根据最新《大学英语教学指南》编写

总 主 编 向明友
系列主编 崔校平

New Voyage

新起航大学英语

College English

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阅读 4

Reading

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图书在版编目(CIP)数据

新起航大学英语阅读. 4 / 向明友等主编. —上海：上海交通大学出版社，2016
ISBN 978-7-313-14233-7

I. ① 新… II. ① 向… III. ① 英语—阅读教学—高等学校—教材 IV. ① H319.4

中国版本图书馆 CIP 数据核字（2016）第 038217 号

新起航大学英语阅读 4

主　　编：宁翠叶　王悦文
出版发行：上海交通大学出版社
邮政编码：200030
出 版 人：韩建民
印　　制：浙江广育爱多印务有限公司
开　　本：889mm × 1194mm　1/16
字　　数：254 千字
版　　次：2016 年 7 月第 1 版
书　　号：ISBN 978-7-313-14233-7/H
定　　价：35.00 元

地　　址：上海市番禺路 951 号
电　　话：021-64071208

经　　销：全国新华书店
印　　张：10.25

印　　次：2016 年 7 月第 1 次印刷

《新起航大学英语》系列教材

编 委 会

PREFACE 总 序

自20世纪五六十年代我国开启大学英语教学以来，出于社会不同发展阶段的不同需求，受制于不同的客观实际，基于不同人的不同理解，就大学英语教什么、教多少、如何教的问题，从教育主管部门到学界一直存在不同的声音。反映在大学英语教材建设上，文革前有《文科英语》《理科英语》和《高等工业学校英语》的三足鼎立；从文革结束到20世纪80年代中叶仍然延用《英语》（供理科用）、《英语》（高等学校文科非英语专业教材）及《英语》（供工科用）的三足模式；伴随1985年和1986年分别供理工科和文理科使用的两份《大学英语教学大纲》的先后颁布，《大学英语》《大学核心英语》《新英语教程》及《现代英语》等教材应运而生；随着1999年大学外语教学指导委员会对原理工科和文理科两份《大学英语教学大纲》的修订、合并完毕，尤其是2007年《大学英语课程教学要求》的问世，国内《新编大学英语》《21世纪大学英语》《全新版大学英语》《新视野大学英语》《现代大学英语》《新世纪大学英语》等教材如雨后春笋般涌现。群雄并起的大学英语教材编写战可谓一路硝烟。如今，大学英语的内涵已不再是一门大学英语课所能包含的，其工具性和人文性的双重特质不断得以彰显；其作为我国高等学校人文教育一部分的功能已为大家所认知；其量大面广的优势已成为不争的事实。致力于指导和规范我国大学英语教学的《大学英语教学指南》（简称《指南》）即将面世。《指南》呼吁构建“服务于学校办学目标、院系人才培养目标和学生个性化发展需求”的新的大学英语课程体系，倡导“can do”理念，提出“基础”、“提高”和“发展”三级教学目标，推荐 “通用英语”、“专门用途英语”和“跨文化交际”三大教学内容。修正旧问题，应对新要求，建设服务于新的大学英语课程体系的新教材已成为我国大学英语教育工作者无法回避的重要使命。因应这一新的形势，在上海交通大学出版社的推动下，我们策划出版《新起航大学英语》系列教材。该系列教材由《读写教程》《泛读教程》和《听说教程》等三套主干教材和一套《阅读》辅助教材构成，每套教材分别包括四个分册。

我们认为，英语更多是学生学出来的，不完全是教师教出来的。学好英语的关键是学生的内生动力，而非单靠教师的课堂操劳。在英语学习过程中，教师仅发挥组织教学、引导学习的教练作用。一套好的教材对帮助教师组织课堂，激发学生学习积极性、主体

性有着不可替代的作用。依循英语学习规律，编写一套力求简单、明了，突显趣味性、科学性、思辨性和时代性的大学英语教材，既能激发学生的内生动力，又能满足大学英语教学新内涵的要求。

《新起航大学英语》系列教材中的《读写教程》《听说教程》和《泛读教程》等三套主干教材撇开应试干扰，着重培养学生的英语应用能力。《阅读》辅助教材旨在巩固学生英语知识的同时，引导学生熟悉和适应国家级英语水平考试。本系列教材参照《大学英语教学指南》"基础"和"提高"阶段的教学目标要求，按每周4个学时设计。

《读写教程》在系统讲解英语构词、语法、修辞、文体知识的基础上，着重训练学生"读"、"写"能力，兼顾"说"的能力，并适时导入跨文化交际、学业英语及批判思维元素。

《听说教程》为引进改编教材，旨在培养学生英语"听"、"说"能力，兼顾"写"的能力。教材在保留原版教材生动鲜活语料的基础上，通过改编使之契合整套系列的理念、定位和目标。

《泛读教程》旨在培养学生良好的阅读习惯和有效的阅读技巧，在重点提升学生阅读能力，兼顾"说"、"写"训练的同时，扩大学生知识面，补充学生学习和工作所需的专门用途英语知识，课文选题涵盖自然科学、社会科学、人文素养及工程技术等五十余个学科。

《阅读》作为教辅，既是《读写教程》的延伸补充，又是对国家级英语水平考试的训练。本教辅围绕《读写教程》的单元主题设计阅读题目，题型向国家级考试靠拢，同时体现《大学英语教学指南》的要求与精神。

本套教材具有定位明确、目标清晰、手段具体、可操作性强等特点。我们按照不同规格高校人才培养的不同需求，把本套教材的服务对象明确定位为非"985"院校的非英语专业学生。三套主干教材遵照《大学英语教学指南》有关"基础"和"提高"阶段大学英语教学要求，以"can do"为目标，训练学生用英语交流和思辨，增强学生跨文化交际意识和交际能力，培养学生批判思维能力，提升学生综合文化素养，丰富学生专门用途英语知识，倡导并向学生输入正确价值观，鼓励学生不仅学会用英语讲述西洋风情，

还要会用英语介绍中国故事，可谓目标清晰；本系列教材启用听、说、读、背、咏、辩、写等多种训练手段，多管齐下，多模态综合，操练手段十分具体；本系列教材以《读写教程》为龙头，以《听说教程》和《泛读教程》为主体，形成教材主干，集知识、素养、能力提升于一体，着力增强学生英语应用能力、思辨能力和跨文化交际能力，把《阅读》列为辅助教材，引导学生掌握国家级考试的相关要求，这样既务实，又可操作。

针对教材服务对象的客观实际，我们综合参照高中英语选修 1 课程要求和“Collins Co-build”基础词表，核准本教材的起点词汇，不追求英语词汇量的盲目扩大，也不赶长难句的时髦，注重新知识的系统循序导入，严把词汇及知识点的重现率，让学生能够温故知新，以简单、有趣和省力来激发学生学习英语的内生动力。

感谢本套教材的全体主创人员，正是得益于大家的共同努力，本套教材才能够按计划如期面世。上海交通大学出版社领导对这套大学英语系列教材的出版提供了可贵支持，我向他们致以最真挚的敬意！

向明友

2016 年 3 月于北京

INTRODUCTION 编写说明

随着我国经济的快速发展和大学英语教学改革的不断深入，大学英语教学水平及大学生的英语综合应用能力在不断提高。英语阅读既是我国大多数英语学习者的学习目的，又是其学习手段。可以说，英语阅读能力的培养是进一步提高听、说、写、译能力的基础，因此，培养英语学习者的阅读能力非常重要。

《新起航大学英语阅读》根据新的《大学英语教学指南》，在参考国内外多种英语阅读教材及阅读方法的基础上，由多年从事大学英语教学的教师，针对我国大学生目前的整体英语水平和实际英语能力编写而成。本教程共分4册，每册8个单元，每个单元由三部分构成。第一部分为长篇阅读（2篇），第二部分为短篇阅读（含完形填空1篇，深度阅读4篇），第三部分为“英语话中国”。本教程的主要特点是：①选材广泛：内容涉及社会、文化、科技、教育、人文、环境、生态等各个学科领域；②选材真实、地道，趣味性强：教程在选材上注重语言的真实性和规范性，题材以反映现实生活为主。大多数材料选自英美国家近期出版物，内容新颖、语言地道，趣味性强。③练习丰富，启发思维：练习的编写融快速阅读、深度阅读及词汇练习等多种有效阅读方法为一体，突出批判性思维能力的培养。④注重中华文化的传播：每个单元设有“英语话中国”栏目，旨在让学生用英语学习中华文化，了解中国的政策和建设成果，培养他们对外传播中华文化的能力。

本教程的编写既考虑到目前我国英语教学的实际情况，又适应大学英语教学改革的趋势，编写目的明确、内容丰富，练习得当，可以满足不同层次、不同模式的英语教学需要，尤其适合大学生参加四、六级英语考试训练阅读能力使用。

本书由向明友教授担任总主编，山东大学崔校平教授担任系列主编，山东体育学院宁翠叶教授和齐鲁工业大学王悦文副教授担任主编，青岛大学宁小倩老师，山东体育学院田珂、王甜甜、张倩老师参与编写。

由于时间仓促及作者水平所限，不当之处在所难免，还望广大读者批评指正。

编　者

2016年3月

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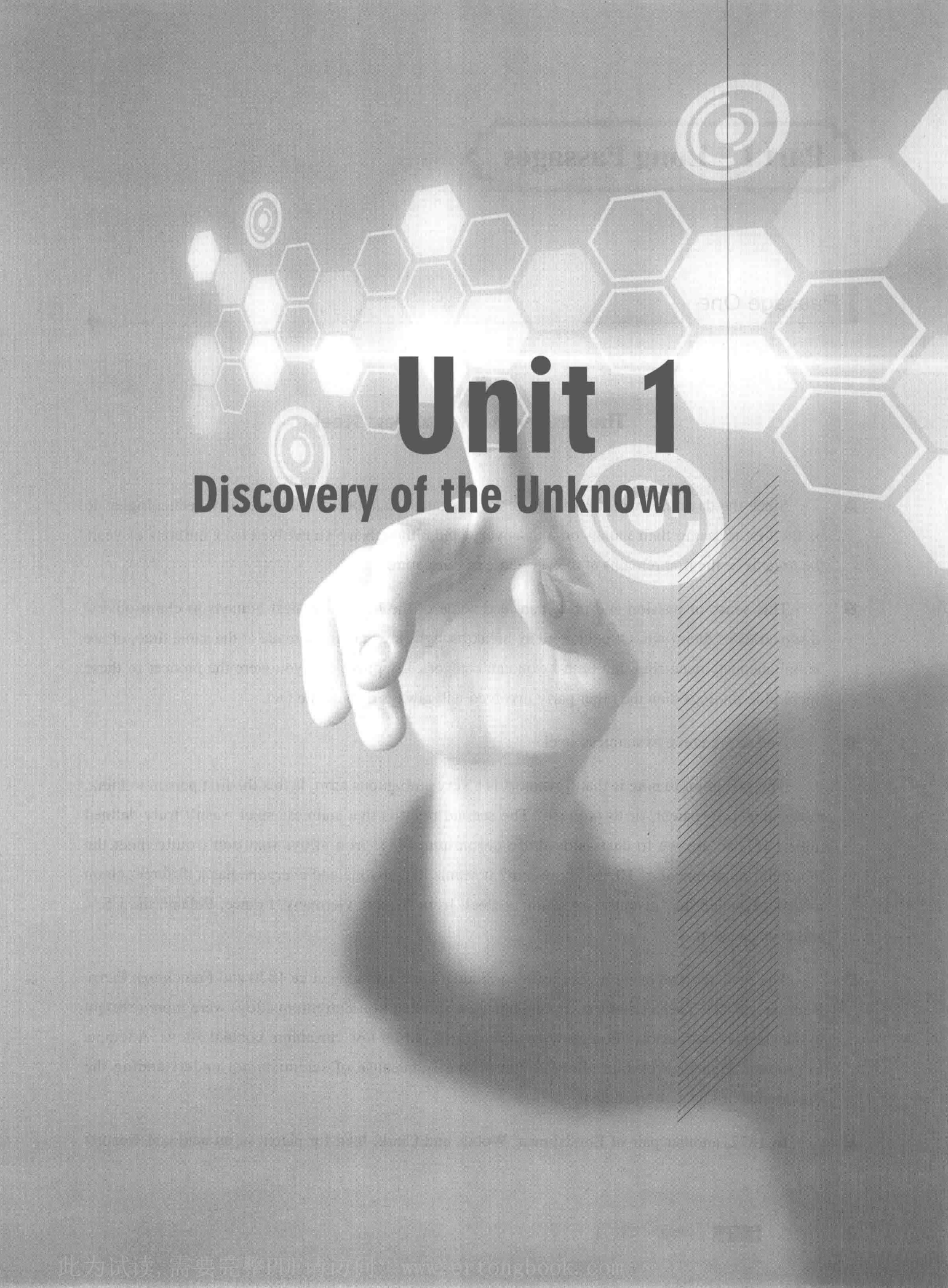

Unit 1
Discovery of the Unknown

Part I Long Passages

Passage One

The Discovery of Stainless Steel

A Since the dawn of man, colonies have raced against each other to uncover new technologies, to be the first to stamp their names on a discovery, and although we've evolved over millions of years the urge to be the first remains at the very core of our nature.

B This sense of passion and pride can lead some of the more dishonest humans to claim others' discoveries as their own. Of course many breakthroughs are genuinely made at the same time, or are simultaneously occurring, but unless you can categorically prove that you were the pioneer of these incredible findings then the other party involved will always dispute the fact.

C And so we come to stainless steel.

The first point to note is that 'inventor' is a very ambiguous term. Is this the first person to think, to document, to patent, or to produce? The second point is that stainless steel wasn't truly defined until 1911, so are we to cast aside those chromium（铬）-iron alloys that don't quite meet the minimum requirement of 10.5% chromium? It seems like anyone and everyone has a different claim to being labelled the 'inventor' of stainless steel; from Britain, Germany, France, Poland, the USA, and even Sweden.

D The first step was made by Englishmen Stoddard and Farraday circa 1820 and Frenchman Pierre Berthier in 1821. These scientists, among others, noted that iron-chromium alloys were more resistant to attack by certain acids, but tests were only carried out on low chromium content alloys. Attempts to produce higher chromium alloys failed primarily because of scientists not understanding the importance of low carbon content.

E In 1872, another pair of Englishmen, Woods and Clark, filed for patent of an acid and weather

resistant iron alloy containing 30-35% chromium and 2% tungsten（钨）, effectively the first ever patent on what would now be considered a stainless steel. However, the real development came in 1875 when a Frenchman named Brustlein detailed the importance of low carbon content in successfully making stainless steel. Brustlein pointed out that in order to create an alloy with a high percentage of chromium, the carbon content must remain below around 0.15%.

F Thus the development of stainless steel halted for two decades, while many scientists attempted to create a low carbon stainless steel, none succeeded. It wasn't until 1895, when Hans Goldschmidt of Germany developed the aluminothermic（加铝热剂的）reduction process for producing carbon-free chromium, that development of stainless steels became a reality.

G In 1904 French Scientist Leon Guillet undertook extensive research on many iron-chromium alloys. Guillet's work included studies on the composition of what would now be known as 410, 420, 442, 446 and 440-C. In 1906 Guillet went on to analyze iron-nickel-chrome alloys, which would now be considered the basics of the 300 series. However, while noting the chemical composition of his alloys, Guillet failed to acknowledge the potential corrosion（腐蚀）resistance of his materials.

H In 1909 Englishman Giesen published an in-depth work regarding chromium-nickel steels, while the French national, Portevin, studied what is now regarded as 430 stainless steel.

I However, it wasn't until 1911 that the importance of a minimum chromium content was discovered by Germans P. Monnartz and W. Borchers. Monnartz and Borchers discovered the correlation between chromium content and corrosion resistance, stating that there was a significant boost in corrosion resistance when at least 10.5% chromium was present. The pair also published detailed works on the effects of molybdenum（钼）on corrosion resistance.

J It is at this point we introduce Harry Brearley, born in Sheffield, England in 1871, he was appointed as lead researcher at Brown Firth Laboratories in 1908. In 1912 Brearley was given a task by a small arms manufacturer who wished to prolong the life of their gun barrels which were eroding away too quickly. Brearley set out to create an erosion resistant steel, not a corrosion resistant one, and began experimenting with steel alloys containing chromium. During these experiments Brearley made several variations of his alloys, ranging from 6% to 15% chromium with differing measures of carbon.

K On the 13th August 1913, Brearley created a steel with 12.8% chromium and 0.24% carbon, argued to be the first ever stainless steel. The circumstances in which Brearley discovered stainless steel are covered in myth; some enchanted tales of Brearley recite him tossing his steel into the rubbish, only to notice later that the steel hadn't rusted to the extent of its counterparts, much like

Alexander Flemings experience 15 years later. Other more plausible accounts claim it was necessary for Brearley to throw his steels into nitric acid and examine them under a microscope in order to analyse their potential resistance to chemical attack. Brearley found that his new steel resisted these chemical attacks and proceeded to test the sample with other agents, including lemon juice and vinegar. Brearley was astounded to find that his alloys were still highly resistant, and immediately recognised the potential for his steel within the cutlery（刀具） industry.

L Brearley struggled to win the support of his employers, instead of choosing to produce his new steel at local cutler RF Mosley. He found difficulty producing knife blades in the new steel that did not rust or stain and turned to his old school friend, Ernest Stuart, Cutlery Manager at Mosley's Portland Works, for help. Within 3 weeks, Stuart had perfected the hardening process for knives. Brearley had initially decided to name his invention 'Rustless Steel', but Stuart, named it 'Stainless Steel' after testing the material in a vinegar solution, and the name stuck.

M And that's how Harry Brearley discovered stainless steel. Although there is much mystery and speculation behind the discovery of this wonderful material, there is no question that without the combined effort of all the above scientists and metallurgists (and all the many more that were not mentioned) we would not have such a rich and versatile metal at our fingertips. (988 words)

Directions: *Each of the following statements contains information given in one of the paragraphs in the passage above. Identify the paragraph from which the information is derived. You may choose a paragraph more than once. Each paragraph is marked with a letter.*

_____ 1. Although succeeding in analyzing many alloys, Guillet failed to explain the reason of their corrosion resistance.

_____ 2. How Brearley discovered stainless steel is still unclear, which has many tales spreading.

_____ 3. At first, Brearley was asked to invent erosion resisting alloys which could be applied in producing weapons.

_____ 4. It was difficult to produce knife blades with Brearley's stainless steel until the technological advancement of hardening was achieved.

_____ 5. Human beings are eager to be the first in making new technology advancement.

_____ 6. Being ignorant of the function of low carbon content, most experiments in 1820s

are limited to the low chromium content alloys.

_____ 7. The chromium's importance in resisting corrosion was discovered by two German scientists.

_____ 8. Brearley turned to a weapon manufacturer rather than other local companies for help to produce his stainless steel.

_____ 9. A French scientist noted that to produce stainless steel, the carbon content must be kept low.

_____10. It is hard to decide the inventor of stainless steel, since even the term stainless steel was defined late.

Passage Two

The Discovery of Essential Fatty Acids

Rajendrani Mukohpadhyay

A In the early 1900s, dietary fat was viewed simply as a source of calories. But in 1929 and 1930, a husband-and-wife team published two papers in the *Journal of Biological Chemistry* that turned the notion on its head. Through careful analyses of rats fed special diets, George and Mildred Burr discovered that fatty acids were critical to health. If fatty acids were missing in the diet, a deficiency disease followed and often led to death. The Burrs identified linoleic acid（亚油酸） as an essential fatty acid and coined the phrase "essential fatty acids."

B The work by the Burrs "showed that fats are not there solely as calories to support growth but that they are important for proper physiology," explains Norman Salem Jr. of DSM Nutritional Products, a company that makes nutrition products. The two papers indicated "the beginning of a modern pattern in nutritional biochemistry."

C The field of nutritional fatty acid research has exploded since the work by the Burrs and now affects our daily lives. Food manufacturers add fatty-acid supplements, such as the ω-3 fatty acids EPA and DHA, to processed foods, and government agencies work to establish guidelines on which fats should be incorporated into healthful diets.

D In a speech he gave in 1980 at the Golden Jubilee International Congress on Essential Fatty Acids and Prostaglandins at the University of Minnesota, George Burr described how he worked into the research project that changed the perception of fats. In 1924, as a newly graduated Ph.D. in biochemistry from the University of Minnesota, 28-year-old Burr joined the staff of Herbert Evans at the University of California, Berkeley. Evans already was famous because he, along with Katherine Scott Bishop, had discovered vitamin E two years earlier. Burr joined the laboratory as a research associate and was tasked with understanding the chemistry of the vitamin.

E At the time Burr arrived at the Evans laboratory — along with an animal he recently had captured on an Arizona scientific expedition and had had stuffed — his colleagues were struggling with a problem. They were trying to produce sterile （不孕的） female rats as controls for a test with a diet deficient in vitamin E. But for some reason the rats were not always sterile. It seemed that some lipid component with vitamin E in it kept sneaking into their diet.

F To tease out the details, George Burr put a group of rats on a highly purified and simple diet. The diet consisted of sucrose and casein（蔗糖和酪蛋白）, both of which he and his colleagues repurified after they received them from the manufacturers to make sure there weren't trace components that could somehow affect results. To the sucrose and casein, they added components such as highly purified salts and vitamins. They then fed the mixture to the rats. "In a little while, we had an extreme deficiency in our young animals," Burr said in the 1980 speech. "We had run our first fat deficiency experiment and didn't know it."

G The researchers searched the literature to figure out where they had gone wrong. They had added all the known vitamin supplements to the simple diet, but they were still getting a deficiency disease. Burr said in his 1980 speech that nutrition experts of the time insisted to him that fats were not necessary for a complete diet.

H As he tried to figure out what was going on with the sick rats, Burr accepted an offer to join a new department at the University of Minnesota. By this time he was married to a technician named Mildred (her maiden name was Lawson) who was responsible for the Evans laboratory's stock rat colony. So that George Burr could start his new post in 1928, the couple left Berkeley, Calif., for Minneapolis in a Model-T Ford with two cages of rats. "On the cold fall nights, our pets were smuggled into hotel rooms under long overcoats," George Burr recalled in a 1982 article.

I While George Burr had the appointment at the university, funding was so tight that Mildred volunteered to help with the work. The Burrs felt that, if they were to make any progress with this nutritional disease, they had to exclude fats more strictly from the simple diet and had to quantify the

symptoms of the deficiency as thoroughly as possible. This way, they would be able to measure the relative curative properties of additives they put in the simple diet later on.

J In the 1929 JBC paper, the Burrs described the new nutrition deficiency in detail. When fats were eliminated from the diet for several months but the amount of food wasn't changed, the rats developed unhealthy skin. Their tails became easily infected. The back paws reddened and sometimes swelled. The animals lost fur around the face and throat with sores appearing. As they continued on the fat-free diet, the animals began to lose weight and, within three or four months of the weight loss, died. When their dead bodies were cut open, the Burrs noted that the animals' kidneys bore significant signs of damage. The Burrs showed that added vitamins didn't help the animals recover from the disease, but adding small amounts of pig's oil, as little as three drops, was enough to help the animal recover.

K At this stage, the Burrs could conclude only that fat starvation over a period of several months caused a disease in rats that eventually led to death. They didn't know if the rats died because of the strain of having to produce fats internally or because of the missing fats from the diet.

L But the second paper, which appeared the next year, put the question to rest. The Burrs showed that linoleic acid was an essential fatty acid that was needed in only small amounts to support health. Their work "led them to identify unsaturated（不饱和的）fatty acids" as essential nutrients, explains William Smith at the University of Michigan, Ann Arbor.

M The Burrs established that the fat-deprived rats could not be cured with saturated fatty acids. But if the rats were given linoleic acid from sources such as olive oil, they were cured. The Burrs went on to show that complex, unsaturated oils like corn or cod liver oils were better at curing the animals than just a single fatty acid. They had to use physical and chemical means of separation to analyze the components of the fats, because their work preceded the days of common analytical techniques.

N Their findings were "born into controversy", wrote Ralph Holman of the Hormel Institute in 1998. In the 1940s, Holman was one of George Burr's graduate students and later a research associate. Holman pointed out that, in the same issue of the JBC as the second paper, a group led by Lafayette Mendel at Yale University had a paper that concluded that fat's nutritional value was solely in fat-soluble vitamins and calories but not fatty acids. In his 1982 article, George Burr remembered receiving a letter of sympathy for coming to the conclusion that fatty acids were important.

O Later work, some of it done by Holman, went on to demonstrate that linoleic acid was critical in the human diet. It is only now that some understanding of how linoleic acid plays a role in maintaining healthy skin is starting to emerge. (1225 words)