

全国高等职业技术院校外语系列教材

新世纪 高职高专英语 综合教程

总 主 编 戴炜栋
副总主编 蒋秉章

主编 周玉林

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教师用书 TEACHER'S BOOK

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外教社®

上海外语教育出版社

全国高等职业技术学院外语系列教材

新世纪高职高专英语

总主编
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综合教程

教师用书

NEW CENTURY ENGLISH INTEGRATED COURSE Teacher's Book

3

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教材

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前言

全国普通高等院校英语系列教材《新世纪高职高专英语》是上海外语教育出版社联合深圳、上海、南京等地的高等院校编写出版的富有时代特色的新型实用的英语教材。本套教材是根据国家教育部《普通高等专科学校英语课程教学基本要求》进行设计和编写的,分为《综合教程》和《听说教程》,各六册。两套教程都包括《学生用书》和《教师用书》。本书为《新世纪高职高专英语》的《综合教程》第三册教师用书。

本套教材独辟蹊径,以全新的视角诠释现代英语的语言学习模式和教学规律,其特点表现在五项创新:

1. 以现代语言学权威理论作指导,充分体现素质教育和高职特色。
2. 选材紧扣时代脉搏,题材、体裁多样,内容丰富,通俗易懂,具有实用性、时代性、科学性、趣味性、可学性和可教性。
3. 体例创新,打破常规,图文并茂,引人入胜。
4. 单元编写模式新颖,每个单元的听、说、读、写、译围绕一个主题(Topic)展开,强化了教学的可操作性。
5. 练习形式别具一格,轻松活泼,寓教于乐。

《综合教程》第三册保留了第一、二册中富有特色的部分,如 *Highlights*, *Lead In*, *Read In*, *Focus On*, *Work Out* 和 *Fun Time* 等,并在此基础上增加了 *Practical Reading* 和 *Practical Writing* 两部分,以便学生在达到一定的英语水平后,开始学习专业技术性英语,掌握实际应用英语的能力。

Practical Reading 包括国外大学介绍、大学录取通知书、留学生签证要求、旅游景点介绍、公司简介、食谱、招标公告、药品说明书、招聘广告和公司法条文等。

Practical Writing 包括求职信、个人简历、留学申请表、名片、传真、电子邮件、便条、海报、邀请信和商业书信等。

为了提高学生的翻译水平,帮助他们攻破语法难点并提高对英语语篇整体的理解、掌握,第三册中的 *Work Out* 部分增加了 Translation Skills, Usage, Proofreading 及 Make the Right Choice 等内容及练习。

教师参考书各单元的教案由四部分组成:

背景知识(Background Information): 内容包括作者生平、人物介绍、与单元主题相关的英美文化、教育、社会生活以及风土人情方面的背景知识。

语言点(Language Points): 内容包括课文难点注释、英语难句释义(paraphrase)以及句型成语使用的例证等。

课文译文(Text Translation): 给出 *Read In* 和 *Practical Reading* 两部分课文的译文,供教师参考。

练习答案(Key to Exercises): 提供各项练习的参考答案,供教师参考使用。

本教材总主编为戴炜栋,副总主编为蒋秉章。

本册主编为周玉林,参加编写的有:阮红缨、奚家文。

由于编者水平有限加之时间仓促,疏漏和不妥之处在所难免,恳请读者不吝指正。

编 者

2001年3月

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Unit One

Surfing's Up and Grades Are Down

I. Background Information

World Wide Web

(WWW), byname THE WEB, the leading information retrieval service of the Internet (the worldwide computer network). The Web gives users access to a vast array of documents that are connected to each other by means of hypertext or hypermedia links — i.e., hyperlinks, electronic connections that link related pieces of information in order to allow a user easy access to them. Hypertext allows the user to select a word from text and thereby access other documents that contain additional information pertaining to that word; hypermedia documents feature links to images, sounds, animations, and movies. The Web operates within the Internet's basic client-server format; servers are computer programs that store and transmit documents to other computers on the network when asked to, while clients are programs that request documents from a server as the user asks for them. Browser software allows users to view the retrieved documents.

The development of the World Wide Web was begun in 1989 by Tim Berners-Lee and his colleagues at CERN, an international scientific organization based in Geneva, Switz. They created a protocol, HyperText Transfer Protocol (HTTP), which standardized communication between servers and clients. The World Wide Web gained rapid acceptance with the creation of a Web browser called Mosaic, which was developed in the United States by Marc Andreessen and others at the National Center for Supercomputing Applications at the University of Illinois and was released in September 1993. Mosaic allowed people using the Web to use the same sort of "point-and-click" graphical manipulations that had been available in personal computers for some years. In April 1994 Andreessen co-founded Netscape Communications Corporation, whose Netscape Navigator became the dominant Web browser soon after its release in December 1994. By the mid-1990s the World Wide Web had millions of active users.

II. Language Points

1. Surfing's Up and Grades Are Down

surf: scan everything on television or the Internet for something that is interesting or fills a need

Example

For more information, surf www.lge.co.kr

2. ...as colleges charge into the digital age ...

— ...as colleges move into the new age of technology...

3. ...counselors are discovering a troubling side effect.

— ... new problems caused by new technology are being discovered by counselors.

4. A growing number of students are letting computers overwhelm their lives.

— More and more students are spending too much time on computers.

overwhelm: weigh down; submerge

Examples

A. The whole stadium was overwhelmed by the audience's applause.

- B. The whole nation was overwhelmed by the news of their great leader's death.
5. More and more students are losing themselves in this.
— Students continue to let computers guide their lives, everyday more students allow this to happen.
6. ...planning to include them in freshman orientation programs.
— ...planning to introduce some suggestions to the new students.
7. Some universities now are imposing limits on the time students spend each day, or each week, on campus computers.

impose on: force the acceptance of

Examples

- A. Many tasks have been imposed on the new employees in the company.
- B. Many factories impose limits on the time the workers spend in meeting their visitors.
8. It's very accessible on campuses...
— It's very easy to get on campuses...

accessible: able to be reached, used, visited, etc.

Examples

- A. In big cities, telephone is accessible on every street.
- B. According to the rule, reference books are not accessible to the students in the final examination.
9. We're seeing some of them really drift off into this world at the expense of practically everything else.
- 1) **drift:** go away without aim, purpose or self-control

Examples

- A. The log drifted away with the current in the river.
- B. The pupil drifted into the computer room during the break between classes.

- 2) **at the expense of:** causing loss, damage, etc.

Examples

- A. He made his great achievements in his field at the expense of his marriage.
- B. The company decided to give up cooperating with the foreign firm at the expense of large profits each year.

10. Campus officials say that communicating on the Internet or roaming the huge universe of information on the World Wide Web holds an especially powerful lure for many college students...

roam: travel without any definite aim or destination over or through sth; now the word often means "browse".

Examples

- A. He settled down in his birthplace after more than twenty years of roaming overseas.
- B. The traveler decided to roam all over the world.

11. But for students having trouble establishing social ties at large universities, ...

have trouble (in) doing sth.: have difficulty (in) doing sth.

Examples

- A. The leader had trouble in convincing the workers of the correctness of his ideas.
- B. The group of boys had no trouble climbing onto the top of the hill.

12. ..., it also poses an array of new risks.

— ..., it also causes many new problems they have never had before.

- 1) **pose:** create; give rise to

Examples

- A. The increasing number of visitors has posed many new problems for the museums.
- B. The new policy of the party has posed unexpected political issues in the country.

2) **an array of:** a series of

Examples

A. They have chosen a fine array of tools from what were displayed.

B. An array of statistics proved that the new machine could greatly reduce the cost of production.

13. Some students, they say, are putting too much emphasis on electronic relationships, are neglecting course work, and, in a few instances, ...

put/lay/place emphasis on: attach importance to; value

Examples

A. Many learners of English put too much importance on the study of grammar, ignoring listening, speaking and reading.

B. The girl who lives next door to me puts much emphasis on her appearance.

14. ..., are even being cheated out of money by e-mail strangers they have come to trust.

— ..., they were cheated of their money by the strangers through e-mail, whom they began to believe in.

15. There can be a real sense of isolation on a large campus, ...

— Students may feel lonely on a large campus, ...

16. But some go overboard.

go overboard: become too much attracted to

— But some spend all their time on computers.

17. ...balance many social needs they try to have fulfilled by computers.

— The students now tend to have everything done by computers while ignoring personal contact with the society, so we are helping them overcome this tendency.

fulfill: perform or complete a task, duty, etc.; do what is required

Examples

A. We young men should fulfill the tasks given by the Party.

B. The little boy has already understood he must fulfill his mother's expectations.

18. ...she began noticing some of the same problems arise last year in individual and group therapy sessions.

— When students have personal problems with their life they will go and talk to a counselor or a few students will go together to talk to a counselor.

arise: come into existence; present itself; come into notice

Examples

A. New problems will undoubtedly arise when we come to carry out the programme.

B. If the need should arise, I could accompany you to the party.

19. Some of them, ...considered a computerized forum the only setting in which they could express themselves or relate well to others.

— Some students, ... are able to communicate with others only by the computer instead of face-to-face talk.

20. A few students told her of dropping or flunking courses partly because they were so preoccupied with the Internet.

1) **partly because:** in some degree due to

Examples

A. Michael failed in the test partly because he had a bad cold recently.

B. I declined to attend her birthday party partly because I had overworked that day.

2) **be preoccupied with**: thinking about sth. a lot, so that you do not pay attention to other things

Examples

A. The young father was much preoccupied with his family troubles.

B. As soon as the speaker opened his speech, we were all preoccupied with his fresh ideas and eloquence.

21. Others **confessed** to trying to get multiple computer accounts with the university to avoid its forty-hour-a-week rule.

confess: say or admit (that one has done wrong); acknowledge

Examples

A. The boy confessed to his mother it was he who had broken the window.

B. The thief refused to confess his theft.

22. ... twice as many students as usual — seventy-five, mostly freshmen — did not return for classes there this spring.

— ... the number of students who did not return for classes doubled.

23. Other campuses are studying similar moves.

— Others campuses are thinking about the same steps.

III. Translation

Read In

网上冲浪突飞猛进;学习成绩江河日下

由于有了高科技图书馆、连接互联网的宿舍以及电脑操作的课程作业,全国各地的大学都进入了数码时代。但教师和督导人员却发现这一切也带来了令人堪忧的副作用:日益增多的学生现在听任电脑主宰着自己的生活。越来越多的学生正沉湎于电脑之中。越来越多的学生正在电脑中迷失自我。

一些大学正试图限制学生每日或每周在学校的上机时间,而其他学校也在争论是否对学生花在电脑游戏与聊天室上的时间进行监督,并设计一个警示程序:一旦学生超时使用电脑,屏幕上将出现警示。

一些学校督导人员打算就这一情况开设研讨班并计划把此项内容纳入新生入学教育之中。

校园内电脑随手可及,而且学生的时间比较充裕。我们发现,一些学生实际上几乎不顾其他一切,飘游在电脑世界之中。

学校官员说,在互联网上交流,或在万维网上无穷无尽的信息天地中遨游,对许多大学生来说,有着特别大的诱惑力,因为那将把他们带入一个浩瀚而又崭新的学习与研究的领域之中,而且通常不需付出任何代价。但是,对那些在规模大的高校不知如何建立社会关系,或单独生活却无人管束而又首次面临成人压力的大学生来说,它也形成了一系列新的危险。

在加利福尼亚大学伯克利分校,督导人员说,他们正在处理因过度使用电脑而引发的学生案件,数目不大但日趋增多。他们说,一些学生越来越过于重视电子交流,逐渐荒废学业。还有几起案例,学生甚至被通过电子邮件赢得他们信任的陌生人骗走钱财。

在偌大的校园内,年轻的学子或新生可能确有一种孤独感,因而电子交往看起来似乎是一种建立联系的安全而容易的方法。但一些人却走火入魔,那变成了他们与外界沟通的惟一方式。目前我们正在做的一件事就是帮助学生学会协调试图通过电脑来完成的诸多社会需求。

琳达·蒂普顿是马里兰大学的一名督导人员,该校限制学生每周只能在校上网四十小时。她说,她开始注意到:在去年个人或小组疗法的谈话当中,出现了一些同样的问题。

她说,有些学生提到,他们每天上网时间超过六小时,而且他们还把网上论坛当作他们惟一能够发表意见以及与他人建立良好关系的地方。有几个学生告诉她,他们逃课或考试不及格的部分原因是因为他们太沉湎于因特网。另外有些人承认,他们试图多开几个上网帐号以逃避学校有关每周上网四十小时的规定。

今年春季,位于纽约北部的阿尔弗雷德大学决定调查一下那些上学期退学的学生有什么共同的地方。促使这次调查的原因是由于比往常多一倍的学生——七十五名,多数为新生——今年春季没有返校上学。

阿尔弗雷德大学的每位学生都有一个免费校园上网帐号,因此,学校电脑中心的总监康妮·贝克曼决定检查所有退学学生的帐号记录,结果,她发现有一半人每天花在电脑游戏或网络上的时间多达六小时,而且通常是在深夜。“如此之多的学生只有这一个共同点,”贝克曼说。

明年秋季,阿尔弗雷德大学将首次在新生一入学便告诉他们过度使用电脑的危害。所有的公寓楼都有电脑房,每栋公寓楼将安排一位全日制专职督导人员,他们将密切注意那些深夜电脑迷。别的学校也在研究相似的措施。

Practical Reading

胡佛汉顿大学

概况

胡佛汉顿大学是英国规模最大的大学之一,拥有在校学生约 23,000 人,其中百分之十来自国外。学校成立于 1931 年,并在 1992 年升格为大学。学校位于英国中西部地区,拥有五个环境优美的校区。学校不但可授予硕士学位和科研成果奖,而且还可授予 100 多种学位、文凭。教学与科研在十一个学院内进行,每个学院都专攻某个特定学术领域。这十一个学院是:应用科学学院;艺术与设计学院;计算机与信息技术学院;教育学院;工程与环境营造学学院;卫生科学学院;人文科学、语言及社会科学学院;法学院;护理学与助产学学院;体育、娱乐与演艺学院以及胡佛汉顿商学院。若过去您曾修过某个专业,经过学前评估后,可直接进入二年级或三年级(高级)学习。

设施

学习服务设施包括五个校区的学习中心,那里藏书近 50 万册、期刊约 3,500 种。学生可以免费使用电脑套件以及各种最新的教学辅导软件包。学生还可以充分使用互联网。

学生会与其他各类学生社团,包括留学生协会,一起为学生提供娱乐、咨询及辅导。五个校区均拥有各种体育项目的完备的运动设施。所有校区距离超级市场及商店都很近。

住宿和康乐

校内建有能容纳 2,300 人住宿的学生宿舍,包括 900 多个崭新的套间房。所有的外国新生在第一年都保证能入住学生宿舍。如果愿意,学生可在整个学习期间都住学生宿舍。胡佛汉顿大学的咨询辅导服务处为学生提供康乐、生活和心理方面的咨询辅导。

另外还有一个学生会康乐及咨询服务处,那些顾问可以帮您解决诸如财务、法律、签证、个人生活等方面的问题。

位置

胡佛汉顿大学位于英国中西部地区,到伦敦只需两小时,到英国第二大城市伯明翰只需 20 分钟,到伯明翰国际机场只需 45 分钟,到曼彻斯特机场只需 75 分钟,到伦敦希斯罗机场只需两个小时。

其他介绍

胡佛汉顿大学不但提供学制一年的英语附加课程,而且还提供夏季英语班。参加英语附加课程的学生既可将英语作为外语来学习,又可同时选修一门为进一步学习学位课程作好准备的专业课。

2000/2001 学年 学费: 6,050 英镑 住宿费(套间房): 1,992 英镑

胡佛汉顿大学与中国

每年学校都迎来大量中国学生,他们攻读不同科目所有层次的各类课程。1998 至 1999 年度约有一百五

十人,学习不同的课程,其中三分之二来自中国。

胡佛汉顿大学在香港也开设了一个工商管理(名誉)学士学位(BABA)课程。这一课程的开设对象是拥有相当于英国高等教育证书的学生,授课教师由本校教员兼任,时间为18个月。教学设计适合工作繁忙的学生。

胡佛汉顿大学在香港设有一个负责中国事务的代表处。欢迎来函来电查询有关大学以及设于香港的工商管理学士学位课程的信息。

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IV. Key to Exercises

Read In

1. Choose the best answer for each of the following.

(1) C (2) B (3) D (4) D (5) A (6) C

2. Decide whether the following statements are true (T) or false (F).

(1) T (2) F (3) T (4) T (5) F (6) T (7) F (8) F

Focus on

1. Oral work. Use the words from the vocabulary snapshot in their proper forms to fill in the blanks.

a. nationwide b. freshmen c. debate d. faculty e. therapy
f. monitor g. neglects h. confess

2. Find out the word in the text which means.

a. excessive b. flunk c. instance d. pose e. setting
f. semester g. realm h. practically i. digital

4. Translate the Chinese phrases into English and fill in the blanks.

a. social ties b. the realm of learning and research
c. the digital age d. high-tech libraries
e. computer addict f. an array of new risks
g. chat rooms

Work Out

Translation

1. Translate the following sentences into Chinese, paying attention to the underlined words.

(1) 许多电视节目很优秀,把精彩的表演送进千家万户。

(2) 你过去是,现在是,将来仍然是我亲爱的朋友。

(3) 近年来,西方一些国家的人一直不断地由城市迁往郊区。

(4) 他们谈到了他们渴望的东西——谈到了肉,谈到了热汤,谈到了黄油丰富的营养。

(5) 这男孩个子不大,但却很聪明。

2. Translate the following sentences from the text.

- (1) 由于有了高科技图书馆、连接互联网的宿舍以及电脑操作的课程作业,全国各地的大学都进入了数码时代。但教师和督导人员却发现这一切也带来了令人担忧的副作用:日益增多的学生现在听任电脑主宰着自己的生活。
- (2) 一些学校督导人员打算就这一情况开设研讨班并计划把此项内容纳入新生入学教育之中。
- (3) 在偌大的校园内,年轻的学子或新生可能确有一种孤独感,因而这看起来似乎是一种建立联系的安全而容易的方法。
- (4) 有几个学生告诉她,他们逃课或考试不及格的部分原因是因为他们太沉湎于因特网。
- (5) 所有的公寓楼都有电脑房,每栋公寓楼将安排一位全日制专职督导人员,他们将密切注意那些深夜电脑迷。别的学校也在研究相似的措施。

3. Translate the following sentences into English.

- (1) Those who try to profit at the expense of others will come to no good end.
- (2) She is always preoccupied with her own well-being.
- (3) Please don't try to impose your wishes on us.
- (4) The mother has five young children on her hands.
- (5) This school puts emphasis on the development of the student's ability to solve problems independently.

Usage

1. Complete the following sentences with the best choices.

- (1) B (2) C (3) D (4) A (5) D (6) D (7) D (8) A (9) C (10) A

2. Fill in the blanks with the words given in brackets, paying attention to the tense.

- | | |
|-------------------------|----------------------|
| (1) is | (2) hasn't worked |
| (3) have been married | (4) will have stayed |
| (5) will have been sold | (6) has become |
| (7) had had | (8) had interrupted |
| (9) have appreciated | (10) has been |

Proofreading

- | | |
|---------------------------------|-----------------------------|
| 1. <u>quite</u> → quiet | 2. <u>into</u> → at |
| 3. listened ∧ his → to | 4. <u>be feeling</u> → feel |
| 5. felt ∧ sick → too | 6. <u>in</u> → / |
| 7. <u>in</u> → for | 8. <u>took</u> → had |
| 9. <u>buttering</u> → buttered | 10. → ✓ |
| 11. <u>dying</u> → going to die | 12. <u>be dead</u> → die |
| 13. <u>in</u> → by | 14. → ✓ |
| 15. <u>gladly</u> → glad | 16. <u>sick</u> → sickness |
| 17. <u>of</u> → to | 18. <u>soon</u> → quickly |
| 19. → ✓ | 20. " ∧ most → the |
| 21. <u>in</u> → on | 22. <u>is</u> → does |
| 23. It's ∧ only → the | 24. <u>cross</u> → across |
| 25. have ∧ same → the | |

Make the Right Choice

Read the following article, and choose the correct **nouns** / **noun phrases** from the colored bars.

- | | |
|----------------------------------|---------------------|
| 1. Chinese middle school student | 2. pen pals |
| 3. the headmaster | 4. the letters |
| 7. letters | 5. pleasant Chinese |
| 9. the United States | 6. school |
| | 8. coin-collecting |
| | 10. some day |

Practical Reading

1. Match the following two columns.

(1) c (2) a (3) b (4) f (5) e (6) d

2. Decide whether the following statements are true (T) or false (F).

(1) F (2) F (3) T (4) T (5) F

3. Translate the following sentences into Chinese.

- (1) 胡佛汉顿大学是英国规模最大的大学之一,拥有在校学生约 23,000 人,其中百分之十来自国外。
- (2) 学校不但可授予硕士学位和科研成果奖,而且还可授予 100 多种学位、文凭。
- (3) 若过去您曾修过某个专业,经过学前评估后,可直接进入二年级或三年级(高级)学习。
- (4) 学习服务设施包括五个校区的学习中心,那里藏书近 50 万册、期刊约 3,500 种。
- (5) 胡佛汉顿大学的咨询辅导服务处为学生提供康乐、生活和心理方面的咨询辅导。

Practical Writing

Check Your Understanding

1. Read the sample letter again and answer the following questions.

- (1) A computer programmer.
- (2) The University of Hong Kong. In Computer Studies and Mathematics.
- (3) A corrugated box manufacturer.
- (4) He wants to move to another more demanding position.
- (5) His résumé.

2. Can you identify the following items in the letter above?

- (1) Paragraph 1
- (2) Paragraphs 2 and 3
- (3) Paragraph 4
- (4) Paragraph 5
- (5) Paragraph 6

3. Below are an advertisement and a cover letter in answer to it. Read the advertisement and complete the letter by putting the Chinese in brackets into English.

- (1) Your advertisement in the *South China Morning Post* dated March 30 for the above post
- (2) I graduated from the University of Hong Kong
- (3) I had worked for two years
- (4) where I was involved in the development of new products
- (5) another more demanding position
- (6) Please find enclosed a copy of my résumé

Unit Two

Keyhole Surgery

— A Kinder Cut

I. Background Information

1. MIT

MIT stands for **Massachusetts Institute of Technology**, a privately controlled coeducational institution of higher learning famous for its scientific and technological training and research. It was chartered by the state of Massachusetts in 1861 and became a land-grant college in 1863. William Barton Rogers, MIT's founder and first president, had worked for years to organize an institution of higher learning devoted entirely to scientific and technical training, but the outbreak of the American Civil War delayed the opening of the school until 1865, when 15 students enrolled for the first classes, held in Boston. MIT moved to Cambridge, Massachusetts, in 1916; its campus is located along the Charles River. Under the administration of president Karl T. Compton (1930 - 1948), the institute evolved from a well-regarded technical school into an internationally known centre for scientific and technical research. During the Great Depression, its faculty established prominent research centres in a number of fields, most notably analog computing (led by Vannevar Bush) and aeronautics (led by Charles Stark Draper). During World War II, MIT administered the Radiation Laboratory, which became the nation's leading centre for radar research and development, as well as other military laboratories. After the war, MIT continued to maintain strong ties with military and corporate patrons, who supported basic and applied research in the physical sciences, computing, aerospace, and engineering.

MIT offers both graduate and undergraduate education. There are five academic schools — the School of Architecture and Planning, the School of Engineering, the School of Humanities and Social Sciences, the Sloan School of Management, and the School of Science — and the Whitaker College of Health Sciences and Technology. While MIT is perhaps best known for its programs in engineering and the physical sciences, other areas — notably economics, political science, urban studies, linguistics, and philosophy — are also strong. Admission is extremely competitive, and undergraduate students are often able to pursue their own original research. Total enrollment is about 10,000.

MIT has numerous research centres and laboratories. Among its facilities are a nuclear reactor, a computation centre, geophysical and astrophysical observatories, a linear accelerator, a space research centre, supersonic wind tunnels, an artificial intelligence laboratory, a centre for cognitive science, and an international studies centre. MIT's library system is extensive and includes a number of specialized libraries; there are also several museums.

2. Artificial Intelligence

Artificial intelligence, often shortened as AI, refers to the capacity of a digital computer or computer-controlled robot device to perform tasks commonly associated with the higher intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience. The term is also frequently applied to that branch of computer science concerned with the development of systems endowed with such capabilities.

Research on artificial intelligence began soon after the development of the modern digital computer in the 1940s. Early investigators quickly recognized the potential of computing devices as a means of automating

thought processes. Over the years, it has been demonstrated that computers can be programmed to carry out very complex tasks — as, for example, discovering proofs for theorems or playing chess — with great proficiency.

Some computer programs that are used to perform AI tasks are designed to manipulate symbolic information at extremely high speeds, in order to compensate for their partial lack of human knowledge and selectivity. Such programs are usually called “expert systems”. Other programs are designed to simulate human capabilities for problem solving through the use of highly selective search and recognition methods, rather than through superhuman processing speeds. Both expert systems and programs simulating human methods have attained the performance levels of human experts and professionals in performing certain specific tasks, but by the mid-1990s there were still no programs that could match human flexibility over wider domains or in tasks requiring much everyday knowledge.

3. Robotics

Robotics is an automation technology that has received considerable attention since about 1960. Robotics is based on two related technologies: numerical control and teleoperators. Numerical control (NC) is a method of controlling machine tool axes by means of numbers that have been coded on punched paper tape or other media. It was developed during the late 1940s and early 1950s. The first numerical control machine tool was demonstrated in 1952 in the United States at Massachusetts Institute of Technology (MIT). Subsequent research at MIT led to the development of the APT (Automatically Programmed Tools) language for programming machine tools.

A teleoperator is a mechanical manipulator that is controlled by a human from a remote location. Initial work on the design of teleoperators can be traced to the handling of radioactive materials in the early 1940s. In a typical implementation, a human moves a mechanical arm and hand at one location, and these motions are duplicated by the manipulator at another location.

Industrial robotics can be considered a combination of numerical-control and teleoperator technologies. Numerical control provides the concept of a programmable industrial machine, and teleoperator technology contributes the notion of a mechanical arm to perform useful work. The first industrial robot was installed in 1961 to unload parts from a die-casting operation. Its development was due largely to the efforts of the Americans George C. Devol, an inventor, and Joseph F. Engelberger, a businessman. Devol originated the design for a programmable manipulator, the U.S. patent for which was issued in 1961. Engelberger teamed with Devol to promote the use of robots in industry and to establish the first corporation in robotics — Unimation, Inc.

II. Language Points

1. The development of so-called keyhole surgery means that the surgeon's knife may soon disappear altogether as it is replaced by miniature cameras, microscopic scissors and staplers.

1) **development**: the act or an instance of developing; the process of being developed

Examples

A. This company is in urgent need of a competent Research & Development manager.

B. It will not take China a very long time to finish the development of ultrapowerful computer.

2) **replace**: take the place of; be substituted for

Examples

A. The producer refused to replace any actor at this time.

B. Angry customers urged the supermarket to immediately replace defective air-conditioners sold to them with good ones.