国家“十二五”重点规划项目

普通高等教育“十二五”重点规划教材

Nucleus 新核心大学英语

总主编 蔡基刚

本册主编 宋梅

4

Extensive Reading Course

泛读教程

上海交通大学出版社

Nucleus
新核心大学英语

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Nucleus Preface
总　序

一、教材编写依据

21世纪以来，我国相继出版了一批优秀的大学英语教材。如果说这些教材都是以趣味性、可思性、文学性和人文性为课文选材原则，提倡人文素质教育，那么《新核心大学英语》教材将在这方面有一个新的突破。本教材是21世纪以来第一次在大学英语教学中提出科学素质教育，第一次鲜明地打出content-based的原则，第一次在课文选材上偏向提高学术能力的科普性文章。

英国文化委员会在上世纪末的一项全球大型英语教学调查中得出结论："将来的英语学习不再是单纯的英语学习，而是越来越多地与某一个方面的专业知识或某一个学科结合起来。"也就是说在21世纪，外语学习不是单纯地为学语言而学语言，或为打基础而打基础。大学英语要走出传统外语教学的困境，就必须和学生所学的专业内容结合起来。

如何结合？许国璋教授在30年前就为我们指明了方向。他认为，中学学普通英语，大学学分科英语，研究生学专业英语，这样"中学6年，大学和研究生6年，12年培养出能与麻省理工学院同行专家交流（听、说、读、写）学术信息的专家"。

何谓分科英语？广义地说，就是大文大理。大文即文科英语，大理即理科英语。也就是说，学生要通过和自己专业相关的大学科内容来学习英语，来提高用英语交流和汲取信息的能力。如果说这个理念在十几年前由于受各种因素的制约还勉为其难，但随着大学新生英语水平的逐渐提高，大学英语四、六级考试逐渐淡化，学生对结合专业内容学习英语的呼声渐高，本教材编写理念实行的条件已经成熟。

《新核心大学英语》就是在新的形势下为探索大学英语再上新台阶的一种尝试，是为大学生达到《大学英语课程教学要求》中的一般要求、较高要求和更高要求而编写的一套具有鲜明时代特色的大学英语教材。

二、教材编写理念

1. 培养大学生科学素质

2010年《国家中长期教育改革和发展规划纲要》对我国大学生提出了“提高科学素质和人文素质”的要求。科学素质（scientific literacy）是指一个公民应该具备的科学技术知识，应该掌握的基本科学方法和参与公共事务过程中所表现出来的科学态度与科学精神。根据我国第八次公民科学素质调查，2010年我国公民科学素质只有3.27%，而美国公民的科学素质在2000年就达到17%。因此，大学英语不仅肩负着培养我国大学生人文素质的责任，也同样肩负着提高我国大学生科学素质的责任。《新核心大学英语》通过24个主题，全方位反映当代科学技术在各个领域的新发展，尤其介绍科技发展背后的人文性，即科学概念、科学方法和科学态度。由此可知，本教材是通过科学题材来介绍语言的共性，尤其是学术语言特征，从而帮助学生习得外语。

2. 采用折衷主义教学法

《新核心大学英语》在编写理念方面继承了我国大学英语教材的优秀传统，吸取了大学英语教师在课堂教学中长期积累起来的经验和方法，尤其是在计算机和网络多媒体教学中积累起来的经验和做法，同时借鉴国外外语教学的各种理论。经过消化和改造，决定采用糅合中外多种教学法之长的折衷主义教学法，即集基于主题（theme-based）、内容依托（content-based）、突出技能（skill-based）、基于研究（research-based）和强调自主（autonomous learning）等多种教学和教材编写理念为一体。

3. 突出任务型教学理念

《新核心大学英语》批判性地吸收了Ellis的“输入与互动假设”（input and interaction hypothesis），运用Willis的A Framework for Task-based Learning的理论为本书的练习框架。与传统的任务型教学不同，本教材运用超文本化和协作化理论，以课文话题为主线，设计多个微型的、带有研究性的项目。因此，本教材任务型教学实际上是项目型或研究型教学法（project-based，or research-based），要求学生以小组形式通过学习《读写教程》和《泛读教程》所提供的相关文章，观看《听说教程》中的视频讲座录像，并在网络上搜索相关主题的资料在课下开展研究。研究方法是通过对相关主题的文献综述，报告该领域的国际研究情况。形式主要让学生在课上向全班汇报他们的发现，然后学生相互提问，最后写出报告作为写作任务。

试读结束，需要全本请在线购买：www.ertongbook.com

4. 培养自主学习能力

授人以鱼不如授人以渔。培养学生自主学习的能力是贯穿于本教材的一条主线。《新核心大学英语》培养学生自主学习能力的特点体现在以下几个方面：

（1）在《读写教程》、《泛读教程》和《听说教程》中，每单元都增设听说策略、阅读策略、写作策略讲解与练习，旨在帮助学生掌握英语学习技能。

（2）改变在课文注释部分提供背景知识和术语的传统做法，精心挑选若干背景知识和术语让学生在课前上网查找，旨在培养学生通过不同资源搜索信息和组织信息的能力。

（3）改变在主干教材每篇课文后提供生词注释表的传统做法，只列生词不给词义解释，旨在培养学生通过从已掌握的构词法和上下文猜测词义的能力。

（4）新设了单元自我评估表，旨在培养学生对所学单元的词汇、句型、搭配和学习技能进行自我评估与反思的好习惯。

5. 偏向学术能力训练

如果把语言看做交际工具，学习英语的主要目的之一是为了使用，那么大学英语教学在逐渐和四、六级考试脱钩的情况下，就应该着力培养学生专业学习和今后相关工作的英语语言能力，这就是学术口头表达能力和学术书面表达能力。因此在训练一般听、说、读、写的综合应用能力的同时，在听说方面，偏向训练学生听英语学术讲座、参加学术讨论和宣读学术论文的能力；在读写方面，通过介绍带有学科特点的词根和词缀来扩大学生的学术词汇，同时训练学生查找和阅读文献的能力以及撰写学术论文摘要的能力。

6. 强调词汇能力

Diller认为，外语学习者如想比较顺利地阅读中等难度的文章，1万个词汇是最低的要求。而其中如有1000个词汇是某一专业的词汇，那么外语学习者在阅读有关专业的文章时，阅读效率就会大为提高。日本规定大学毕业生应掌握累计词汇13200个。我国《大学英语教学课程要求》对大学毕业生一般要求的累计词汇仅为4700个。我们认为，正是词汇要求过低，学生不仅通过四、六级考试困难，而且也严重地影响了用英语交流信息和汲取信息的能力。《新核心大学英语》在满足学生对四、六级词汇需求的同时，尽可能提供机会扩大他们的词汇量，尤其扩大他们在阅读科普文献中所需要的学术词汇量。《新核心大学英语》为此编写了一本独立的词汇手册，把教材中的词汇按课文学科主题归类，突出570个学术家族词汇，并配以一定的词汇练习，使词汇手册起到查和学的双向功能，以帮助学生积累更多的词汇。

7. 注重语块学习

现代外语教学理论证明，外语学习不应是单个生词和语法规则的记忆，而是更要注重语块的学习和记忆。《新核心大学英语》的词汇和句法练习设计就是根据这个理念展开的。因此，传统的浩瀚的多项选择题和填空题在教材中基本消迹，代之以词汇搭配和句型操练，目的就是通过这两个练习来培养学生得体和熟练的交际能力。教材提供BNC英语口笔语语料库（http://corpus.byu.edu/bnc/）网址，学生在WORD(S)后面的方框中输入搜索词，就可以看到各类搭配。例如要查找可以与某词搭配的动词、名词、形容词、副词或介词，则分别输入以下表达式：WORD [v*]、WORD [n*]、WORD [aj*] 、WORD [av*]或WORD [prp*]；如动词、名词、形容词、副词或介词出现在某词前面时，则分别输入以下表达式：[v*] WORD、[n*] WORD、[aj*] WORD、[av*] WORD或[prp*] WORD。

三、教材结构框架

1. 针对性

《新核心大学英语》编四个级别，供四个学期使用，起始级相当于目前大学英语教材的一级和二级之间。学完四册相当于《大学英语教学课程要求》中的较高要求。每一级分别有《读写教程》、《泛读教程》、《听说教程》和《词汇手册》。此外，我们还另行编撰了选修课教材供选用。

2. 结合性

每级三本教程和一本手册在同一主题下紧密结合在一起。《读写教程》通过相同的主题，在内容补充和练习安排方面统辖其他两本教程和一本手册，换言之，其他教程和《词汇手册》都是为《读写教程》制定的单元教学总目标服务，提供听说读写和词汇方面的材料和练习，可以说它们是《读写教程》的练习册。三本教程和手册真正做到浑然一体。因此，建议教师在使用《读写教程》的时候，要充分利用其他两本教材和《词汇手册》。

3. 多模态性

《新核心大学英语》充分利用现代化技术，推出多模态性理念，即通过课本、光盘、教学平台把教材分成纸质教材和电子教材。电子教材不仅包括纸质教材中的内容，而且还包括与其配套的练习材料、任务项目、参考网站、语料库和练习答案等。电子教材主要放在学校的教学平台上，今后可以储存到阅读器上。本套书还配有演示课件即电子教案，具有开放性特点，主要供教师上课使用。

四、教材编写队伍

《新核心大学英语》总主编：蔡基刚

《读写教程》主编：蔡基刚、蒋学清；第一册主编：王慧敏、张德玉；第二册主编：邹枚；第三册主编：黄川、杨勇；第四册主编：刘文宇、王慧莉。

《泛读教程》主编：蔡基刚；第一册主编：张德玉、杨红；第二册主编：李建利、李黉；第三册主编：欧阳铨、郑玉荣；第四册主编：宋梅。

《听说教程》主编：蔡基刚；第一册主编：罗炜东、赵群；第二册主编：徐欣；第三册主编：程寅；第四册主编：刘爱军。

《词汇手册》主编：蔡基刚；第一册主编：张德玉；二至四册主编：廖雷朝。

《新核心大学英语》是由复旦大学、上海交通大学、北京交通大学、合肥工业大学、大连理工大学、西北大学、哈尔滨工程大学、北京邮电大学、云南大学、中国海洋大学等学校的教师联合编写的。编写中我们得到了在编写理科英语教材方面具有丰富经验的孔庆炎和陈永捷等教授的指导，在此特别鸣谢。

蔡基刚

2010年12月

Nucleus Instructions
编写说明

《新核心大学英语泛读教程》以最新的外语学习理论为指导，以培养学生文献阅读能力为宗旨，以扩大学生词汇量和培养学生阅读技能为重点，通过讲、读、练相结合，帮助学生学会快速、准确地获取英文科技信息，提高英语文献资料的阅读水平。

本书为《新核心大学英语泛读教程4》，全书共分为八个单元，每个单元都与《读写教程》的相应单元话题一致。每单元包括三大部分，分别是：与主题相关的文献阅读（theme-related reading)、翻译技巧（translation skills）和扩展阅读（extensive reading）。

与主题相关的文献阅读部分包括两篇围绕该单元主题选材的文献资料，每篇长度为1000~1400词之间。篇中一般生词都在同页右边注出，涉及背景知识的词汇和疑难句子在文后另有注释。为了提高学生根据上下文猜测词义的能力，每页下方还特设若干猜词题，学生可根据《词汇手册》上的释义或查词典判断正误。此外，本部分还配有问答题、是非题、摘要写作、信息填空、选择题和翻译题，力图多角度地帮助学生理解文献资料。与主题相关的文献阅读可扩大学生对单元主题内涵的学习，增加学生该方面的词汇量，加深学生对单元主题的理解。建议将本部分学习与《读写教程》和《听说教程》结合起来，以帮助学生学会从不同角度探讨问题，并利用在本部分学到的信息和词汇，更好地进行读写及听说教程中相关的口头和书面表达。

翻译技巧部分介绍了常用的翻译技巧，包括词义选择与翻译、名词化结构的英汉翻译、量词和倍数的翻译、被动句子的英汉翻译、分词短语和介词短语翻译、定语从句的英汉翻译、长句翻译等。每单元在简要介绍各种翻译的要点之后，都配有相应的练习。部分练习题与该单元第一或第三部分的阅读材料有关，可根据文献阅读的进度选择恰当时机进行有关练习。

扩展阅读部分包括两篇快速阅读（speed reading）、三篇深度阅读（reading in depth）和一篇集库式完形填空（banked cloze）。快速阅读每篇长度在1000~1400词之间，难度比与主题相关的文献阅读稍低，建议在规定时间内完成阅读及有关练习，以达到提高阅读速度的目的。深度阅读和集库式完形填空都采用了大学英语四、六级考试阅读理解部分的题型，在帮助学生拓宽阅读面、丰富语言知识、增强英语语感的同时，也为学生参加四、六级考试做好必要的准备。本部分既可在教师指导下学习，也可留给学生自学。

书后附有练习答案，供师生参考使用。

更多信息请访问上海交通大学出版社网站“新核心大学英语”专栏：http://nucleus.jiaodapress.com.cn。

由于时间仓促，加之编者水平有限，书中难免存在诸多纰漏和瑕疵。恳请广大专家学者批评指正。

编　者

2011年5月

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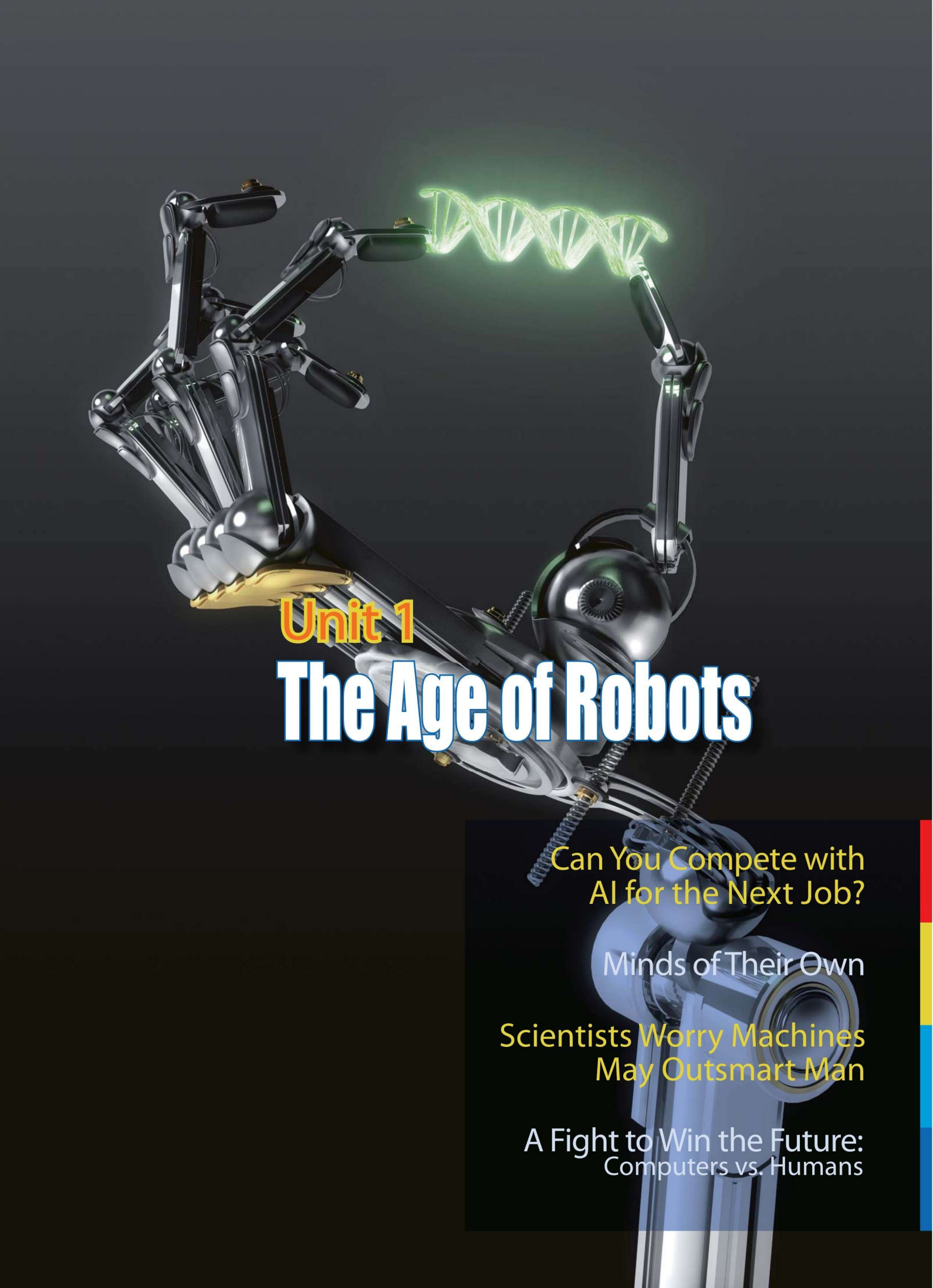

Unit 1
The Age of Robots

Can You Compete with AI for the Next Job?

Minds of Their Own

Scientists Worry Machines May Outsmart Man

A Fight to Win the Future: Computers vs. Humans

Part I

Theme-Related Reading

Pre-reading Questions

1. What does the description of new computer software that instantly sifts through thousands of legal documents imply?
2. Why did the mass job shrinkage that learned observers expected not materialize over such a long period of time?
3. What brought about a sharp decrease in farming population, from 11 or 12 million at its peak around 1910, to less than 2 million today?
4. How can it be that between 1960 and 2010, the population of the US grew 1.7 times; but the number of employed Americans grew about 2.4 times?
5. Will computerization eliminate jobs today but yield savings that will create newer, better jobs tomorrow? If so, then what kinds of jobs will be created?

Text A

Can You Compete with AI[!] for the Next Job?

Claude Fischer

A recent article in the *New York Times* described new computer software that in an instant **sifts** through thousands of legal documents looking for a few **litigable** items, replacing hundreds of hours spent by lawyers reading the documents. This is not the start of a joke about how many lawyers you need to... but it does raise the question of how many lawyers you need. Economist-columnist Paul Krugman["] used the story to explain that computerization threatens to replace many white-collar jobs that are now held by college graduates. (And if you don't need college graduates, do you need college professors? Uh-oh.)

It did not help settle anxieties that the story appeared shortly after IBM's Watson computer beat two super-humans at Jeopardy[#]. And now there are reports of software programs winning big pots on Internet poker. The **specter** of automation **unemploying**[1] us all may have finally

sift
筛分；过滤
litigable
可在法庭相争的

specter
鬼怪；幽灵

Guess the meanings of the following words in the context

1. unemploy A. 招募 B. 解雇 C. 援助

arrived.

For decades, ages before personal computers, learned observers wrote about how machines were going to replace humans—for better or for ill. Some worried that the masses of **dispossessed** workers would form a revolutionary **mob**; others suggested introducing people to **uplifting** hobbies, since we would have so much more leisure time on our hands. But the mass job **shrinkage**[2] that these observers all expected did not come.

Has it f nally come now?

Demands of a New Economy

The biggest occupational **displacement** in American history was the virtual end of farming. Around the time of the Revolution [$], about 90 percent of Americans were involved in farming; they were farm owners, farm wives, farm kids, farm hands, farm slaves. Mostly they farmed to keep themselves alive and then farmed some more so they could **barter** or sell some **surplus**[3]. Selling on the market became increasingly important in the 19th century , as roads, canals, and rails linked the farmers to towns and harbors. Big ships then took farmers' crops to Europe. Farming increasingly became a cash business.

But as the agricultural industry grew , it needed fewer and fewer workers to produce a **bushel** of corn, a gallon of milk, or a head of cattle. The absolute number of people who worked at farming and ranching hit its peak about 1910—at around 1 1 or 12 million—and then the number dropped off rapidly. Today, agriculture provides fewer than two million jobs.

What happened? In great part, automation happened—better plows, planting and sowing machines, harvesters—as did scientif c farming, better seeds, **and the like**. Millions of farmers and farm hands now made **superf uous**[4] had to move on. The percentage of American workers who were farmers dropped from that early 90 percent or so in 1800, to about 40 percent of the labor force in 1900 and then to under two percent in 2000.

Yet Americans as a whole were not automated out of work; the farmers—or more typically, the farmers' sons and daughters—found new kinds of jobs in a growing economy . A lot of those jobs were in manufacturing. Those jobs both paid better and usually provided better working conditions than did farming. That's one reason every rural generation **moaned** about how hard it was to keep the kids down on the farm.

Machines that Run Machines

The early water-and-steam-powered factories that employed many formerly rural Americans themselves displaced millions of **craftsmen**, a process some scholars have labeled "**deskilling**[5]". For example, early 19th century shoemakers hand-crafted shoes, starting with the raw leather and ending with the **laces**, but by mid-century assembly-line shoes were **undercutting**[6] their business. In one North Carolina[%] town during the 1830s, church elder and shoemaker Henry Leinbach complained, "It appears there is little love among us anymore..."

dispossess
剥夺
mob
暴民
uplifting
令人振奋的

displacement
取代；替代

barter
以物易物

bushel
蒲式耳(容量单位)

and the like
等等，诸如此类

moan
抱怨

craftsman
工匠，手艺人

lace
鞋带，饰带

2. shrinkage A.	收缩 B.	陡增 C.	转变
3. surplus A.	过剩 B.	资源 C.	流通
4. superf uous A.	大量的 B.	增长的 C.	多余的
5. deskilling A.	剥夺机会 B.	减弱力量 C.	降低技术性
6. undercut	A. 取代 B.	削弱 C.	提升

One of Leinbach's neighbors who may have shown too little love wrote that she preferred to order her shoes from Philadelphia &, because they "wear and fit better than any I have ever owned"—and they were probably cheaper , too. **In place of** craftsmen making shoes, machine-handling factory workers made them.

in place of
代替, 取代

The number of factory jobs increased about six-fold between 1860 and 1920 (while the population grew only about three-fold). The percentage of American workers in manufacturing rose from about 15 to about 25 percent. Then, the factory jobs got harder to f nd, in part because of automation. It was one reason—along with a shift to foreign suppliers—that the number of manufacturing jobs in the US peaked in 1979 at 19 million. That number dropped to 13 million in 2008, even before the Great Recession really hit.

Millions of manufacturing jobs have gone away , as millions of farm and craft jobs went away before. Yet, through all that, more new jobs appeared. Between 1960 and 2010, the population of the US grew 1.7 times; but the number of employed Americans grew about 2.4 times. How can that be? Answer: The magic of growing productivity (combined with mothers and immigrants joining the labor force to f ll those jobs).

Savings Leads to Spending

The automation of farming, craft work, and manufacturing made products—most importantly, food—incredibly cheaper. For example, around 1900 a pound of bread cost an American about half an hour of hard factory work; around 2000, a pound of fresher , more nutritious bread cost about f ve minutes of much easier work. The savings from cheaper food, shoes, and the like went into buying all sorts of new goods like cars and refrigerators and especially into paying service-providers: entertainers, doctors, waiters, teachers, software creators, bankers, police of f cers, **yoga** instructors, and the like. Many of the displaced farmers, craftsmen, and factory workers—or much more often, their children—ended up in pink-collar (, white-collar, and professional jobs.

yoga
瑜伽

This story—tragic at the level of the displaced worker , happy at the level of the national labor force—summarizes the work experience in America for centuries. Will it continue? Will the computerization of, say, document-searching eliminate jobs today but yield savings that will create newer, perhaps better jobs tomorrow?

Or has history turned a corner? Is AI (artificial intelligence) a new sort of automation, one that undercuts the brain work that became the mark of late-20th century employment, one that will only eliminate the better jobs? Will AI machines take over the best occupations such as systems analysts and biomedical engineers (paying humans about $75,000 a year) and leave people to be home health and personal care aides (at about $20,000 a year)—the four jobs that the Bureau of Labor Statistics) currently expects will grow the fastest in the next decade?

The historical trend in American work suggests some **optimism** that better jobs for humans are coming, but history also suggests that few trends move in the same direction for very long.

optimism
乐观；乐观主义

(1112 words)

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