



**Некоммерческое  
акционерное  
общество**

**АЛМАТИНСКИЙ  
УНИВЕРСИТЕТ  
ЭНЕРГЕТИКИ И  
СВЯЗИ**

Кафедра иностранных языков

## **АНГЛИЙСКИЙ ЯЗЫК**

Методические указания для улучшения навыков чтения  
научно-технических текстов  
для студентов специальности  
5В070300 – Информационные системы

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В методических указаниях рассматриваются основы перевода, лексические трудности перевода научно-технической литературы. Большое внимание уделяется вопросам терминологии, что дает возможность увеличить активный словарь по специальности.

Методические указания предназначены для студентов специальности «Информационные системы», занимающихся техническим переводом.

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Read the text quickly. Match the headings (a-d) with the paragraphs (1-4).

### **The computer**

- A. Memory
- B. Speed
- C. PCs and Notebooks
- D. Hardware\ Software

1. The parts of a computer you can touch, such as the monitor or the Central Processing Unit (CPU) are hardware. All hardware except the CPU and the working memory are called peripherals. Computer programs are software. The operating system (OS) is software that controls the hardware. Most computers run the Microsoft Windows OS. MacOS and Linux are other operating systems.

2. The CPU controls how fast the computer processes data, or information. We measure its speed in megahertz (MHz) or gigahertz (GHz). The higher the speed of the CPU, the faster the computer will run. You can type letters and play computer games with a 500 MHz CPU. Watching movies on the Internet needs a faster CPU and a modem.

3. We measure the Random Access Memory (RAM) of the computer in megabytes (MB). RAM controls the performance of the computer when it is working and moves data to and from the CPU. Programs with a lot of graphics need a large RAM to run well. The hard disk stores data and software programs. We measure the size of the hard disk in gigabytes (GB).

4. Computer technology changes fast, but a desktop PC (Personal Computer) usually has a tower, a separate monitor, a keyboard and a mouse. The CPU, modem, CD-ROM and floppy disk drivers are usually inside the tower. A notebook is a portable computer with all these components inside one small unit. Notebooks have a screen, not a monitor, and are usually more expensive than desktops with similar specifications.

#### **Vocabulary:**

Hardware – the machinery and electronic parts of a computer system that you can touch, such as the keyboard, the CPU, etc (аппаратура, аппаратные средства)

CPU - central processing unit; the part of a computer that controls all the other parts of the system, such as memory, speed and power supply (ЦП- центральный процессор)

Peripheral – any piece of hardware machinery, etc that forms part of or connects to a computer) apart from the CPU and the working memory (RAM) (периферийное устройство)

Software – the programs used by a computer (программное обеспечение)

Process – (used about a computer) to read data and use it to perform a series of tasks (operations) (обрабатывать)

Megahertz – (MHz) a unit for measuring the speed of a CPU. One MHz represents one million cycles per second (мегагерц)

Gigahertz – (GHz) a unit for measuring the speed of a CPU. One GHz gigahertz represents one billion cycles per second (гигагерц)

RAM – random access memory; computer memory in which data can be changed or removed and then looked at in any order. When you switch the computer off, you lose all the data in the RAM (ЗУПВ запоминающее устройство с произвольной выборкой)

Performance – how well or badly a computer, machine, etc. works or does something (ход, характеристика)

Graphics – pictures or images that are used especially in the design of magazines, web pages, etc (графика)

Hard disk – a disk inside a computer that stores all the data and programs in the computer (жесткий диск)

To store – to keep information or data in a computer's memory (накапливать)

Data – information that is stored by a computer (данные)

Desktop – the first screen that appears when you turn on your computer and which displays icons that represents files, folders, documents, etc (рабочий стол)

Tower – a metal box that contains the CPU, hard disk drive and power supply for a PC

Monitor – a separate part of a PC with a large screen that shows information from the computer (монитор)

Keyboard – the set of buttons (keys) that you press to operate a computer (клавиатура)

Mouse- a small device that you move across a surface with your hand to control the movement of the cursor (мышь)

Modem – a device that connects a computer to the Internet. It changes computer data into sound which can be sent over telephone lines (модем)

CD-ROM – compact disk read- only memory; a CD, for use on a computer; which has data recorded on it. The data cannot be changed or removed, unlike CD-RW disks, on which data can be changed (компакт-диск ПЗУ)

Floppy disk – a flat disk inside a plastic cover, that is used to store information (data) in a form that a computer can read, and that can be removed from the computer (гибкий диск)

Notebook – also (laptop – a small personal computer that you can carry (ноутбук)

Component – one of several parts of which a machine, etc is made (составная часть)

Specification- a detailed description of how something is, or should be, designed or made (технические характеристики)

**Exercise 1.** Look at these words from the text. Write H (hardware), P (peripheral), S (software) or M (measurement) next to each one.

1. CPU	H	7. Mouse	
2. MacOS	S	8. Modem	
3. Megabyte(MB)	M	9. Linux	
4. Printer	P	10. Scanner	
5. RAM		11. Gigabytes (GB)	
6. Megahertz (MHz)		12. Floppy disk	

**Exercise 2.** Match the underlined words and phrases in the text with the definitions (1-8).

1. parts ...
2. pictures and images ...
3. a way of doing something ...
4. reads and uses data ...
5. measurements ...
6. use a computer program ...
7. keeps data in the memory ...
8. how well a computer does something ...

Read the text quickly and match the headings (a-d) with the paragraphs (1-4).

- A. The control panel
- B. The drives
- C. The desktop
- D. Using icons

### **The desktop**

1. The desktop is the screen that appears after you boot up, or turn on, your computer. It shows a number of icons on a background picture or color. When you buy a new computer and boot up for the first time, the desktop will only show a small number of icons. In the Windows operating system, these usually include My Computer and the Recycle Bin.

2. Double-clicking on an icon with the mouse opens a computer program, a folder or a file. Folders usually contain other files. You can move icons around the desktop, add new ones or remove them by deleting them. Deleted files go to the Recycle Bin. People usually put the programs they use most often on the desktop to find them quickly.

3. When you double-click on My Computer another screen appears. This screen shows the A: drive icon, for floppy disks; the C: drive icon, which usually contains all of the main programs and folders on your computer; the D: drive icon, which is usually the CD-ROM drive, and the Control Panel folder.

4. When you double-click on Control Panel, another screen appears that shows many other icons, such as the Display icon and the Date/Time icon. Double-clicking on Display opens a box that lets you personalize your desktop by changing the screen saver (the moving image that appears when no one is using the computer) or the background picture.

### **Vocabulary:**

Desktop – the first screen that appears when you turn on your computer and which displays icons that represent files, folders, documents, etc. (рабочий стол)

Icon – a small symbol on a computer screen which represents a program, or a file

Recycle Bin – the folder in Microsoft Windows where files or programs that have been deleted or removed are stored (корзина)

Double-click – to press one of the buttons on a mouse twice quickly in order to start an action on screen (нажать дважды)

Folder – a place where a number of computer files or documents can be stored together (папка)

File – a collection of information, such as a Word document or a picture, which is stored in a computer, under a particular name (файл)

Delete – to remove something that has been stored on a computer (удалить)

Drive – the part of the computer that reads and stores information on disks

CD-ROM – compact disk read-only memory; a CD, for use on a computer, which has data recorded on it. The data cannot be changed or removed, unlike CD-RW disks, on which data can be changed

Display – a particular feature of Windows that lets you change the way your computer screen, looks by choosing your own background, screen, saver, etc

Personalize – to design or change something so that it is suitable for the needs of one particular person (олицетворять, воплощать)

Background – the picture or color on the first screen that appears when you turn on the computer (desktop) (задний план, фон)

### **Exercise 1.** Decide if the sentences are true (T) or false (F).

1. The desktop appears before you boot up. T/F
2. Files are usually inside folders. T/F
3. People usually put their favorite programs on the desktop. T/F
4. Use the C: drive to open floppy disks. T/F
5. You cannot change the background picture of the desktop. T/F
6. The Control Panel folder contains the Date/Time icon. T/F

**Exercise 2.** Find the words in the text that mean:

- 1). Comes into view so you can see it (paragraph 1) ...
- 2). The pictures or color on your screen(1) ...
- 3). Clicking the mouse two times quickly (2) ...
- 4). Something that holds documents or files (2) ...
- 5). Most important (3) ...
- 6). Make something the way you want it (4) ...

**Exercise 3.** Complete the sentences (1-7) with the words in the box.

Display, screen saver, folders, Recycle Bin, files, deleted, desktop
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1. The ... icon lets you change the way your desktop looks.
2. If you remove a file by mistake, you can find it in the ...
3. The ... appears when you don't use the mouse or keyboard.
4. I didn't use that program very much so I ... it from my desktop.
5. I have a great program on my ... that I use for playing music.
6. Windows Explorer lets you move ... from one folder to another.
7. ... contain documents or files.

Read the text and underline the advantage of word processing in the first paragraph and the disadvantages in the second. Write the number of each.

1. Advantages ...
2. Disadvantages ...

### **Word processing: for and against**

People use word processors for writing all kinds of documents, such as letters, school papers and reports. Word processors have many advantages over handwriting and manual typewriters. Word processing is faster and easier than writing by hand and you can store documents on your computer, which you cannot usually do on a typewriter. This makes it easier to review and rewrite your documents. You have more formatting choices with a word processor, and the spelling, grammar and language tools are useful, too. You can also print copies of your documents, which look neater than handwritten ones. Many language students use word processors to improve their writing skills and because they help them feel proud of their work.

Word processors do have disadvantages, however. First, it is not easy read long documents on a computer screen. Second, sometimes the printer does not print an

exact copy of what you see on the screen. Not all word processors can read each other's files, which is another disadvantage. Finally, word processors do not always work well with e-mail. If you paste a word-processed letter into an e-mail it may lose a lot of its formatting. Many people use a text editor for the Internet, which is similar to a word processor but has fewer formatting features and cannot use graphics. Text editors, such as Notepad, use a simple coding system called ASCII (American Standard Code for Information Interchange), as does e-mail.

### **Vocabulary:**

Word processor – a program or computer that lets you carry out word-processing functions (процессор)

Manual – done or controlled by hand rather than automatically (ручной)

Format – to change or arrange text in a particular way on a page or screen (создать необходимый формат)

Printer – a machine that is connected to a computer and that prints on paper (принтер)

E-mail – a way of sending electronic messages or data from one computer to another, a message or messages sent by e-mail (электронная почта)

Paste – to copy or move text or graphics into a document from somewhere else (сканировать)

Text editor – a program, such as Notepad, that allows you to write and edit text files (текстовый редактор)

Internet – (the Internet) a worldwide network that connects millions of computers

Feature – something important, interesting or typical of a place or thing (черта, особенность)

Graphics – pictures or images that are used especially in the design of magazines, Web pages, etc (графика)

Coding system – a way of representing data

ASCII – American Standard Code for Information Interchange – a code used to represent English characters as numbers so that data can be moved between computers that use different programs

### **Exercise 1.** Work in pairs and discuss the questions.

1. Do you like writing by hand? Why?/Why not?
2. Have you ever used a typewriter or word processor? Which word processor?
3. What are the differences between handwriting, typing and word processing?

### **Exercise 2.** Decide if the sentences are true (T) or false (F).

1. You can store letters on a manual typewriter. T / F
2. You can change your documents easily on a word processor. T / F

3. Printed documents look better than handwriting. T / F
4. Improving your writing is more difficult with a word processor. T / F
5. Word processors work well with e-mail. T / F

**Exercise 3.** Match the underlined words and phrases in the text with the definitions (1-6).

1. By hand, not electronic .....
2. The way a program organizes data .....
3. A program used for simple text files .....
4. The code that e-mail uses .....
5. Things that a program has, or can do .....
6. A program used for text and graphics .....

Read and translate the text.

### **The texting pigeons**

Not everybody recognizes the benefits of new developments in communications technology. Indeed, some people fear that text messaging may actually be having a negative effect on young people's communication and language skills, especially when we hear that primary school children may be at risk of becoming addicted to the habit. So widespread has texting become, however, that even pigeons have started doing it. Whereas, in this case, it's difficult to view the results as anything but positive.

Twenty of the birds are about to launch to the skies with the task of measuring air pollution, each loaded with sensor equipment and a mobile phone. The reading made by the sensors will be automatically converted into text messages and beamed to the Internet- where they will appear on a dedicated 'pigeon blog'.

The birds will also each have a GPS receiver and a camera to capture aerial photos, and researchers are building a tiny 'pigeon kit' containing all these gadgets. Each bird will carry these in a miniature backpack, apart, that is, from the camera, which will hang around its neck.

The data the pigeons text will be displayed in the form of an interactive map, which will provide local residents with up-to-the-minute information on their local air quality.

#### **Vocabulary:**

Benefit – advantage (польза, выгода)

Addicted - dependent on something (привыкший, зависимый)

Widespread - distributed over a large area (широко-распространенный)

Pigeon - голубь

Whereas – in contrast or comparison with the fact that (тогда как, в то время как)

Loaded – carrying or bearing a load, especially a large one (нагруженный, обремененный)

Dedicated – devoted to a task or purpose (преданный)

Blog - weblog – a personal website, on which an individual or group of users record opinions, links to other sides, etc on a regular basis.

Capture - take into one's control by force (брать в плен, захватывать)

Gadget – a small mechanical device or tool, especially an ingenious or novel one (штучка)

Backpack – rucksack (рюкзак)

Resident – a person who lives somewhere permanently or on a long-term basis (житель)

Up-to-the-minute- incorporating the very latest information or development (сиюминутный, самый последний)

**Exercise 1.** Answer the questions.

1. What do some people feel about text messaging?
2. How popular has texting become?
3. What are the pigeons loaded with, when they are launched to the skies with the task of measuring air pollution?
4. What will appear on a dedicated "pigeon blog"?
5. What are the functions of a GPS receiver and a camera?
6. What load will each bird carry?
7. How will the data the pigeons text will be displayed?
8. What kind of information the local residents will be provided with from an interactive map?

**Exercise 2.** Say if the statements are true (T) or false (F).

1. Everybody recognizes the benefits of new developments in communications technology. T/F
2. Text messaging may be having a positive effect on young people's communication and language skills. T/F
3. Even pigeons have started doing texting. T/F
4. The birds are loaded with Sensor equipment and a mobile phone. T/F
5. The birds will also each have a GPS receiver and a camera to capture aerial photos. T/F

**Exercise 3.** Find ten computer words.

M	O	U	S	E	C	L	I	C	K
S	P	A	C	E	B	A	R	D	S
D	C	P	R	I	N	T	E	R	I
P	C	K	E	Y	B	O	A	R	D
B	O	O	E	B	U	T	T	O	N
E	T	O	N	C	D	R	O	M	S

Read and translate the text.

**We're funny in the brain**

A computer walks into a bar ...no, hang on, why did the mainframe computer cross the road? Please, don't groan. Information Technology (IT) humor doesn't work very well. Computers don't do jokes and the people who understand computers aren't famous for being a load of laughs either. But Dr Binsted, an expert in Artificial Intelligence (AI), plans to change that. If her project succeeds, your computer of the future could be swapping puns (jokes on word play) and wisecracks with you faster than a New York cab driver.

Binsted is one of the speakers on humor, art and the brain, at the Festival of Art and the Mind, in England. She will unveil a computer program called "WISCRAIC" (Witty Idiomatic Sentence Creation Revealing Ambiguity in Context) which will entertain the audience with its stock of clever jokes. However, since examples include 'The book thief was caught read-handed instead of 'red-handed', it's obvious that Binsted's cyber comedian cannot be relied upon for its ability to make people laugh. But that is one reason why the project is so interesting. The fact that Wiscraic and his punning companion Jape (Joke Analysis Production Engine) find even basic humor so hard, despite access to vast language databases, is a vivid demonstration of what a difficult thing humor is.

They are certainly nowhere near answering the most fundamental question – why do human beings laugh and make jokes at all? Why is it that whenever two or three people are gathered together, we smile and send out a series of short noises,

each about 75 milliseconds long, repeated at regular intervals? One rather surprising answer is social dominance.

When researcher Professor Provine, at the University of Maryland, eavesdropped in clubs and bars to find exactly what happens when people laugh, he discovered that it is something women do in response to men. When talking to men, women will laugh 127 per cent more than their male audience, while men talking to a female audience will laugh seven per cent less than their audience. 'Laughter, like many other social activities, is connected with status and the desire of the male to impress,' Provine says. 'Top people don't laugh; you laugh at what they say'. Both male and female listeners laugh more when a man is speaking, but in neither case do the jokes have to be any good.

But when we laugh at something that is funny, what goes on in our brains? Understanding this is the ultimate dream of neuroscience because while we can locate memories, speech and even religious experiences in the brain, jokes turn out to be even more complex. Neuroscientists have known for some years that if you damage the right side of your brain, story-telling jokes of the 'Man walks into a bar' variety are lost on you - but comedy based on clumsy actions or embarrassing situations is guaranteed a laugh. When subjects were recently put in a scanner at the Institute of Neurology in London and told a popular joke, an area at the back of their frontal lobes was activated. But a rather different picture emerged when researchers at the institute told subject puns or what they called 'semantic jokes' - 'Why don't sharks bite lawyers?' Professional courtesy.' While both types amused the part of the brain which deals with reward and control, they arrived there via different routes. The puns went through an area that controls speech (the Broca's), while the 'semantic' jokes went through the temporal lobes.

So it's obvious that humor is, in fact, a serious matter, with a strong social dimension that needs a surprising amount of brain power and a willingness to break rules. Attempting to programme these requirements into a computer sounds unrealistic at best. 'It's true that in science fiction robots can usually do everything-except make jokes,' Binsted says, 'but one of the aims of AI is to model what humans do and to replicate it.' She defends Wislizenus's playground jokes with an analogy about computer-composed music. 'It goes all the way from the sophisticated music of Beethoven down to short, simple tunes in adverts and right now we are still at the advertising end! But it's a start. If computers are going to interact with humans via language, they are going to have to do humor.' What's intriguing is just how unsuccessful the computer is - 'The friendly gardener had thyme (a garden herb, as opposed to time) for the women'-compared with the real thing, like Groucho Marx's 'I have had a perfectly wonderful evening. But this wasn't it.' Why exactly one works perfectly and the others make everyone groan is the kind of question that keeps academics in work for decades.

But already Binsted's joking computer has its fans in at least one place where language is highly valued. It is currently being used to teach English to Japanese

students who can chat with a screen. The program makes a joke like the 'friendly gardener' one and then deconstructs it to explain the idiomatic use of the word time. 'We've found that students remember more and keep working longer when the screen throws up the occasional joke,' Binsted says.

### **Vocabulary:**

- Hang on – stop for a while (остановитесь ненадолго)
- Main frame computer – большая ЭВМ
- Groan – to make loud noises of irritation or suffering (стонать)
- Information Technology – Информационные Технологии
- Succeed – to have a success in the process of doing something (преуспевать)
- Swapping – to exchange (обменивать)
- Pun – a joke of a certain type (игра слов, каламбур)
- Wisecrack – a joke (шутки, остроты)
- Unveil – to open (раскрыть, ознакомить)
- Entertain – развлекать
- Stock – to have something in store (запас)
- Include – to contain (включать, содержать)
- Cyber – internet
- Vivid – alive (живой, оживленный)
- Eavesdrop – to hear or listen to some information secretly, so that people don't know about it (подслушать)
- Experience – опыт
- Turn out – proved to be (оказалось)
- Complex – hard to do or understand, sophisticated (сложный)
- Damage – to injure someone or spoil something (нанести вред, ущерб)
- Variety – difference (разнообразие)
- Clumsy – awkward (неуклюжий, неловкий)
- Embarrassing – to make someone feel confused (смущающий)
- Lobe – an edge of an ear (мочка уха)
- Emerge – to appear (появляться)
- Via – through, by means of (через, посредством)
- Route – way (путь, маршрут)
- Dimension – (измерение, ниша)
- To model – to imitate, to copy (имитировать)
- Replicate – to copy (копировать)
- Defend – to protect (защищать)
- Sophisticated – complex (сложный)
- Tune – a kind of melody (мелодия)
- Advert – реклама
- Fan – фанат, болельщик
- Value – to evaluate (ценить)

Currently – now, at the moment (в настоящее время)

Chat – to have a short, informal talk (болтать)

Deconstruct – to rebuild (перестраивать)

Occasional – not intentional (случайный)

**Exercise 1.** Answer the questions.

1. What is the aim of a new computer program?
2. Is this new computer program successful?
3. Can computers make jokes or is it just a project of the future?
4. How is the computer program called which will entertain the audience with its stock of clever jokes?
5. What was the result of research made by Professor Provine in clubs and bars about laugh?
6. What is the scientific explanation of the reason of laugh?
7. Can robots make jokes?
8. Where does Binisted's joking computer have its fans, in what country of the world?

**Exercise 2.** Read the text again and choose the correct answer.

1. What statement does the writer make in the first paragraph?
  - A. There are numerous jokes about the computer industry.
  - B. IT people often make up amusing jokes about computers.
  - C. Some computers are capable of making up their own jokes.
  - D. The IT industry is not well - known for its sense of humor.
2. According to the writer, the computer program called Wiscraic
  - A. has been programmed to understand the real meaning of humor.
  - B. has a long way to go before it succeeds in its comic aims.
  - C. would greatly benefit from more access to language databases.
  - D. is capable of making large numbers of people laugh hysterically.
3. One explanation for why humans laugh in certain situations is that it
  - A. helps them demonstrate their position in society.
  - B. provides a welcome change of pace in conversations.
  - C. enables people to establish closer contact with one another.
  - D. is a means of showing appreciation of what we find funny.
4. Scientists have only recently discovered that
  - A. damage to the right brain can interfere with our understanding of jokes.
  - B. people find puns and semantic jokes more appealing than ordinary jokes.
  - C. the brain processes different kinds of jokes in different ways.
  - D. programming a computer to process jokes like humans would be impossible.
5. Binisted compares Wiscraic to computer-composed music in order to
  - A. prove how capable the computerized humor program is.

- B. show how computerized humor is still in its infancy.
  - C. illustrate the skills needed by humans to match computerized humor.
  - D. highlight the number of academics involved in the humor project.
6. What happened when Wisraic was used as a tool for teaching English to Japanese students?
- A. It caused minor problems for some of the students.
  - B. The students understood the jokes immediately.
  - C. A teacher had to be present to explain the jokes.
  - D. The jokes helped the students become more effective in their studies.

Read and translate the text.

### **Computer forensics**

Teacher: The rise of computer technology over the past decades has created a continually shifting landscape when it comes to the law. And computer crimes are on the rise. Back in 2003 the average bank robbery yielded \$6900, but theft by computer averaged \$900,000. I don't think we need to see the updated statistics, do we? So, law enforcement organizations like the Federal Bureau of Investigation need guidelines on how to investigate computer crimes, and the challenge for the legal system is to write new laws that retain the fundamental concepts for non-computer crimes. Yes?

Students: So how does that happen exactly? Can the government both collect data legally from people while at the same time protecting a person's privacy?

Teacher: Absolutely... and this is where the actual law comes into play. Take for example, the fourth amendment of the United States Constitution. This is the amendment that guards against illegal search and seizure. That means no one can just come into a home and seize someone's data. Most evidence on a computer consists of data. Well, this data is not in a concrete physical form like paper, it's ...an abstraction. That's just one example of the type of problems the legal system faces when confronting computer crime.

The establishment of guidelines for legal search and seizure of computer evidence has led to the growth of the field to computer forensics. So, what is computer forensics? Well you might think it means getting back your data if your computer crashes-but, computer forensics is not just data recovery. It's more... it goes a step further than that. It's about recovering, collecting, and analyzing data for purposes of presenting it in court. And an awareness of computer forensics is not just important for law enforcement specialists. Any business with an awareness of legal methods for recovering data will be better able to protect itself if it is subject to a crime like data theft, because they will be able to present evidence that is admissible in court.

There are three roles a computer can play in computer crime. It can be the target of the crime, the instrument used to commit the crime, or it can be a source of evidence concerning the crime. And of course it can have multiple roles. If someone uses a computer to steal information or hack into a system, and then they store that information on the same computer, computer forensic experts must tailor their investigation to the multiple roles of the computer in the crime. There are so many factors to take into consideration. You could illegally recover the data or destroy important evidence. Also, you could waste valuable time if you dive into the work without carefully considering the possible multiple roles of the computer in the crime.

Student 2: So, how fast can forensic experts really recover data?

Teacher: Well, you see, this is where forensics differs from simple data recovery. In computer forensics accuracy always takes precedence over speed. Let me be clear: this field is primarily concerned with rules of evidence and legal processes. These are the factors that guide forensic procedures, not the need for speed.

Ok...so now, let's turn to an outline of some of the basic steps that a forensics expert takes in identifying and retrieving evidence. First of all, you've got to quarantine that computer system. Do you know what I mean by quarantine?

Student: Isn't that what happens when doctors think someone has a contagious illness?

Teacher: Yes, good analogy, but in forensics it means letting nothing into the area, as opposed to something getting out. Here's an example: you know how police will tape off the area around a crime scene? OK, so that's what you're basically doing: You don't want any new factors to be introduced like computer viruses or anything else that might change things.

The next step is to recover all files-normal files, hidden files, password-protected files, etc. After that recover deleted files. Any attempt to destroy files on a computer leaves behind vital clues. Investigators are dealing with two basic kinds of data: persistent data and volatile data. Volatile data is data that is lost when the computer is turned off. The investigator must be familiar with all kinds of procedures and software that assist in recovering deleted or damaged files that were stored in the computer's temporary storage and lost when the computer was shut down.

The investigator must provide documentation of the entire computer system. This includes a listing and classification of all files normal and recovered, and analysis of the system layout. Finally, the investigator must be prepared to testify in a court of law if called upon. So, next time I really want to start focusing in detail on that first step: how to protect a computer that's being investigated.

### **Vocabulary:**

Shifting – changing, unstable (неустойчивый)

Crime – illegal activities (преступление)  
Forensics – relating to courts of law  
Average – usual, ordinary, standard (средне взятый)  
Yield – produce, provide or generate (приносить, производить)  
Theft – robbery (воровство)  
Challenge – dispute the truth or validity of (оспаривать)  
Updated – containing the latest information (обновленный)  
Retain – keep, continue to have (сохранять, удерживать)  
Privacy – seclusion (уединение)  
Amendment – reform (исправление, поправка)  
Guard – to keep safe, secure (охранять)  
Illegal – against law (нелегальный)  
Seizure – capture (захват, конфискация)  
Data – information (данные, информация)  
Abstraction – process of thought or idea (отвлеченное)  
Confront - bring face to face (ставить лицом к лицу, встречать)  
Establishment - setting up (учреждение, установление)  
Crash – fall, smash (разбить, загромоздить)  
Recovery – regaining possession, reclamation (возмещение, возврат)  
Awareness – the fact of realizing something (сознание)  
Enforcement – compel observance of (осуществление)  
Evidence – clarity, visibility (очевидность)  
Target – aim, goal (цель)  
Commit – perform (совершить)  
Multiple – numerous (многочисленный)  
Hack – chopping blow (проникнуть, взломать)  
Tailor – make or adapt for a particular purpose (адаптироваться)  
Accuracy- the quality or state being correct or precise (точность)  
Precedence – priority, superiority(приоритет, старшинство)  
Speed – velocity, rapidity, rate of motion (скорость)  
Identifying – recognize, establish, associate (распознавать )  
Retrieving – get back, recover, restore (вернуть, восстановить)  
Quarantine – a state, period or place of isolation not to be exposed to infectious disease  
Contagious illness – infectious disease  
Persistent – obstinate, slow to go or change (упорный, постоянный)  
Volatile – летучий, изменчивый  
Layout – arrangement (планировка, расположение)

**Exercise 1.** Find the right answer.

1. What does the professor mainly discuss?

A. an overview of the field of computer forensics

- B. the reasons for the rise of computer forensics
  - C. changes in the field of computer forensics
  - D. research into the effectiveness of computer forensics
2. Why does the professor talk about the abstract nature of data?
    - A. to stress how the role of computers is expanding
    - B. to describe a common procedure for converting files
    - C. to explain why computer crime is so widespread
    - D. to illustrate the difficult of adhering to established law
  3. What does the professor imply about the pressure to produce fast results?
    - A. It has had a devastating effect on computer forensics.
    - B. It is a vital to successfully completing an investigation.
    - C. It provides a necessary counterweight to legal procedures.
    - D. It presents a persistent problem for computer forensic specialists.
  4. Why does the professor mention the tape that the police use?
    - A. to stress that investigators must be in touch with authorities
    - B. to emphasize the importance of isolating the investigation
    - C. to assert that investigators must keep the scene contained
    - D. to caution against the improper recovery of evidence
  5. According to the professor, what is true about volatile data?

	True	False
1. It is a threaten to the security of the investigation.		
2. It cannot be easily documented without damaging it.		
3. It is lost when the computer is turned off.		
4. It results from an attempt to destroy data.		

**Exercise 2.** Put the events in the right order.

Recover files that are accessed by a password or are hidden.

Isolate all computer files.

Take steps to find files that were temporarily stored or lost.

Locate files that have been sent to the computer's trash.

Take precautions to ensure that files do not get damaged.

Read and translate the text.

### Computer that makes films

Inside an office complex near San Francisco, one of the 10 most powerful computers in the world hums and blinks in a dark, glass chamber. Known as the Renderfarm, the computer represents the final stage in a Pixar movie. It takes the millions of equations that the studio's animators have created to control each character, and crunches them down into individual frames of film. Pixar are now one of the most successful film studios in the history of the cinema. But Pixar employees become visibly disturbed by the suggestion that sheer computing power might be the secret of, what is to their rivals, their puzzling success. In Hollywood, though, trying to figure out Pixar's secret has become a matter of panicky necessity. Since 1995, the company has had an unbroken record of triumphs-as popular with critics as the box office. This has resulted in not just seven but a staggering 17 Oscars and millions of dollars for the studio. Telling a story in animated form requires a particularly bizarre kind of personality - an equal mix of childishness and enormous quantities of patience.

Employees admit that it is a tedious job. They work on something for two years for maybe less than two minutes of film. If you're not a patient kind of person, you just can't take it. And obsessive secrecy characterizes the studio's attitude to its future releases, so it is impossible for animators to talk about what they are working on now. What they can tell you, however, is that it is so difficult to create animated characters which are realistic that it is pointless even trying. Computer animation's best characters are strictly symbolic representations. This is probably because profound emotions are not always best conveyed by characters who appear to be real creatures. Strangely enough, for a company that appears to have discovered some kind of magic formula, their film *The Incredibles* seems to dispense with everything it has done before. This is because the main characters are all human, rather than animals or other creature. The film also lasts for two full hours and many shots are slow, or completely still. But what will surprise viewers most of all is not the story but the message the film sends out. Every Pixar film has a message and in this film it seems to be that some people are just better than others and their resentful inferiors should just accept the fact that this is the way things are. The Pixar doctrine seems to be that if a story really is good enough, it will reach everybody, not just children-and even the jokes that younger viewers miss will somehow enhance their experience of the film. Children live in an adult world and are used to hearing things they don't understand. So part of what makes life interesting is trying to figure things out. So putting things like jokes they don't understand in a movie is fine. Overall, what is special about Pixar is that their appeal is universal. And somehow, it seems that they can do no wrong.

**Vocabulary:**

Hum - make murmuring sounds (жужжать, гудеть)

Blink - flash on and off in a regular or intermittent way (мигать, моргать, мерцать)

Chamber - room, apartment (комната, палата)  
 Represent - symbolize, correspond to (символизировать, представлять)  
 Equation – making equal, balancing (выравнивание уравнение)  
 Animator - creator of cartoons (мультипликатор)  
 Crunch down - process large quantities of information  
 Disturb - interfere or interrupt (беспокоить)  
 Suggestion - offer (предложение)  
 Sheer - absolute, mere (совершенный, простой)  
 Rival - a person competing with another for superiority in the same field of activity (соперник)  
 Figure out - calculate, understand (понимать, достигать)  
 Box office - театральная касса  
 Staggering - walk or move unsteadily (пошатывающийся)  
 Bizarre - obscure (тусклый, неясный, затмевать)  
 Quantity - a number of something (количество)  
 Patience - the capacity to accept problems without becoming annoyed or anxious (терпение)  
 Tedious - to make someone feel bored (утомительно)  
 Obsessive - preoccupied or filled the mind with troubles or worrying (навязчивый)  
 Attitude - pose, disposition (отношение)  
 Release - unfasten, let go (освобождать, отпускать)  
 Pointless - having little or no sense, use or purpose (бессмысленный)  
 Profound - deep (глубокий)  
 Convey - carry, transmit (переводить, передавать)  
 Incredible - unbelievable, extraordinary (неправдоподобный, невероятный)  
 Dispense - deal out, release (раздавать, освобождать)  
 Character - fictional character (персонаж)  
 Shot - снимок, кадр  
 Resentful - feeling or expressing bitterness or indignation of/ having been treated unfairly (возмущенный)  
 Inferior - lower in position, rank (подчинённый)  
 Enhance - to make stronger (усиливать)  
 Overall - total (полный, целый)  
 Appeal - make earnest request (обращаться)

**Exercise 1.** Answer the questions.

1. In what city of the USA is there one of the most powerful computer in a chamber known as Render farm?
2. How many equations do the studio's animators have to create to control each character in a film?
3. What causes a puzzling success to Pixar employees?

4. How high was an unbroken record of triumphs of the company?
5. Why is a job of Pixar employees tedious?
6. How are best characters represented? And what is the reason for that?
7. How is the most successful film called? And what's the reason of its success?
8. What is the message of this film?
9. Are all the jokes in a film can seem clear to children or it's even better that they will try to figure things out as they are?
10. What is special about the appeal Pixar makes to their audience?

**Exercise 2.** Read the task below about Pixar, a film studio which makes animated films, and decide what types of words are missing, e.g. nouns, adjectives, numbers, etc.

### **The pixar animated film studio**

“Renderfarm” is the name of a ... 1 at the Pixar film studios in San Francisco.  
 Pixar’s rivals have found the film studio’s success...2.  
 Pixar studios have been awarded... 3 Oscars since 1995.  
 The qualities needed to produce good animated films are childishness and a lot of ...4.  
 Pixar has found that it is not worthwhile trying to make animated characters which are ...5.  
 It seems that Pixar have found a ...6 for their films.  
 The most surprising thing in The Incredibles is the ...7.  
 Occasionally, the ... 8 in the films are not understood by younger audiences.

Read and translate the text.

### **Mean machines**

Looking for a good domestic robot? According to one website, the world's first fully automated, life-sized domestic assistant is about to go on sale. There's just one catch: the website promoting this amazing gadget is just a tease, a clever bit of advertising from 20th Century Fox to promote its movie, I, Robot. In this sci-fi action thriller, detective Spooner, played by Will Smith, investigates the murder of a scientist employed by a fictional robotics company. Despite the failsafe mechanism built into the robots, which prevents them from harming humans, the detective suspects one of them was responsible for the scientist's death. Further investigation leads him to believe that robots may even be planning to take over the world.

I, Robot is loosely based on a collection of short stories by science-fiction writer, Isaak Asimov. Most of these revolve around the famous three laws of

robotics' which he first drew up in 1940. In those days, barely two decades after the word 'robot' had been coined by playwright Karel Capek, other writers were still slavishly reworking Capek's narrative about robots taking over the world. But Asimov's grasp of science fact - he gained a PhD in chemistry - lent rigor to his science - fiction and he was already asking what practical steps humanity might take to avoid this nasty fate. His solution was to program all robots to follow three laws:

1) A robot may not injure a human being, or, through inaction, allow a human being to come to harm.

2) A robot must obey the orders given it by human beings, except where such orders would conflict with the First Law.

3) A robot must protect its own existence as long as such protection does not conflict with the First or Second Law.

These three laws might seem like a good way to keep robots in their place, but to a roboticist they throw up more problems than they solve. Experts in the field of A.I.(artificial intelligence) have come to the sobering conclusion that preventing intelligent robots from harming humans will require something much more complex than simply programming them. In fact, programming a real robot to follow the three laws would be a formidable undertaking. For a start, the robot would need to be able to recognize humans and not confuse them with chimpanzees, statues and humanoid robots. This may be easy for us humans, but it poses considerable difficulty for robots. To follow rule two, the robot would have to be made capable of recognizing an order and distinguishing it from a casual request - which is beyond the capability of contemporary artificial intelligence.

To follow any of the three laws, the robot would have to determine whether and to what extent any of them applied to the current situation. This would involve complex reasoning about the future consequences of its own actions and of the actions of other robots, humans and animals in its vicinity. But why should the robot restrict its actions to its own immediate vicinity? The first law, as stated above, includes no clause restricting its scope to the immediate surroundings of the robot. A robot standing in the Arctic might reason that it could take food to Africa and thereby save a child from starvation. If it remains in the Arctic, the robot would, through inaction, allow a human to come to harm, thus contravening the first law. To enable robots to avoid getting caught on the horns of such dilemmas, they would need some capacity for moral reasoning. Ensuring robots had such a capacity would be hideously complex compared to Asimov's three laws.

If these speculations seem far-fetched, the day when they become pressing issues may be closer than you suspect. Computer scientist Bill Joy is not the only expert who has urged the public to start thinking about the dangers of robotics, and Greenpeace has brought out a special report urging people to debate the matter vigorously. We should not be too alarmist, however. While the field of robotics is progressing rapidly, there is still some way to go before robots become as intelligent as Will Smith's fictional adversary. As Chris Melhuish, a leading British roboticist

admits, 'The biggest threat our robots currently pose to humans is that you can trip over them'.

### **Vocabulary:**

- Catch – trap, disadvantage (уловка)  
Promote – encourage, praise, support (поддерживать, рекламировать)  
Gadget – a small mechanical device or tool, especially an ingenious or novel one (штучка)  
Tease – joke, make fun of, irritate (дразнить)  
Advertise – boost, publicize (рекламировать, поместить объявление)  
Sci-fi – science fiction (НФ – научная фантастика)  
Murder – kill some one unlawfully (убивать)  
Fictional – relating to fiction, invented for the purposes of fiction (вымышленный, беллетристический)  
Fail - safe – causing a piece of machinery to revert to a safe condition in the event of a breakdown a malfunction (самоотключающийся при аварии)  
Investigation – research (исследование)  
Revolve – move around, circle (вращаться)  
Coin – create (создать фразу, выражение)  
Playwright – a writer or author who writes plays (драматург)  
Nasty – offensive, unkind, unpleasant (гадкий, неприятный)  
Fate – personified destiny (судьба, участь, удел)  
Injure – offend, hurt (повреждать, ушибить)  
Slavishly – servile or submissive (покорно)  
Take over – replace, assume control (принять руководство, сменить)  
Grasp – grip, comprehension, seize (схватывать, охватывать)  
Inaction – lack of action where some is expected or appropriate (бездействие)  
Throw up – abandon or give up something, produce something and bring it to notice (бросать, поднимать, подбрасывать)  
Sober – not drunk, temperate, not fanciful (здравый, трезвый)  
Formidable – frightening, huge (устрашающий, грозный, страшный)  
Undertaking – enterprise (предприятие)  
Humanoid – having an appearance or character resembling that of a human (гуманоид)  
Pose - put forward, propound, take up a position or attitude (предлагать, позировать, рисоваться)  
Lend – занимать, вкладывать  
Rigor – hours and demanding conditions (строгость, суровость)  
Distinguish – perceive, point out difference, characterize (различать, отличать)  
Casual – chance, occasional, careless (случайный, беспечный, небрежный)  
Contemporary – living or occurring at the same time (современник)

Artificial – not natural (искусственный)  
 Determine – be deciding factor, take decision, ascertain (определять, решать, устанавливать)  
 Current – course, tendency, of present time (текущий)  
 Vicinity – nearness, neighborhood (близость, соседство, округа)  
 Restrict – put a limit on, keep under control (ограничивать)  
 Scope – range, sweep (размах, охват)  
 Thereby – by that means, as a result of that (таким образом)  
 Starvation – suffer or die or cause to suffer or die from hunger (голодание)  
 Remain – stay – (оставаться)  
 Inaction – lack of action where some is expected or appropriate (бездействие)  
 Contravening – offend against the prohibition (противоречить)  
 Horn of such dilemmas – faced with a decision involving equally unfavorably alternatives (в тисках дилеммы)  
 Hideously – ugly, unpleasant (уродливый, безобразный)  
 Far-fetched – (с натяжкой, притянутый за уши/волосы)  
 Alarmist- someone who exaggerates a danger and so causes needless worry or panic (паникёр)  
 Fictional – invention, pretence, novels, etc. (вымышленный, беллетристический)  
 Adversary – one’s opponent in a contest, conflict or dispute (противник)  
 Admit – allow, accept (допускать, признавать)  
 Threat – a statement of an intention to inflict pain, injury, damage or other hostile action on someone in retribution for something done or not done (угроза)  
 Trip over – stumble or fall (споткнуться)  
 Vigorously – physical strength and good health (энергичный)

**Exercise 1.** Answer the questions.

1. What films or books do you know that feature robots?
2. What relationship do these robots have with humans?
3. Why can't shoppers buy the domestic assistants mentioned in the first paragraph?
4. How are Isaac Asimov's short stories different from those of his contemporaries?
5. Why do experts think that protecting us from robots would be difficult?
6. Why does the writer use the example of a robot taking food to Africa?
7. What do many experts think about the dangers posed by the science of robotics?
8. What sort of jobs do you think we should use robots for? Think about:
  - A) safety
  - B) health
  - C) human limitations

9. Are there any jobs you think we should not use robots for? Why?

**Exercise 2.** Match words A-F from the text opposite with meanings 1-6.

- A. Gadget
- B. Mechanism
- C. Artificial intelligence
- D. Programming
- E. Humanoid
- F. Robotics

- 1. A machine or creature with the appearance and characteristics of a person
- 2. A useful, usually small, piece of equipment
- 3. The science of designing and operating robots
- 4. A group of moving parts in a machine
- 5. The process of giving a computer instructions
- 6. The use of computers for human functions such as learning and making decisions

**Exercise 3.** Read the text again and choose the best option (A, B, C or D) to complete 1-5.

1. Shoppers can't buy the domestic assistants mentioned in the first paragraph because they

- A. are not yet in the shops.
- B. can only be acquired online.
- C. don't actually exist.
- D. are only available to filmgoers.

2. Isaac Asimov's short stories differ from those of his contemporaries because they

- A. were influenced by Karel Capek.
- B. are less a world ruled by robots.
- C. describe a world ruled by robots.
- D. are more grounded in science.

3. Experts believe that protecting us from intelligent robots would be difficult because they

- A. can't be controlled just by programming.
- B. can't be programmed to recognize adults.
- C. don't respond to casual request.
- D. will never be able to obey orders.

4. The example of a robot taking food to Africa is used to show that

- A. robots are capable of unselfish actions.
- B. Asimov's laws require robots to think.
- C. travel is a difficult concept for robots.

- D. robots can make moral judgments.
5. Many experts think that the dangers posed by the science of robotics are
- A. being covered up by experts.
  - B. over - dramatized by pressure groups.
  - C. overestimated by the public.
  - D. worthy of more discussion.

Read and translate the text.

## **Robots**

Since the dawn of human ingenuity, people have devised ever more cunning tools to cope with work that is dangerous, boring, onerous, or just plain nasty. That compulsion has culminated in robotics - the science of conferring various human capabilities on machines.

The modern world is increasingly populated by quasi-intelligent gizmos whose presence we barely notice but whose creeping ubiquity has removed much human drudgery. Our factories hum to the rhythm of robot assembly arms. Our banking is done at automated teller terminals that thank us with rote politeness for the transaction. Our subway trains are controlled by tireless robo-drivers. Our mine shafts are dug by automated moles, and our nuclear accidents - such as those at Three Mile Island and Chernobyl- are cleaned up by robotic mockers fit to withstand radiation.

Such is the scope of uses envisioned by Karel Capek, the Czech playwright who coined the term 'robot' in 1920 (the word 'robota' means 'forced labor' in Czech). As progress accelerates, the experimental becomes the exploitable at record pace.

Other innovations promise to extend the abilities of human operators. Thanks to the incessant miniaturization of electronics and micromechanics, there are already robot systems that can perform some kinds of brain and bone surgery with sub millimeter accuracy - far greater precision than highly skilled physicians can achieve with their hands alone. At the same time, techniques of long-distance control will keep people even farther from hazard. In 1994 a ten-foot-tall NASA robotic explorer called Dante, with video-camera eyes and with spiderlike legs, scrambled over the menacing rim of an Alaskan volcano while technicians 2,000 miles away in California watched the scene by satellite and controlled Dante's descent.

But if robots are to reach the next stage of labor-saving utility, they will have to operate with less human supervision and be able to make at least a few decisions for themselves-goals that pose a formidable challenge. 'While we know how to tell a robot to handle a specific error,' says one expert, 'we can't yet give a robot enough common sense to reliably interact with a dynamic world.' Indeed the quest for true

artificial intelligence (AI) has produced very mixed results. Despite a spasm of initial optimism in the 1960s and 1970s, when it appeared that transistor circuits and microprocessors might be able to perform in the same way as the human brain by the 21st century, researchers lately have extended their forecasts by decades if not centuries.

What they found, in attempting to model thought, is that the human brain's roughly one hundred billion neurons are much more talented - and human perception far more complicated - than previously imagined. They have built robots that can recognize the misalignment of a machine panel by a fraction of a millimeter in a controlled factory environment. But the human mind can glimpse a rapidly changing scene and immediately disregard the 98 per cent that is irrelevant, instantaneously focusing on the woodchuck at the side of a winding forest road or the single suspicious face in a tumultuous crowd. The most advanced computer systems on Earth can't approach that kind of ability, and neuroscientists still don't know quite how we do it.

Nonetheless, as information theorists, neuroscientists, and computer experts pool their talents, they are finding ways to get some lifelike intelligence from robots. One method renounces the linear, logical structure of conventional electronic circuits in favor of the messy, ad hoc arrangement of a real brain's neurons. These 'neural networks' do not have to be programmed. They can 'teach' themselves by a system of feedback signals that reinforce electrical pathways that produced correct responses and, conversely, wipe out connections that produced errors. Eventually the net wires itself into a system that can pronounce certain words or distinguish certain shapes.

In other areas researchers are struggling to fashion a more natural relationship between people and robots in the expectation that some day machines will take on some tasks now done by humans in, say, nursing homes. This is particularly important in Japan, where the percentage of elderly citizens is rapidly increasing. So experiments at the Science University of Tokyo have created a 'face robot'- a life-size, soft plastic model of a female head with a video camera imbedded in the left eye- as a prototype. The researchers' goal is to create robots that people feel comfortable around. They are concentrating on the face because they believe facial expressions are the most important way to transfer emotional messages. We read those messages by interpreting expressions to decide whether a person is happy, frightened, angry, or nervous. Thus the Japanese robot is designed to detect emotions in the person it is 'looking at' by sensing changes in the spatial arrangement of the person's eyes, nose, eyebrows, and mouth. It compares those configurations with a database of standard facial expressions and guesses the emotion. The robot then uses an ensemble of tiny pressure pads to adjust its plastic face into an appropriate emotional response.

Other labs are taking a different approach, one that doesn't try to mimic human intelligence or emotions. Just as computer design has moved away from one central

mainframe in favor of myriad individual workstations- and single processors have been replaced by arrays of smaller units that break a big problem into parts that are solved simultaneously - many experts are now investigated whether swarms of semi-smart robots can generate a collective intelligence that is greater than the sum of its part. That's what beehives and ant colonies do, and several teams are betting that legions of mini-critters working together like an ant colony could be sent to explore the climate of planets or to inspect pipes in dangerous industrial situations.

### **Vocabulary:**

- Dawn - beginning
- Ingenuity - the quality of being clever, original, and inventive, (изобретательный)
- Devise - think out (придумывать, изобретать)
- Cunning - craftiness (хитрость, ловкость)
- To cope with - deal effectively with something difficult (справляться)
- Onerous - involving a great deal of effort, trouble or difficulty (обременительный, тягостный)
- Compulsion - the action or state of forcing or being forced to do something, constraint (принуждение)
- Conferring - consult (совещаться, советовать)
- Quasi – intelligent - apparently, but not really clever, seemingly
- Gizmos - a gadget, especially one whose name the speaker does not know or cannot recall (штуковина)
- Creeping - crawl, move stealthily (ползущий, крадущийся)
- Ubiquity - вездесущность
- Drudgery - hard menial or dull work (изнурительная работа)
- Hum - make murmuring sound (жужжание, гудение)
- Rote - mechanical or habitual repetition of something to be learnt
- Mine - an excavation in the earth for extracting coal or other minerals (шахта)
- Shaft - шахта, ствол шахты
- Dug by - excavate by (откопанный )
- Mole - крот
- Mocker - dirt, anything disgusting (грязь, навоз)
- Withstand - remain undamaged or unaffected by (выдерживать)
- Envision - imagine as a future possibility, visualize (представить себе)
- Exploitable - used or developed economically (годный для разработки)
- Incessant - (of something unpleasant) continuing without pause or interrupting (непрерывный)
- Hazard - risk , danger (риск, опасность)
- Scramble – clamber ( карабкаться , взбираться)
- Menacing - threat (угрожающий)

Descent - downward slope, act of descending transmission by inheritance (склон, скат, спуск, происхождение)

Utility - usefulness (полезность, практичность)

Supervision - observe and direct the execution of a task activity (надзор)

Pose - put forward, propound (предлагать, излагать)

Formidable - frightening, huge (устрашающий, огромный)

Challenge - dispute (вызвать, оспаривать)

To handle - manage, deal with, treat (обращаться, обходиться)

Error - mistake (ошибка)

Quest - task (задача)

Artificial - not natural (искусственный)

Spasm - mental or physical reaction (приступ)

Initial - original (начальный, исходный)

Extend - stretch out (протягивать, расширяться)

Forecast - predict or estimate (a future event or trend) (предсказывать)

Attempt - try, try to do (пытаться, попытка)

Roughly - crude, uncomfortable (грубо)

Perception - process of faculty of perceiving (восприятие, осознание)

Complicated - sophisticated (сложный)

Previously - which was done before (предварительно)

Misalignment - the incorrect arrangement or position of something in relation to something else

Fraction - small piece or amount (дробь, частица)

Glimpse - a momentary or partial view (проблеск)

Disregard - ignore (пренебрегать)

Irrelevant - not connected with or relevant to something (неуместный)

Instantaneously - occurring or done instantly (мгновенно)

Woodchuck - (сурок лесной)

Winding - cause to encircle, curve or curt, twist (извилистый)

Suspicious - mistrustful, arousing suspicion (подозрительный, недоверчивый)

Tumultuous - making a loud, confused noise, uproarious (шумный, беспокойный)

Nonetheless - besides (тем не менее)

Pool - combine (объединять)

Renounce - surrender (отказываться, отрекаться)

Linear - arranged in or extending along a straight or nearly straight line (линейный)

In favor - in support or to advantage of (доброжелательно относиться)

Messy - untidy, dirty (неубранный, грязный)

Ad hoc - created or done for a particular purpose as necessary (для данного случая, специально)

Reinforce - strengthen or support (усиливать, подкреплять)  
 Pathway - a way that serves as a path (тропа, путь)  
 Conversely - introducing a statement or idea which reverses one that has , just been made or referred to (наоборот)  
 Wipe out - be capsized by a wave while surfing (вытереть, вытирать)  
 Eventually - at last (конечный, окончательный)  
 Distinguish - point out difference, characterize (отличать , различать)  
 Expectation - anticipation, prospect (ожидание, надежда)  
 Imbedded - embedded – fixed firmly and deeply in a surrounding mass (вмурованный)  
 Prototype – (первоначальный образец)  
 Transfer - convey, hand over (переносить, передавать)  
 Spatial - relating to space (пространственный)  
 Ensemble – (ансамбль)  
 Pressure - compulsive influence (давление, воздействие)  
 Pad - small cushion, block of paper (подушечка, блокнот)  
 Adjust - arrange, put right or straight (регулировать, приводить в порядок)  
 Response - reply, reaction (ответ, реакция)  
 Lab - laboratory  
 Mimic – (имитировать, пародировать)  
 Mainframe – (большая ЭВМ)  
 Myriad - a countless or extremely great number of people or things (нечетный)  
 Workstation - a desktop computer terminal, typically networked and more, powerful than a personal computer  
 Array - order, display, dress (порядок, множество, облегчение)  
 Swarm - move somewhere in large numbers (роится)  
 Beehive – (улей)  
 Ant – (муравей)  
 Bet - used to express certainty (держат пари, биться об заклад)  
 Legion - body of soldiers, multitude (легион)  
 Mini – critter - small living creature or an animal  
 Pipe – (труба, трубка)

**Exercise 1.** Match the headings (A-J) with paragraphs (1-6).

- A. Some success has resulted from observing how the brain functions.
- B. Are we expecting too much from one robot?
- C. Scientists are examining the humanistic possibilities.
- D. There are judgments that robots cannot make.
- E. Has the power of robots become too great?
- F. Human skills have been heightened with the help of robotics.
- G. There are some things we prefer the brain to control.

- H. Robots have quietly infiltrated our lives.
- I. Original predictions have been revised.
- J. Another approach meets the same result.
- 1. Paragraph A
- 2. Paragraph B
- 3. Paragraph C
- 4. Paragraph D
- 5. Paragraph E
- 6. Paragraph F

**Exercise 2.** Say if the statements are true (T), false (F), or information is not given (Not Given).

- A. Karel Capek successfully predicted our current uses for robots.
- B. Lives were saved by the NASA robot, Dante.
- C. Robots are able to make fine visual judgments.
- E. The internal workings of the brain can be replicated by robots.
- F. The Japanese have the most advanced robot systems.

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## АНГЛИЙСКИЙ ЯЗЫК

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