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快速阅读 3

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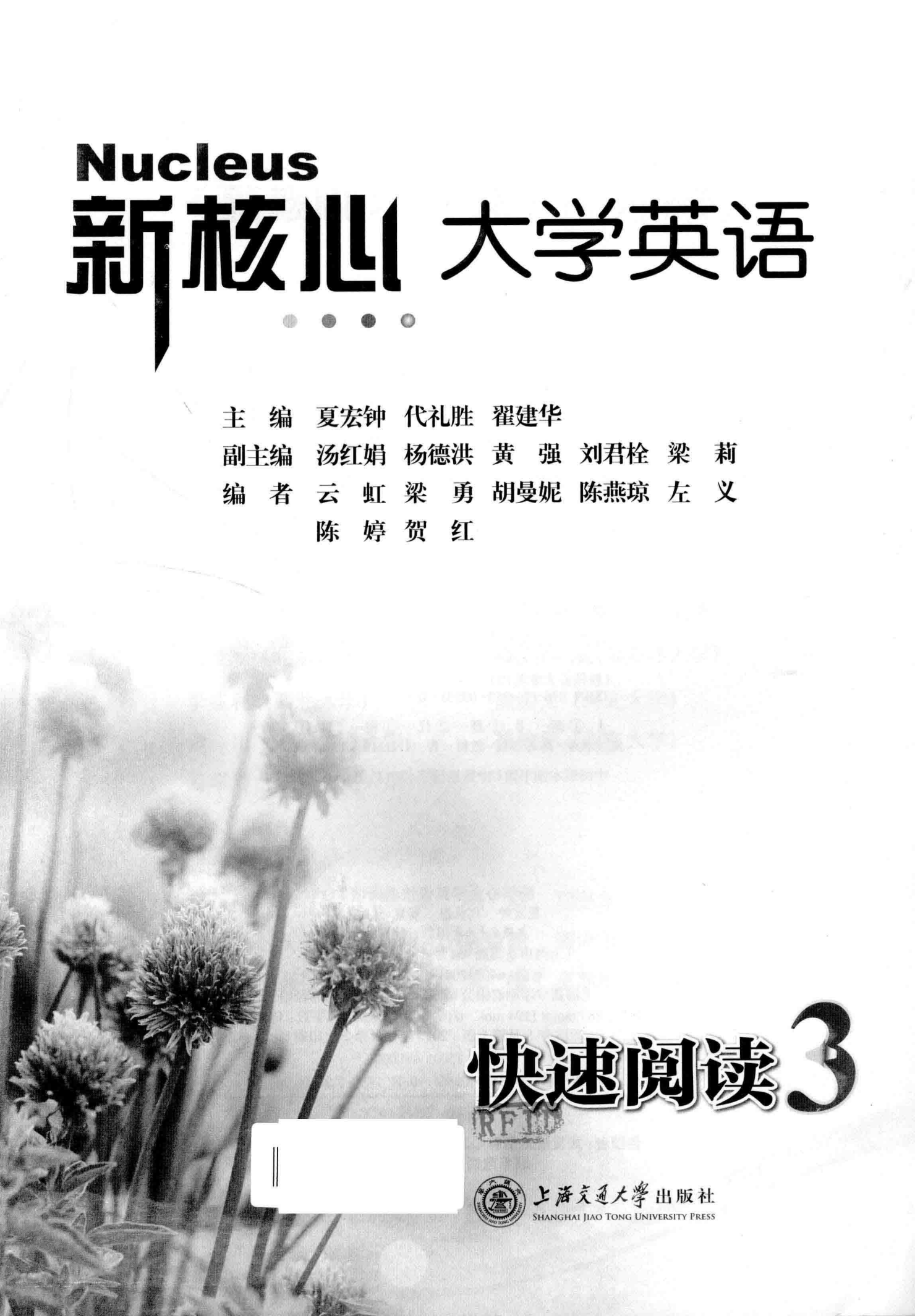

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Nucleus

《新核心大学英语》系列教材

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。

一、教材编写依据

《新核心大学英语快速阅读》是以《新核心大学英语读写教程》为依托，从内容上对《新核心大学英语读写教程》做进一步推进，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。《新核心大学英语快速阅读》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

《新核心大学英语快速阅读》是《新核心大学英语》主干教材的配套教材，包括《新核心大学英语快速阅读 基础级》、《新核心大学英语快速阅读 1》、《新核心大学英语快速阅读 2》、《新核心大学英语快速阅读 3》四册。《新核心大学英语快速阅读》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。

每册分八个单元，每个单元分为四篇阅读材料，其中短篇文章两篇，长篇文章两篇。教材中每个单元所选阅读材料基本与《新核心大学英语读写教程》相应单元的主题内容一致，难度略低于《新核心大学英语读写教程》，短篇文章长度为300~500词，长篇文章长度为700~1 000词。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《新核心大学英语读写教程》的配套使用教材，我们建议《新核心大学英语快速阅读》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《新核心大学英语快速阅读》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，学生课后自主阅读训练时间不少于1个学时，教师对学生自主学习过程进行监督与评价。

编　者

2013年3月

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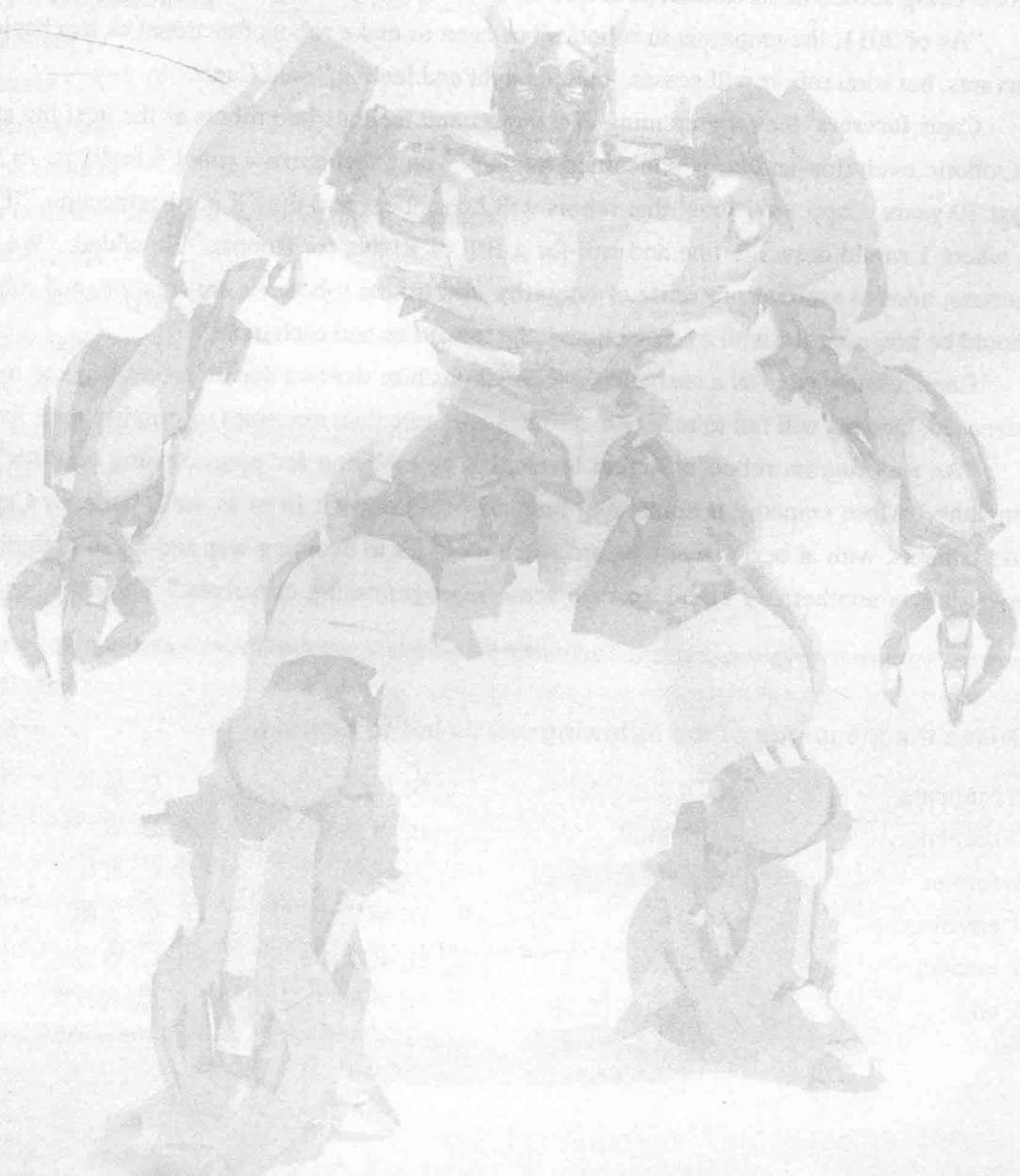
Unit 1
The Age of Robots



Passage 1

Reading Time: 3 minutes

A Dream of Robot's Rights

Capri makes small talk to the familiar barista（咖啡师）, then takes his chai latte（印度奶茶拿铁咖啡）to a window table where he sits alone and **ruminates**[1] about whether all this human interaction will disappear in the near future as robots will have a bigger role in society.

There is no idling by Capri as he sits down. His mind is processing scenarios of **sentient**[2] robots being abused as slaves and he is fearful that another Civil Rights battle might erupt.

"As of 2011, the emphasis in robotics has been to make robots functional as mechanical servants, but soon robots will possess both thought and feeling," said Capri.

Capri **foresees**[3] the programming of thoughts and feelings into robots as the next big step in robotic evolution and he is concerned humans won't recognize a robot's feelings. In the next 20 years, Capri **envisions**[4] that robots will be sentient and they'll need protection. "This is where I would draw the line and call for a Bill of Rights for Robots." He added, "We, as humans, need to exercise our sense of **empathy**[5] toward the robots we are creating, and robots should be programmed with a sense of empathy toward us and each other."

Capri's knowledge as a cosmologist-futurist has him worried that as robots become more advanced, humans will fail to realize that robots are more than machines to simplify their lives.

"As we program robots at higher levels, I'll be lobbying for programming an **ethic**[6] of empathy." More empathy is something humans could benefit from as well, believes Capri. "As humans, with at best a shaky record when it comes to avoiding war and harsh prejudices towards one another, we could do with some reprogramming ourselves." The stronger the

Guess the meanings of the following words in the context.

1. ruminate	A. 沉思	B. 反刍	C. 玩味
2. sentient	A. 伤感的	B. 有感情的	C. 敏感的
3. foresee	A. 朝前看	B. 预见	C. 看见
4. envision	A. 看见	B. 视线	C. 想象
5. empathy	A. 可怜	B. 共情	C. 敏感
6. ethic	A. 伦理	B. 种族	C. 人种

empathy, the less likely one's tendency toward violence as a means of solving problems, explains Capri. "The hope of the future is not technology alone," Capri adds. "It's the empathy necessary for all of us, human and robot, to survive and thrive."

"The evolution of robots is inevitable," Capri states forebodingly. The line between human and machine is already beginning to blur, and Capri wonders what will life be like for people who have had limbs and human features replaced by robotic parts. Humans will become more robotic as robots become more human. *(392 words)*

Abridged and revised from
http: //www.botmag.com/index.php/a-dream-of-robot-rights

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

1. Robot is supposed to be _____ in this passage.
   A. sentient
   B. lonely
   C. sentimental
   D. emotionless
2. Capri believes robot is so sentient that it may ask for _____.
   A. vote rights
   B. democratic rights
   C. civil rights
   D. refusal rights
3. Capri is concerned humans won't recognize a robot's _____.
   A. love
   B. hate
   C. revenge
   D. feelings
4. Capri believes robots should be programmed with a sense of _____.
   A. empathy
   B. humor
   C. pain
   D. happiness
5. It can be inferred from the passage that _____.
   A. robot may be the slave of human beings
   B. robot may become dominant in human being's society
   C. robot may serve for human beings
   D. robot may become more violent in the future

Passage 2

Reading Time: 3 minutes

Pipeline Exploration Robot

Regular inspection of pipelines is a key factor in ensuring safe transport and finding pipe leakages or **blockages**[1] for a wide variety of **applications**[2] e.g. Oil and Gas transport. Using pipeline exploration robots to enter pipelines and carry out inspection work with HD cameras, greatly increases efficiency and quality of inspection. A pipeline exploration robot system includes a control station and a robot.

A control station (a single board computer or a PC) responsible for receiving, storing and displaying video signals sent by robots as well as controlling robots' behavior by sending instructions.

Pipeline exploration robots are consists of a multimedia application processor, status and environment information, camera and a communication system. The application processors controls robots' movements and **operate**[3] the camera system based on the instructions sent by control station, while simultaneously sending robot status and encoded video signals back to control station. Pipeline exploration robots usually use wheels or caterpillar tracks（履带）as their moving system because gas/oil pipelines always have a large diameter. An individual moving system of this kind is equipped with multiple brushless motors to ensure the capability of overcoming obstacles. Status and environment information system is composed of a rotary encoder（旋转编码器）, an electronic compass, a 3 axis accelerometer and temperature & humility sensors. The system can provide general information about robots' location, speed and inclination angle, temperature & humility data which are helpful for the operators to make decisions on robot behavior control. Camera system consists of motion control and video processing units, and usually coupled with ultrasonic sensor to detect the thickness status of pipeline. The motion control unit has a servo motor to adjust camera's height and rotation so

Guess the meanings of the following words in the context.

1. blockage	A. 封锁	B. 堵塞	C. 收缩
2. application	A. 用途	B. 申请	C. 实施
3. operate	A. 做手术	B. 操作	C. 经营

that all the areas in pipelines could be scanned by camera. The task of video signal processing is handled by imaging sensor and multimedia application processor which work together to implement video **capture**[4], signal conversion and encoding processes. In order to achieve better communication quality and longer distance, the encoded video and control signals are combined into a single signal by a FPGA（现场可编程门阵列）included in communication system, and then processed by a serializer to produce LVDS (Low Voltage Differential Signal) to be transmitted through twisted-pair cables. If signals have to travel a much longer distance, fiber-optic cables could be a good option as it can cover distances up to several kilometers.

As the robotics technology develops, future pipeline exploration robots would feature more sophisticated A. I. (Artificial Intelligence), making them capable of "thinking and working" with minimum human intervention. *(417 words)*

Abridged and revised from
http: //fr.farnell.com/jsp/bespoke/bespoke7.jsp?bespokepage=common/fr/technology-first/applications/robotics/pipeline-exploration-robot.jsp

4. capture　　A. 采集　　B. 俘虏　　C. 抓住

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

1. Pipeline exploration robots can greatly increases _____.
   A. a wide variety of applications of pipelines
   B. the efficiency and quality of inspection
   C. the frequency of inspections
   D. the application of robots
2. A pipeline exploration robot system includes a(n) _____ and a(n) _____.
   A. single board computer, PC　　B. control station, robot
   C. rotary encoder, electronic compass　　D. sensor, processor
3. Pipeline exploration robots usually use _____ as their moving system.
   A. wheels or caterpillar tracks　　B. legs and feet　　C. supports　　D. propellers
4. The motion control unit has a _____ to adjust camera's height and rotation.
   A. propeller　　B. machine　　C. servo motor　　D. mechanical arm
5. The author believes pipeline exploration robots in the future are able to _____.
   A. walk and run　　B. speak and communicate
   C. stand up and kneel down　　D. think and work

Passage 3

Reading Time: 8 minutes

Digital Technology—A Third Industrial Revolution

As manufacturing goes digital, it will change out of all recognition, says Paul Markillie. And some of the business of making things will return to rich countries.

Outside the Frankfurt Messe（博览会）, home of **innumerable**[1] German trade fairs, stands the "Hammering Man", a 21-metre **kinetic**[2] statue that steadily raises and lowers its arm to bash a piece of metal with a hammer. Jonathan Borofsky, the artist who built it, says it is a celebration of the worker using his mind and hands to create the world we live in. That is a familiar story. But now the tools are changing in a number of remarkable ways that will transform the future of manufacturing.

One of those big trade fairs held in Frankfurt is EuroMold（欧洲模具展销会）, which shows machines for making **prototypes**[3] of products, the tools needed to put those things into production and all manner of other manufacturing kit. Old-school engineers worked with lathes, drills, **stamping**[4] presses and molding machines. These still exist, but EuroMold exhibits no oily machinery tended by men in overalls. Hall after hall is full of **squeaky-clean**[5] American, Asian and European machine tools, all highly automated. Most of their operators, men and women, sit in front of computer screens. Nowhere will you find a hammer.

And at the most recent EuroMold fair, last November, another group of machines was on display: three-dimensional (3D) printers[①]. Instead of bashing, bending and cutting material the way it always has been, 3D printers build things by **depositing**[6] material, layer by layer. That is why the process is more properly described as **additive**

Guess the meanings of the following words in the context.

1. innumerable	A. 无数的	B. 不可比拟的	C. 毫无争辩的
2. kinetic	A. 活跃的	B. 动力学的	C. 动感的
3. prototype	A. 原型	B. 照片	C. 打印
4. stamp	A. 冲压	B. 铸造	C. 标志
5. squeaky-clean	A. 道德高尚的	B. 非常干净的	C. 无可指责的
6. deposite	A. 沉淀	B. 累积	C. 电铸

manufacturing[7]. An American firm, 3D Systems, used one of its 3D printers to print a hammer for your **correspondent**[8], complete with a natty wood-effect handle and a metalized head.

This is what manufacturing will be like in the future. Ask a factory today to make you a single hammer to your own design and you will be presented with a bill for thousands of dollars. The makers would have to produce a mould, cast the head, machine it to a suitable finish, turn a wooden handle and then assemble the parts. To do that for one hammer would be prohibitively expensive. If you are producing thousands of hammers, each one of them will be much cheaper, thanks to economies of scale. For a 3D printer, though, economies of scale matter much less. Its software can be endlessly **tweaked**[9] and it can make just about anything. The cost of setting up the machine is the same whether it makes one thing or as many things as can fit inside the machine; like a two-dimensional office printer that pushes out one letter or many different ones until the ink cartridge and paper need replacing, it will keep going, at about the same cost for each item.

Additive manufacturing is not yet good enough to make a car or an iPhone, but it is already being used to make specialist parts for cars and customized covers for iPhones. Although it is still a relatively young technology, most people probably already own something that was made with the help of a 3D printer. It might be a pair of shoes, printed in solid form as a design prototype before being produced in bulk. It could be a hearing aid（助听器）, individually tailored to the shape of the user's ear. Or it could be a piece of jeweler, cast from a mould made by a 3D printer or produced directly using a growing number of printable materials.

But additive manufacturing is only one of a number of breakthroughs leading to the factory of the future, and conventional production equipment is becoming smarter and more flexible, too. Volkswagen has a new production strategy called Modularer Querbaukasten, or MQB[②]. By standardizing the parameters of certain components, such as the mounting points of engines, the German carmaker hopes to be able to produce all its models on the same production line. The process is being introduced this year, but will gather pace as new models are launched over the next decade. Eventually it should allow its factories in America, Europe and China to produce locally whatever vehicle each market requires.

They don't make them like that any more. Factories are becoming vastly more efficient,

7. additive manufacturing	A. 积制造	B. 附加制造	C. 粘合制造
8. correspondent	A. 记者	B. 代理人	C. 客户
9. tweak	A. 扭动	B. 拉动	C. 微调

thanks to automated milling machines（铣床）that can **swap**[10] their own tools, cut in multiple directions and "feel" if something is going wrong, together with robots equipped with vision and other sensing systems. Nissan's British factory in Sunderland, opened in 1986, is now one of the most productive in Europe. In 1999 it built 271,157 cars with 4,594 people. Last year it made 480,485 vehicles—more than any other car factory in Britain, ever—with just 5,462 people.

"You can't make some of this modern stuff using old manual tools," says Colin Smith, director of engineering and technology for Rolls-Royce（劳斯莱斯轿车）, a British company that makes jet engines and other power systems. "The days of huge factories full of lots of people are not there any more."

As the number of people directly employed in making things declines, the cost of labor as a proportion of the total cost of production will diminish too. This will encourage makers to move some of the work back to rich countries, not least because new manufacturing techniques make it cheaper and faster to respond to changing local tastes.

The materials being used to make things are changing as well. Carbon-fiber composites, for instance, are replacing steel and aluminum in products ranging from mountain bikes to airliners. And sometimes it will not be machines doing the making, but micro-organisms that have been genetically engineered for the task.

Everything in the factories of the future will be run by smarter software. Digitization in manufacturing will have a disruptive effect every bit as big as in other industries that have gone digital, such as office equipment, telecoms, photography, music, publishing and films. And the effects will not be **confined**[11] to large manufacturers; indeed, they will need to watch out because much of what is coming will empower（使能够）small and medium-sized firms and individual entrepreneurs. Launching novel products will become easier and cheaper. Communities offering 3D printing and other production services that are a bit like Facebook[③] are already forming online—a new phenomenon which might be called social manufacturing.

The consequences of all these changes amount to（相当于） a third industrial revolution. The first began in Britain in the late 18th century with the mechanization of the textile industry. In the following decades the use of machines to make things, instead of crafting them by hand, spread around the world. The second industrial revolution began in America in the early 20th century with the assembly line, which ushered（引入） in the era of mass production.

As manufacturing goes digital, a third great change is now gathering pace. It will allow

10. swap	A. 建造	B. 交换	C. 内置
11. confine	A. 关闭	B. 局限于	C. 提炼

things to be made economically in much smaller numbers, more flexibly and with a much lower input of labor, thanks to new materials, completely new processes such as 3D printing, easy-to-use robots and new collaborative manufacturing services available online. The wheel is almost coming full circle, turning away from mass manufacturing and towards much more individualized production. And that in turn could bring some of the jobs back to rich countries that long ago lost them to the emerging world. *(1,225 words)*

Abridged from
http: //www.economist.com/node/21552901

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

1. Why does the author say some of the business of making things will return to rich countries?
   A. Because only rich countries own digital technology.
   B. Because rich countries are more developed.
   C. Because rich countries need more employment opportunity.
   D. Because rich countries have more funds.
2. How do 3D printers build things?
   A. By lathing and milling material.
   B. By depositing material, layer by layer.
   C. By pressing stamping material.
   D. By bashing, bending and cutting material.
3. What can additive manufacturing make nowadays?
   A. Car and iPhones.
   B. Hammer.
   C. Not mentioned.
   D. Some specialist parts for cars and customized covers for iPhones.
4. Why will some of makers want to move some of the work back to rich countries?
   A. Because number of people directly employed in making things declines.
   B. Because the cost of labor as a proportion of the total cost of production will diminish.
   C. Because new manufacturing techniques make it cheaper and faster to respond to changing local tastes.
   D. All of the above
5. As manufacturing goes digital, what changes are happening?
   A. Operators are still working with lathing, milling and pressing machines etc.
   B. Things are made with stamping press and molding machines.
   C. Things are made with 3D printing, easy-to-use robots and new collaborative manufacturing services available online.
   D. Things are made on the assembly line.

Notes

① 3D printer: 指从数字模型中制造任何形状的立体物。

② MQB: 横置发动机模块化平台。

③ Facebook: 是一个创办于美国的社交网络服务网站，于2004年2月4日上线。截至2012年5月，Facebook拥有约9亿用户，是全球第一大社交网站。用户可以建立个人专页，添加其他用户作为朋友并交换信息，包括自动更新及即时通知对方专页。此外，用户可以加入各种群组，例如工作场所、学校、学院或其他活动。Facebook没有官方中文名称，不同汉语地区的使用者发展出不同的译名，中国大陆的脸谱、香港的面书或面簿、台湾的脸书，亦有“非死不可”的戏谑译名。Facebook的创办人是马克·扎克伯格(Mark Zuckerberg)。2012年5月18日，Facebook在美国纳斯达克证券交易所上市。

Passage 4

Reading Time: 9 minutes

The Meaning of Artificial Life

A significant and growing **train**[1] of thought emerges. Where does software end and biology begin? What is the difference between a “grown” machine and a “natural” one? Can Mary Shelley’s① character, Dr. Frankenstein, ever emerge in reality by creating artificial life?

Robot (a journal) continues pursuing this topic by interviewing two prominent authorities in the field of computer science and human thought processes. Dr. Michael Mauldin is a widely recognized authority on both information **retrieval**[2] and artificial intelligence. He holds

Guess the meanings of the following words in the context.

1. train	A. 火车	B. 培训	C. 一连串
2. retrieval	A. 检索	B. 恢复	C. 拯救