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Nucleus 新核心 大学英语

B版

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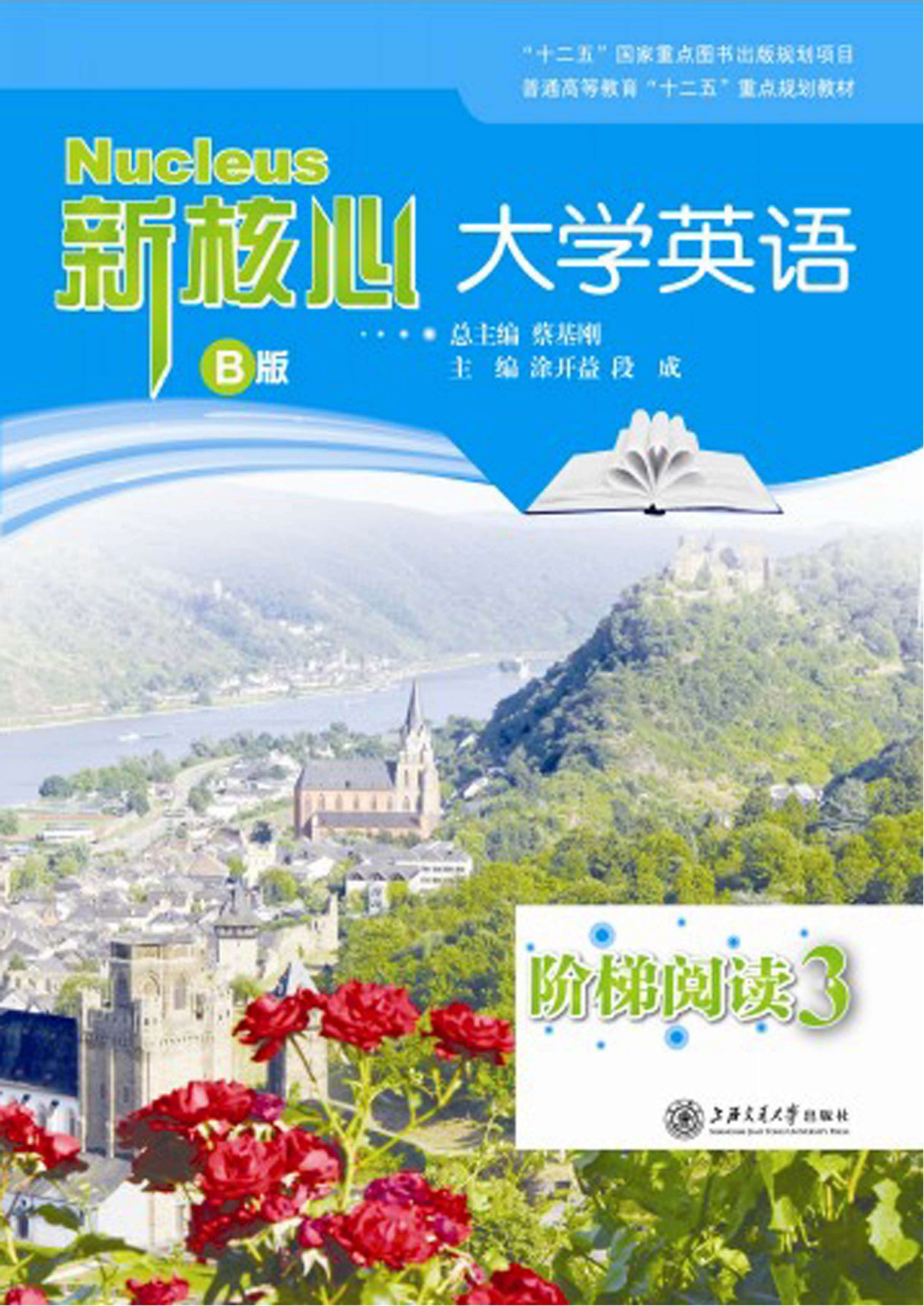

阶梯阅读3

上海交通大学出版社

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内容提要

本书包括八个单元，每个单元包括五篇阅读材料。两篇短篇文章长度为200~500词，两篇长篇文章长度为700~1 200词，最后一篇文章是关于中国文化的，文后不设习题，主要是帮助学生了解中国历史文化的英语表达方式，提高他们对外交流能力。阅读材料的内容突出知识性，涉及自然学科和人文学科，体裁以说明文和议论文为主。

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Nucleus

《新核心大学英语》系列教材

B版

编委会

前　言

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，提倡人文素质教育的话，那么《新核心大学英语》系列教材将在这些方面有一个新的突破。

2013年出版的《新核心大学英语B版快速阅读》系列教材得到广大师生的充分肯定。随着大学英语改革的推进，随着英语四、六级考试改革的深入，我们及时对其进行了改版，出版此套《新核心大学英语B版阶梯阅读》教材。

一、教材编写依据

《新核心大学英语B版阶梯阅读》是以《新核心大学英语B版读写教程》为依托，从内容上对《新核心大学英语B版快速阅读》做进一步改进，提倡科学素质教育，以content-based为编写原则，文章选材上偏向提高学术能力的科普性文章。

目前，我国大学英语教学不再是单单打基础的阶段，不再是单纯地为学语言而学语言，而是趋向于与某一方面的专业知识或某一个学科结合的发展方向结合起来，换句话说，大学英语应当与学生的专业内容结合起来，这样才能体现新时期语言教学中的“需求分析”原则。《新核心大学英语B版阶梯阅读》正是为了适应我国大学英语教学转型要求而编写的，是为了帮助大学生达到《大学英语课程教学要求》中阅读部分的一般要求、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；是培养学生查阅学术文献能力的需要，培养学生在较短时间里通过快速

阅读，查到自己所需要的信息。

二、教材结构框架

《新核心大学英语B版阶梯阅读》是《新核心大学英语》主干教材的配套教材，包括《新核心大学英语B版阶梯阅读 基础级》、《新核心大学英语B版阶梯阅读 1》、《新核心大学英语B版阶梯阅读 2》、《新核心大学英语B版阶梯阅读 3》、《新核心大学英语B版阶梯阅读4》五册。《新核心大学英语B版阶梯阅读》系列教材旨在培养学生语篇信息查找能力，训练学生快速阅读能力以及水平考试中阅读理解文章的能力。

每册包括八个单元，每个单元包括五篇阅读材料。教材中每个单元所选阅读材料基本与《新核心大学英语B版读写教程》相应单元的主题内容一致，难度略低于《新核心大学英语B版读写教程》，两篇短篇文章长度为200~500词，两篇长篇文章长度为700~1 200词，最后一篇文章是关于中国文化的，文后不设习题，主要是帮助学生了解中国历史文化的英语表达方式，提高他们对外交流能力。阅读材料的内容突出知识性，涉及自然学科和人文学科，体裁以说明文和议论文为主。

三、教材使用说明

作为《新核心大学英语B版读写教程》的配套使用教材，我们建议《新核心大学英语B版阶梯阅读》每个单元的总学时数不少于2个课时，课内学时数不少于1个学时，学生课外自主阅读时间不少于1个学时。在每周大学英语课堂教学中教师根据具体授课进度、单元主题内容指定《新核心大学英语B版阶梯阅读》中相应的文章让学生进行阅读训练，教师也可以将本系列教材作为学生课后自主阅读的材料，教师对学生自主学习过程进行监督与评价。

编　者

2014年3月

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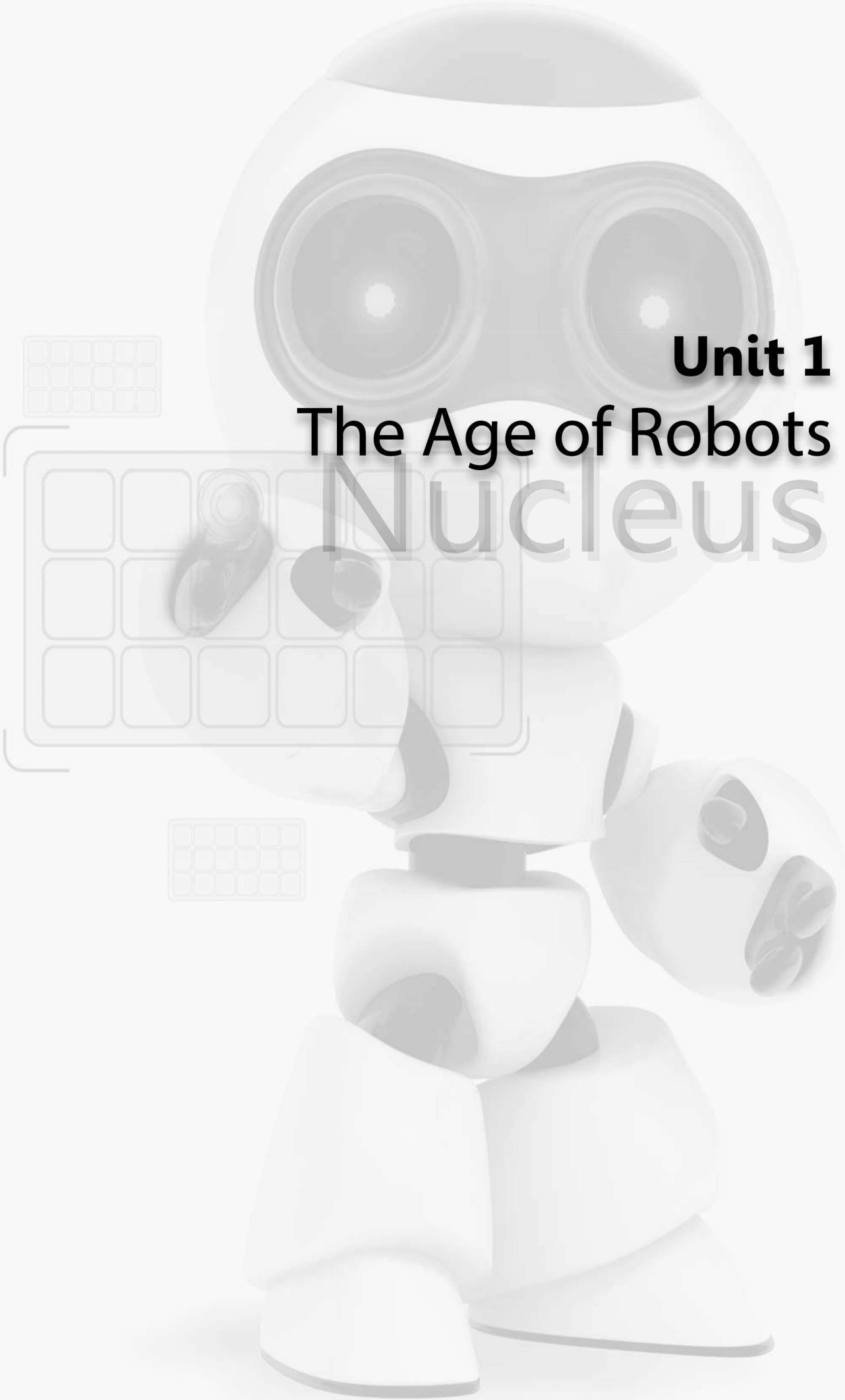

Unit 1
The Age of Robots

Passage 1

Time Taken: _____ minutes

Take Tips from the Arts to Make Robots Come Alive

Like PCs①, robots may soon become a key part of our everyday life, but they present unique communication challenges that PCs do not. So roboticists（机器人专家）are turning to people who have already solved many of these problems — actors, animators and dancers. Here, *New Scientist* brings you some of the artistic know-how that has proved useful.

Masked Theatre

The 50-centimetre-tall, white plastic Nao **humanoid**(1) looks **adorable**(2). But with such a plain, rigid face — just two big lights for eyes and a pinhole of a mouth — how does the robot do it? Julien Gorrias, a "behavioural architect" at Aldebaran Robotics in Paris, France, who makes the Nao, solved the same problem in his former life as a masked actor by using expressive body movements. "The whole body was involved in making the mask live," he says. His insights have helped give Nao a tangible personality. "You have to feel like it is someone," he says. "Not a human, but someone."

Cartoons

Humans can often guess what another human is about to do. To investigate how to make its PR2② robot similarly "readable" , robotics firm

Guess the meanings of the following words from their context.

（1）humanoid　　A. 动物　　B. 类人物　　C. 人类

（2）adorable　　A. 可爱的　　B. 爱慕的　　C. 聪明的

Willow Garage of Menlo Park③, California, enlisted the help of the Pixar animation studio④. Pixar's animated characters seem to anticipate their own actions: staring hungrily at a piece of cheese before grabbing it, say, creates the illusion of a thought process that makes a character believable. When the team created animations of the PR2 carrying out a task, onlookers were more certain of their interpretation of the robot's behavior if its actions portrayed **forethought**(3). They also described the robot as more approachable.

Similarly, animated PR2s that appeared to react to the task's outcome — a 30-year-old tip from Disney animators — rather than just standing there dumbly, were viewed as more intelligent and capable, irrespective of whether they actually completed the task.

Dance

Humans naturally move in subtly different ways depending on their emotions and intentions, but **unraveling**(4) how we do this in order to program it into a robot is tricky. Luckily, choreographers (编舞者) have already done some of the work, thanks to a system for characterizing human movement dreamed up by Rudolf Laban in the 1950s. Laban theory describes how the timing, strength and angle of a dancer's movement will convey a different inner intention or emotion. Willow Garage uses Laban theory to understand how well this translates when similar motions are executed by a large robot. *(429 words)*

Abridged and revised from
http://www.newscientist.com/take-tips-from-the

(3) forethought	A. 基本要求	B. 预先设计	C. 前提条件
(4) unravel	A. 揭露	B. 阐明	C. 解开

Select the most appropriate answer for each of the following questions.

（1）Compared with PCs, robots can _____.

A. solve some problems

B. achieve unique communication skills

C. do some housework

D. none of the above

（2）According to the passage, what can we learn about Nao?

A. Nao has a humanoid face.

B. Nao can do everything on the stage.

C. Nao is made by Julien Gorrias.

D. Nao has a special personality.

(3) Which of the following words can replace the word "tangible" in Paragraph 2?

A. touchable.

B. clear.

C. real.

D. palpable.

(4) What kind of things makes Pixar's animated characters believable?

A. It stares hungrily at a piece of cheese.

B. It can grab the cheese.

C. It has the illusion of a thought process.

D. It creates its own actions.

(5) What can we infer from the last paragraph?

A. It's easy for us to program our subtle movements with emotions and intentions into a robot.

B. Choreographers can help robots to do the same movements as dancers.

C. Laban theory can help robots to do the same movements as dancers.

D. Laban theory describes how the timing, strength and angle of a dancer's movement will convey a different inner intention or emotion.

Notes

① PC: personal computer的缩写，个人电脑。

② PR2: personal robot的缩写，个人机器人2（是威楼加拉吉机器人实验室生产的机器人）。

③ Menlo Park: 门洛帕克（美国加利福尼亚州圣马特奥县东南部城市）。

④ Pixar animation studio: 皮克斯动画工作室。

Passage 2

Time Taken: _____ minutes

New Applications for Mobile Robots

Mobility promises to be the next frontier in flexible robotics. While fixed robots will always have a place in manufacturing, augmenting traditional robots with mobile robots promises additional flexibility to end-users in new applications. These applications include medical and surgical uses, personal assistance, security, warehouse and distribution applications, as well as ocean and space exploration.

Mobile robots can access areas dangerous to humans, says Andrew Goldenberg, President of Engineering Services Inc. (ESI, Toronto, Ontario, Canada). "Mobile robots are used to reach inaccessible areas such as nuclear power plants. Mobile robots are very useful in nuclear environments with high levels of radiation, particularly during a disaster or threat of a disaster."

Goldenberg goes on to say, "Some companies are using robotics

underwater while others want to develop robotics for military applications, shoreline exploration of mines, and for repairing a ship's structure." ESI is involved with mobile robots for space exploration such as rovers remotely moving on Mars.

As a **caveat**[1], Goldenberg says, "Current robotics is not quite sufficiently designed to withstand high radiation affecting their electronic circuitry. Some attempts to design mobile robotics specifically for use in this environment have been made."

Wireless communication with mobile robots is still a challenge, says Goldenberg. "If mobile robots go underground or in areas of low connectivity like subway tunnels, control of the robot could be lost."

Hvass also talks about communication to and from mobile robots. "If the robot communicates with infrastructure over a wireless link, that link is vulnerable due to bandwidth(带宽)sharing, variable distances between radios, obstructions, and non-deterministic(非确定的)protocols(科学实验计划)."

Mobile robots for use in inaccessible areas is also on the mind of Sean Thompson. "We see more interest in undersea robotics with smaller, **non-tethered**[2] robots used by research facilities. Aerial robotics tend to go either way, smaller platforms and larger platforms, depending on the mission. Camera packages have gotten smaller which allow aerial robots to roam at lower altitudes in shorter distances on smaller aircraft. These remote-controlled aircraft are collecting highly-detailed and accurate video." Thompson speaks of other military applications of mobile robotics. "Troopers

Guess the meanings of the following words from their context.

(1) caveat	A. 作品	B. 警告	C. 创造
(2) non-tethered	A. 非物质的	B. 非触摸的	C. 无线的

could carry heavier loads with robotic pack dogs and exoskeletons(外骨骼). This technology is different from replacing a service dog but will be commonplace in five to ten years."

LaSelle also sees mobile robotics utilized for patrol and monitoring applications. "Another key expansion of mobile robotics has been in monitoring, security and patrolling. Patrolling applications provide users with the ability to monitor **intrusion**[3], thermal(温热的)and other environmental conditions. A key area of activity has been the monitoring and patrol of vacant properties as well as warehousing spaces." This increased ability is due to the reliability and low costs attributed to autonomous vehicle patrol capabilities, LaSelle says.

Thermal monitoring is of special interest to Internet server farms and other sensitive electronic or mechatronic(机电一体化)systems. Water ingress is also commonly monitored by way of mobile robotics, LaSelle notes.

Mobile robots are finding their way into other non-industrial applications. "The reduced cost of deployment and ownership of mobile robots have extended their reach into non-factory applications. The current generation of smart vehicles is leading hospitals, laboratories, and some offices to employ mobile robots to **alleviate**[4] the use of skilled labor for **mundane**[5] transport tasks."

Continuing, LaSelle adds "Mobility is already the norm in service applications and this sector is primed for tremendous growth. Service robotics is expected to overshadow the industrial robot sector in a matter of a few years. Adept believes mobile robots will be an exciting area in coming

(3) intrusion	A. 干扰	B. 介绍	C. 模拟
(4) alleviate	A. 增加	B. 减轻	C. 加重
(5) mundane	A. 复杂的	B. 平淡的	C. 平凡的

years," reports LaSelle. *(592 words)*

Abridged and revised from
http://www.robotics.org/content-detail

Select the most appropriate answer for each of the following questions.

（1）Compared with fixed robots, mobile robots can be used in _____.

A. ocean and space exploration

B. medical and surgical fields

C. personal assistance

D. all of the above

（2）According to the passage, which of these statements is NOT true?

A. Mobile robots can reach inaccessible areas which are dangerous to humans.

B. Some companies are using mobile robots to do some underwater jobs.

C. Current robotics can withstand high levels of radiation.

D. If mobile robots go down subway tunnels, control could be lost.

（3）The inaccessible areas where mobile robots can reach include _____.

A. nuclear power plants

B. Mars

C. disaster areas

D. all of the above

（4）What can we infer from the passage?

A. Wireless communication with mobile robots will be solved in 5 years.

B. A wireless link is vulnerable due to the imperfect technology.

C. Aerial robots can go anywhere according to different missions.

D. Mobile robots can replace service dogs.

（5）For non-industrial applications, mobile robots can _____.

A. increase the cost of deployment

B. be used in some common transport tasks instead of skilled labor

C. replace labor in hospitals

D. help with housework

Passage 3

Time Taken: _____ minutes

Directions: *In this section, ther e is a passage with ten blanks. Y ou are required to select one word for each blank fr om a list of choices given in a wor d bank following the passage. Read the passage thr ough carefully before making your choices. Each choice in the bank is identif ied by a letter. Please mark the corresponding letter for each item. You may not use any of the words in the bank more than once.*

We have been studying this issue of AI① application for quite some time now and know all the terms and facts. But what we all really need to know is what can we do to get our hands on some AI today. How can we as (1) use our own technology? We hope to discuss this in depth (but as briefly as possible) so that you the consumer can use AI as it is (2).

First, we should be prepared for a change. Our (3) ways stand in the way of progress. AI is a new step that is very helpful to the society. Machines can do jobs that require detailed (4) to be followed and mental alertness. AI with its learning capabilities can (5) those tasks but only if the worlds conservatives are ready to change and allow this to be a possibility. It makes us think about how early man finally accepted the wheel as a good (6), not something taking away from its

heritage or tradition.

Secondly, we must be prepared to learn about the ____(7)____ of AI. The more use we get out of the machines the less work is ____(8)____ by us. In turn less injuries and stress to human beings. Human beings are a species that learns by trying, and we must be prepared to give AI a chance seeing AI as a blessing, not an inhibition.

Finally, we need to be prepared for the worst of AI. Something as ____(9)____ as AI is sure to have many kinks to work out. There is always that fear that if AI is learning based, will machines learn that being rich and successful is a good thing, then wage war against economic powers and famous people? There are so many things that can go wrong with a new system so we must be as prepared as we can be for this new ____(10)____. *(315 words)*

(A) accomplish
(B) capabilities
(C) individuals
(D) intended
(E) required
(F) invention
(G) conservative
(H) revolutionary
(I) technology
(J) instructions
(K) skill
(L) achievement
(M) inquired
(N) inventive
(O) capacities

Notes

① AI:(Artificial Intelligence)人工智能。