumes were probably produced by his students and followers. Because of the variety of subjects, writing styles and apparent date of construction, scholars believe *Hippocratic Corpus* could not have been written by one person (Ermerins[5] numbers the authors at nineteen). The corpus was attributed to Hippocrates in antiquity, and its teaching generally followed his principles; thus it came to be known by his name. It might be the remains of a library of Kos, or a collection compiled in the 3rd century BC in Alexandria.

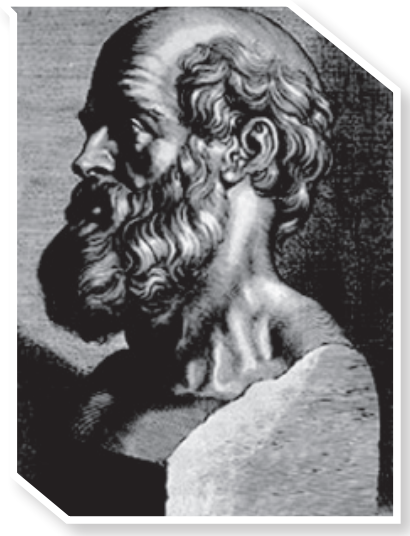
The *Hippocratic Corpus* contains textbooks, lectures, research, notes and philosophical essays on various subjects in medicine, in no particular order. These works were written for different audiences, both specialists and laymen, and were sometimes written from opposing view points; significant contradictions can be found between works in the Corpus. Notable among the treatises of the Corpus are *The Hippocratic Oath; The Book of Prognostics; On Regimen in Acute Diseases; Aphorisms; On Airs, Waters and Places; Instruments of Reduction; On The Sacred Disease*, etc.

Legends

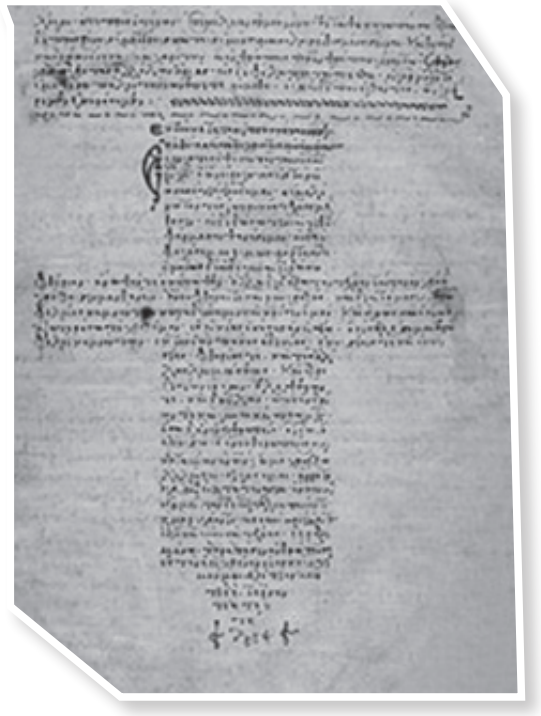
Most stories of Hippocrates' life are inconsistent with historical evidence and similar to stories told of other figures (such as Avicenna and Socrates), suggesting a legendary origin. Even during his life, Hippocrates' renown was great, and stories of miraculous cures arose. For example, Hippocrates was supposed to have aided in the healing of Athenians during the Plague of Athens by lighting great fires as "disinfectants" and engaging in other treatments. There is a story of Hippocrates curing Perdiccas, a Macedonian king, of "love sickness". Neither of these accounts is corroborated by any historians and thus it is unlikely that they ever occurred.

Another legend is that Hippocrates rejected a formal request to visit the court of Artaxerxes,

the King of Persia[6]. Though ancient sources accept this as fact, some modern scholars doubt it. Another tale states that Democritus, supposed to be mad because he laughed at everything, was sent to Hippocrates to be cured. Hippocrates diagnosed him as merely having a happy disposition. Democritus has since been called "the laughing philosopher".



Engraving by Peter Paul Rubens, 1638, courtesy of the National Library of Medicine.



A 12th-century Byzantine manuscript of the Oath in the form of a cross.

Hippocratic Oath

The Hippocratic Oath, a seminal document on the ethics of medical practice, was attributed to Hippocrates in antiquity although new information shows it may have been written after his death. This is probably the most famous document of the *Hippocratic Corpus*. Recently the authenticity of the document's author has come under scrutiny. While the Oath is rarely used in its original form today, it serves as a foundation for other, similar oaths and laws that define good medical practice and morals. Such derivatives are regularly taken today by medical graduates about to enter medical practice.

Original, translated into English

I swear by Apollo, the healer, Asclepius, Hygieia, and Panacea, and I take to witness all the gods, all the goddesses, to keep according to my ability and my judgment, the following Oath and agreement:

To consider dear to me, as my parents, him who taught me this art; to live in common with the dude and, if necessary, to share my goods with him; To look upon his children as my own brothers, to teach them this art.

I will prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone.

I will not give a lethal drug to anyone if I am asked, nor will I advise such a plan; and similarly I will not give a woman a pessary to cause an abortion.

But I will preserve the purity of my life and my arts.

I will not cut for stone, even for patients in whom the disease is manifest; I will leave this operation to be performed by practitioners, specialists in this art.

In every house where I come I will enter only for the good of my patients, keeping myself far from all intentional ill-doing and all seduction and especially from the pleasures of love with women or with men, be they free or slaves.

All that may come to my knowledge in the exercise of my profession or in daily commerce with men, which ought not to be spread abroad, I will keep secret and will never reveal.

If I keep this oath faithfully, may I enjoy my life and practice my art, respected by all men and in all times; but if I swerve from it or violate it, may the reverse be my lot.

Modern version

A widely used modern version of the traditional oath was penned in 1964 by Dr. Louis Lasagna, former Principal of the Sackler School of Graduate Biomedical Sciences and Academic Dean of the School of Medicine at Tufts University:

I swear to fulfill, to the best of my ability and judgment, this covenant:

I will respect the hard-won scientific gains of those physicians in whose steps I walk, and gladly share such knowledge as is mine with those who are to follow.

I will apply, for the benefit of the sick, all measures [that] are required, avoiding those twin traps of overtreatment and therapeutic nihilism.

I will remember that there is art to medicine as well as science, and that warmth, sympathy, and understanding may outweigh the surgeon's knife or the chemist's drug.

I will not be ashamed to say "I know not", nor will I fail to call in my colleagues when the skills of another are needed for a patient's recovery.

I will respect the privacy of my patients, for their problems are not disclosed to me that the

world may know. Most especially must I tread with care in matters of life and death. If it is given to me to save a life, all thanks. But it may also be within my power to take a life; this awesome responsibility must be faced with great humbleness and awareness of my own frailty. Above all, I must not play at God.

I will remember that I do not treat a fever chart, a cancerous growth, but a sick human being, whose illness may affect the person's family and economic stability. My responsibility includes these related problems, if I am to care adequately for the sick.

I will prevent disease whenever I can, for prevention is preferable to cure.

I will remember that I remain a member of society with special obligations to all my fellow human beings, those sound of mind and body as well as the infirm.

If I do not violate this oath, may I enjoy life and art, be respected while I live and remembered with affection thereafter. May I always act so as to preserve the finest traditions of my calling and may I long experience the joy of healing those who seek my help.

Source: *Wikipedia, the free encyclopedia*.

New Words

theurgy /ˈθiːɜːdʒɪ/ *n.*	法力，神力；（埃及新柏拉图派所传授和施行的）巫术
commingle /kɒˈmɪŋgl/ *v.*	掺和，混合；合并（资产等）
paragon /ˈpærəgən/ *n.*	模范，典范；十全十美的人
superstition /ˌsuːpəˈstɪʃən/ *n.*	迷信，迷信行为；盲目崇拜
disciple /dɪˈsaɪpl/ *n.*	信徒，门徒，追随者
mystical /ˈmɪstɪkəl/ *a.*	神秘的
conviction /kənˈvɪkʃən/ *n.*	确信；信念，坚定的信仰，深信
taboo /təˈbuː/ *n.*	禁忌，忌讳；戒律
prognosis /prɒgˈnəʊsɪs/ *n.*	预后，预知
espouse /ɪˈspaʊz/ *v.*	拥护，支持；信奉（主义、学说等）
millennia /mɪˈlenɪə/（millennium 的复数）*n.*	千年期，千禧年
denunciation /dɪˌnʌnsɪˈeɪʃən/ *n.*	斥责，谴责
clubbing /ˈklʌbɪŋ/ *n.*	杵状指
suppurative /ˈsʌpjʊərətɪv/ *a.*	使化脓的，化脓的，生脓的
cyanotic /ˌsaɪəˈnɒtɪk/ *a.*	发绀的，青紫的
allude /əˈljuːd/ *v.*	略为提及；暗指
endemic /enˈdemɪk/ *a.*	（疾病等）地方性的
exacerbation /ekˌsæsəˈbeɪʃən/ *n.*	恶化，加剧
relapse /rɪˈlæps/ *v.*	复发
paroxysm /ˈpærəksɪzəm/ *n.*	（疾病周期性）发作

convalescence /ˌkɒnvəˈlesəns/ *n.*	渐愈，恢复期
empyema /ˌempaɪˈiːmə/ *n.*	脓胸，积脓
suppuration /ˌsʌpjʊəˈreɪʃən/ *n.*	化脓，生脓
lining /ˈlaɪnɪŋ/ *n.*	衬里，内衬；内层；衬里布
thereof /ˌðeərˈɒv/ *ad.*	其，其中；由此，因此
cautery /ˈkɔːtərɪ/ *n.*	烙（术）；烙器；烧灼剂
ligate /lɪˈgeɪt/ *v.*	结扎
hemorrhoid /ˈhemərɔɪd/ *n.*	痔疮；很难相处的人，招怨的人
salve /ˈsælv/ *n.*	软膏，油膏，药膏
strangle /ˈstræŋgl/ *v.*	扼住，闷住，使窒息
proctoscopy /prɒkˈtɒskəpɪ/ *n.*	直肠镜观察术，直肠镜检查
speculum /ˈspekjʊləm/ *n.*	金属镜，反射镜，窥器，扩张器
antiquity /ænˈtɪkwətɪ/ *n.*	（尤指中世纪前的）古代，古老，古人们，古代的遗物，古代的风俗习惯
layman /ˈleɪmən/ *n.*	（未受神职的）一般信徒，俗人；外行人，门外汉
treatise/ˈtriːtɪz/ *n.*	论文，专著
aphorism /ˈæfərɪzəm/ *n.*	格言，警句，箴言
renown /rɪˈnaʊn/ *n.*	名声，声望
disinfectant /ˌdɪsɪnˈfektənt/ *a.* & *n.*	消毒的； 消毒剂
Macedonian /ˌmæsɪˈdəʊnɪən/ *n.* & *a.*	马其顿人（语）；a. 马其顿的，马其顿人（语）的
corroborate /kəˈrɒbəreɪt/ *v.*	证实，确证
court /kɔːt/ *n.*	朝廷，朝臣；宫廷，王宫；（君主的）召见
disposition /ˌdɪspəˈzɪʃən/ *n.*	性格，性情
seminal /ˈsemɪnəl/ *a.*	生殖的；再生的；有发展性的
authenticity /ˌɔːθenˈtɪsətɪ/ *n.*	可信赖性；确实（性）
dude /djuːd/ *n.*	【美】太讲究衣着仪表的人，花花公子，（尤指从美国东部去西部牧场度假的）城里人
lethal /ˈiːθəl/ *a.*	致命的，危险的，毁灭性的
pessary /ˈpesərɪ/ *n.*	子宫帽，阴道药栓
seduction /sɪˈdʌkʃən/ *n.*	教唆，诱惑，吸引
swerve /swɜːv/ *v.*	突然转向，转弯；偏离方向
covenant /ˈkʌvənənt/ *n.*	盟约，公约，契约
nihilism /ˈnaɪəlɪzəm/ *n.*	无政府主义
tread /tred/ *v.*	步行，走
awesome /ˈɔːsəm / *a.*	令人敬畏的，可怕的；有威严的，感到敬畏（或畏惧）的
humbleness /ˈhʌmblnes/ *n.*	谦逊；卑贱
frailty /ˈfreɪltɪ/ *n.*	脆弱;（性格上的）弱点；缺陷
infirm /ɪnˈfɜːm/ *a.*	体弱的，（因年迈而）衰弱的

Notes

1. **Wikipedia:** 维基百科。它是一个基于wiki技术的多语言百科全书协作计划，也是一部用不同语言写成的网络百科全书，其目标及宗旨是为全人类提供自由的百科全书，是一个动态的、可自由访问和编辑的全球知识体。
2. **Cos or Kos:** 科斯岛。希腊岛屿，位于爱琴海东南，是多德卡尼索斯群岛中的第二大岛（次于罗得岛）。面积288平方公里，主要城市科斯在北岸。科斯岛距土耳其仅5公里，是一座狭长的岛屿，隆起的地带崎岖多山。“医药之父”希波克拉底（Hippocrates）就出生在这里。古代集市以北有希波克拉底悬铃树（Hippocrates Plane Tree），据说他在这棵树下教导过学生。在科斯小城西南4公里一座松林覆盖的小山上，耸立着著名的康复中心遗址Asklipieion，希波克拉底在这里进行过医学研究。
3. **Age of Pericles:** 伯里克利时代，指古希腊的一个历史时期，始于波希战争的终结，终于伯里克利离世或伯罗奔尼撒战争结束。在同一时期大批在政治、哲学、建筑、雕塑、历史以及文学上卓有成就的希腊人中，作为希腊将军、政治家和演说家，伯里克利仍然引人注目。他支持文学艺术，给雅典带来之后再也未曾有过的辉煌，他还主持大量公共项目以改善公民生活。所有这些使得雅典进入黄金时代，亦为古希腊的全盛时期，故被称为伯里克利时代。
4. **Falstaff:** 福斯塔夫，莎士比亚历史剧《亨利四世》中的人物，是莎士比亚笔下最出名的喜剧人物之一。他是王子放浪形骸的酒友，既吹牛撒谎又幽默乐观，既无道德荣誉观念又无坏心，是一个成功的喜剧形象。
5. **Ermerins:** 一位荷兰内科医生，同时也是医学编辑，他编辑的主要作品包括《希波克拉底》和《古希腊医学》。
6. **Artaxerxes, the King of Persia:** 阿塔泽克西兹，波斯国王。公元前465年波斯帝国阿契美尼德王朝的国王亚哈随鲁被自己的臣仆杀害，由儿子阿塔泽克西兹一世继位。阿塔泽克西兹一世当政时，一方面要对付埃及的叛变，另一方面又遭受希腊侵略，伟大的波斯帝国开始衰落。

III. After You Read

Task One Knowledge Focus

Work with your partner to discuss the following questions.

1) What is the difference between the Hippocratic school of medicine and ancient Greek schools of medicine?
2) Why is Hippocrates referred to as the father of Western medicine?
3) Introduce Humorism proposed by Hippocrates to the whole class and give your brief comments on this theory.
4) A widely used modern version of the traditional oath was penned in 1964 by Dr. Louis Lasagna, former Principal of the Sackler School of Graduate Biomedical Sciences and Academic Dean of the School of Medicine at Tufts University. Try to find more information about Dr. Louis Lasagna and introduce him/her to the whole class.
5) What traits are required for a doctor by modern version of Hippocratic oath?

Task Two Language Focus

1. Fill in the blanks with the words and phrases given below. Change the form where necessary, and pay attention to the tense, voice and collocations of the verbs.

in addition to	*attribute*	*espouse*
give credit for	*though*	*suppose*
refer	*categorize*	*credit*

1) In particular, he _____ greatly advancing the systematic study of clinical medicine, summing up the medical knowledge of previous schools, and prescribing practices for physicians through the Hippocratic Oath, Corpus and other works.
2) For this reason, clubbed fingers _____ "Hippocratic fingers".
3) Hippocrates _____ have aided in the healing of Athenians during the Plague of Athens by lighting great fires as "disinfectants" and engaging in other treatments.
4) Now, the physician focuses on specific diagnosis and specialized treatment, both of which _____ the Knidian school.
5) Cautery and excision are described in the *Hippocratic Corpus*, _____ the preferred methods.
6) The Hippocratic Oath, a seminal document on the ethics of medical practice, _____ Hippocrates in antiquity although new information shows it may have been written after his death.
7) Hippocrates began to _____ illnesses as acute, chronic, endemic and epidemic.

8) He _____ the first description of clubbing of the fingers, an important diagnostic sign in chronic suppurative lung disease, lung cancer and cyanotic heart disease.

9) Hemorrhoids, for instance, _____ believed to be caused by an excess of bile and phlegm, were treated by Hippocratic physicians in relatively advanced ways.

2. Sentence Simulation

Notice the boldfaced structure in each of the following statements from the text you have read, and have a better understanding of its usage by imitating the particular way of writing as indicated by the example given.

1) The articles **detailed** the benefits of the therapy **while minimizing** its risks.
The advertisement **detailed** the merits of the product **while minimizing** its defects.

2) He **is referred to as** the father of Western medicine **in recognition of** his lasting contributions to the field as the founder of the Hippocratic School of medicine.

3) He separated the discipline of medicine from religion, believing and arguing that disease was **not a punishment inflicted by the gods but rather** the product of environmental factors, diet, and living habits.

4) Hippocratic medicine and its philosophy **are far removed from** that of modern medicine.

5) **The question of whether** Hippocrates himself was the author of the corpus **has not been conclusively answered**, **but** the volumes were probably produced by his students and followers.

6) **Because of** the variety of subjects, writing styles and apparent date of construction, scholars **believe** *Hippocratic Corpus* **could not have been** written by one person.

7) Most stories of Hippocrates' life **are inconsistent with** historical evidence and similar to stories told of other figures (such as Avicenna and Socrates), **suggesting** a legendary origin.

8) Hippocrates **is credited with being the first person to** believe that diseases were caused

naturally and not as a result of superstition, and gods.

3. Translate the following sentences into English.

1) 希波克拉底提出“体液学说”，认为人体由血液、粘液、黄胆和黑胆四种体液组成，四种体液的不同配合使人们有不同的体质。
2) 在古希腊，医生的职业是父子相传的，所以希波克拉底从小就跟随父亲学医。
3) 古希腊医学受到宗教迷信的禁锢，巫师们只会用念咒文、施魔法、进行祈祷的办法为人治病。
4) 现在看来，希波克拉底对人的气质的成因的解释并不正确，但他提出的气质类型的名称及划分，却一直沿用至今。
5) 古代西方医生在开业时需宣读一份有关医务道德的誓词，它的主要内容取自古希腊一位医师的誓言。这位医师名叫希波克拉底，在西方被人们尊为“医学之父”。
6) 作为西方医学之父，希波克拉底的贡献不仅是首先制定了医生必须遵守的道德规范，而且在医学观点和医疗实践方面，都对以后西方医学的发展有巨大影响。

Task Three Comprehensive Work

Work in pairs or groups for the following oral tasks.

1) Try to summarize the contributions of Hippocrates to the development of medicine.
2) Some clinical symptoms and signs have been named after Hippocrates as he is believed to be the first person to describe those, such as Hippocratic finger and Hippocratic face in this article. Try to find more symptoms, signs, places and others named after Hippocrates and introduce them with an oral presentation.
3) The French doctor M.S. Houdart called the Hippocratic treatment a “meditation upon death”. Why do you think Hippocratic treatment is inflicted by such criticism? And what’s your opinion towards Hippocratic treatment?
4) Almost all famous figures have a lot of legendary stories. How do you think about this phenomenon? Will negative legendary stories affect your admirations toward a hero? Try to illustrate your opinions with an example.
5) In the modern version of Hippocratic Oath, there says “I will remember that I do not treat a fever chart, a cancerous growth, but a sick human being, whose illness may affect the person’s family and economic stability. My responsibility includes these related problems, if I am to care adequately for the sick.” Try to present your understanding toward these sentences.
6) If your friends are planning a visit to the island of Kos, what are your recommendations for them to visit? Give an oral presentation introducing the island of Kos.
7) Is there any content difference between the two versions of Hippocratic Oath? What are they?

Text B

Traditional Chinese Medicine

By *Jin-Ling Tang, Bao-Yan Liu, Kan-Wen Ma* [1]

Systematic reviews show that Chinese herbs and acupuncture can be effective for atopic eczema and chemotherapy-induced nausea, respectively. Traditional Chinese medicine (TCM) is one of the oldest healing systems. TCM includes herbal medicine, acupuncture, moxibustion, massage, food therapy, and physical exercise, such as shadow boxing. TCM is a fully institutionalised part of Chinese health care and widely used with Western medicine. In 2006, the TCM sector provided care for over 200 million outpatients and some 7 million inpatients, accounting for 10-20% of health care in China.

Most of the principles of TCM were derived from the philosophical basis that contributed to the development of Taoism and Confucianism. Ancient Chinese scholars noted that all natural phenomena could be categorised into Yin and Yang (two opposite, complementary, interdependent, and exchangeable aspects of nature). Everything in the universe consisted of five basic elements (wood, fire, earth, metal, and water), and the universe was constantly changing towards dynamic balance or harmony. Such knowledge was applied to understand, prevent, and cure disease.

In TCM, Yin refers largely to the material aspects of the organism and Yang to functions. There is a circulation of Qi (energy) and blood. The organs work together by regulating and preserving Qi and blood through the so-called channels and collaterals. Disease occurs after a disturbance in Yin-Yang or flow of Qi or blood, or disharmony in the organs caused by pathogenic (eg, sadness, joy, lifestyle) and climatic factors (dampness, heat, cold). Treatment aims to expel or suppress the cause and restore balance.

Imbalance is assessed by four traditional examination methods: looking, listening and smelling, asking, and touching. Observations of the pulse, face, tongue, urine, and stool provide essential information. The diagnosis is derived from theories such as the eight diagnostic principles to differentiate between Yin-Yang, exterior-interior, deficiency-excess, and cold-heat, the five elements theory to assess the relations between organs and functions, and the visceral manifestation theory to establish the disease location.

The diagnosis that guides treatment is called Zheng, a temporary state at one time and which is like a syndrome defined by symptoms and signs. The same disease in Western medicine can manifest

in different Zhengs and vice versa. Thus, treatment in the same patient varies over time and the same disease can be treated differently. For example, kidney Yin deficiency as a Zheng has three components: kidney, Yin, and deficiency. Other examples include preponderant liver Yang, flaring up of heart fire, and spleen-stomach dampness-heat. For each or a combination of the components, there are specific herbs or treatments. For example, bitter herbs are cool in nature and can be used to treat heat-ridden diseases. TCM can make diagnoses and treat patients without needing a scientific understanding of cause and pathogenesis.

Acupuncture was introduced in developed countries in the 1600s. Variolation was developed in the 16th century in China as a method to immunise people against smallpox. Dried smallpox scabs were blown into the nose of an individual who then developed a mild form of the disease and lifelong resistance. The method was introduced to Europe in the early 1700s. Artemisinin and ephedrine are also derived from Chinese herbs.

TCM was challenged by Western medicine in China in the late 19th century. Western medicine had its most notable effects in surgery and public health areas that had not been well developed in China until then. The increasing emphasis on Western medicine slackened the development of TCM in the early 20th century. Since 1949, TCM has been scientifically studied and integrated with Western medicine. Biomedical sciences have made considerable changes to TCM. For example, standardised formulae of herbal therapies are now commonly used as tablets, capsules, and even ampoules as well as the traditional decoctions of individualised prescriptions.

The integration of TCM and Western medicine has been widely promoted and studied in China. Integration aims to eventually combine the two systems. Currently, integration is mainly at the level of physicians who have received training and can treat patients in both. For example, over a third of the training in TCM schools is in Western medicine, and Western-medicine schools also offer some training in TCM.

Despite decades of research and integration, the fundamentals of TCM remain largely unchanged and its theories inexplicable to science. The absence of scientific understanding has caused skepticism and criticism about TCM. However, randomised trials have shown efficacy for some TCM therapies. The efficacy of most assessed therapies, however, remains uncertain, often because of the low methodological quality of trials. Furthermore, most of these trials are published in Chinese, inaccessible to Western doctors, and not included in systematic reviews. Selective publication of positive trials is another problem.

The quality of TCM trials could be improved by adopting the bias-reduction points in the CONSORT guidelines. Meanwhile, the patient, intervention, comparator, and outcome should also be carefully documented. For example, it is important to compare TCM with a placebo or an intervention of proven efficacy rather than interventions with unknown effects. Furthermore, patients inclusion

and exclusion criteria, and indications and contraindications of the tested therapy, must be specified clearly in a language comprehensible to users who have never learnt TCM. Tested herbal products also need to be standardised to ensure manufacturing consistency. Standardisation is similarly important for diagnosis and procedural treatments, such as acupuncture.

Because TCM and Western medicine differ, debates arise about which outcomes to use. Patients' views might provide an answer: outcomes that patients think relevant and important, such as pain and survival, are where TCM and Western medicine can find a common footing. A real challenge is how to interpret and generalise the findings from trials of TCM delivered in the traditional way, in which the same patients are treated differently over time.

International collaborations and dialogues between practitioners of TCM or Western medicine are important to further improve the scientific quality and clinical significance of TCM trials. Because TCM has long been in use, research could move to an efficacy-driven approach, in which TCM therapies are tested in trials on human beings first and studies on mechanisms of action and active substances should start only when efficacy is firmly shown.

	Adverse reaction(s)	Reasons for adverse reaction	Reference
Mercury, lead, cadmium	Various	Contamination, such as in Fu Fang Lu Hui Jiao Nang	15
Ginkgo biloba, garlic, Chinese angelica, *Salvia miltiorrhiza*	Severe bleeding	Interaction with western drugs, such as warfarin	16
Radix aconiti lateralis Preparata spp, *Aconite* spp	Cardiotoxicity, such as severe arrhythmia	Used raw and unprocessed, inappropriately prepared form, or overdosing	17
Caulis aristolochiae Manshuriensis spp	Nephrotoxicity and carcinogenicity	The herb contains aristolic acid and is wrongly used as *Caulis clenmatidis armandii* (eg, in some weight-loss products and Long Dan Xie Gan Wan)	18

Table: **Adverse reactions and toxic effects caused by TCM**

TCM does have adverse effects. The main reason for adverse effects is contamination and inappropriate use rather than inherent risks with herbs themselves. Most adverse reactions can thus be avoided by quality control and guided applications. In a skeptical environment, it would be a mistake to dismiss effective therapies on the basis of adverse effects rather than benefit-harm ratios.

Particularly in developing countries, over 80% of the populations depend on herbal medicine for basic health care. An absence of evidence of efficacy for these treatments is likely to aggravate the entrenched inequity in access to effective care for poor people.

Source: *Lancet, Vol 372: 1938-1940, December 6, 2008.*

New Words

atopic /əˈtɒpɪk/ *a.*	遗传性过敏症的；异位的
eczema /ˈeksɪmə/ *n.*	湿疹
moxibustion /ˌmɒksɪˈbʌstʃən/ *n.*	艾灸
institutionalise /ˌɪnstɪˈtjuːʃənəlaɪz/ *v.*	使成公共团体；使制度化，机构化
exchangeable /ɪksˈtʃeɪndʒəbl/ *a.*	可兑换的，可替换的
organism /ˈɔːgənɪzəm/ *n.*	机体，有机组织
collateral /kəˈlætərəl/ *n. & a.*	旁系亲属； 旁系的
disturbance /dɪˈstɜːbəns/ *n.*	扰乱，混乱
visceral /ˈvɪsərəl/ *a.*	内脏的；出自内心深处的
preponderant /prɪˈpɒndərənt/ *a.*	优势的；压倒性的，突出的
variolation /ˈveərɪəleɪʃən/ *n.*	天花接种
scab /skæb/ *n.*	疮痂
artemisinin /ˌɑːtɪˈmiːsɪnɪn/ *n.*	青蒿素
ephedrine /ɪˈfedrɪn/ *n.*	麻黄碱，麻黄素
slacken /ˈslækən/ *v.*	使松弛，使缓慢
ampoule /ˈæmpuːl/ *n.*	安瓿
decoction /dɪˈkɒkʃən/ *n.*	煎煮；煎熬的药
inexplicable /ˌɪnɪkˈsplɪkəbl/ *a.*	无法说明的；难以理解的，莫名其妙的
skepticism /ˈskeptɪsɪzəm/ *n.*	怀疑论；怀疑的态度
inaccessible /ˌɪnækˈsesəbl/ *a.*	得不到的；难接近的
comparator /kəmˈpærətə(r) / *n.*	比测仪
contraindication /ˈkɒntrəˌɪndɪˈkeɪʃən/ *n.*	禁忌症
contamination/kənˌtæmɪˈneɪʃən/ *n.*	污染，玷污
aggravate /ˈægrəveɪt/*v.*	加重，使恶化
entrench /ɪnˈrentʃ/ *v.*	用壕沟围住；确立

Note

1. **Jin-Ling Tang, Bao-Yan Liu, Kan-Wen Ma:** 本文的三位作者，Jin-Ling Tang来自香港中文大学香港循证医学中心；Ban-Yan Liu来自中国医学科学院；Kan-Wen Ma来自英国伦敦大学Wellcome Trust医学史研究中心。

After You Read

1. Answer the following questions according to text B you have read.

1) What are the beliefs in the theory of TCM?
2) What are the diagnostic procedures in Traditional Chinese medicine?
3) Why are there skepticism and criticism toward TCM?
4) What are the problems about clinical trials of TCM?

2. Work in pairs and try to do the following speaking tasks.

1) Explain what is Taoism and what is Confucianism.
2) Explain the basics about shadow boxing.
3) There is a table in Text B, try to explain it in your own words.
4) Explain the use of artemisinin and ephedrine in pharmaceutics.
5) What is systematic review? What are its differences from review article or research article?
6) What is the CONSORT guideline? Please introduce it to the class.