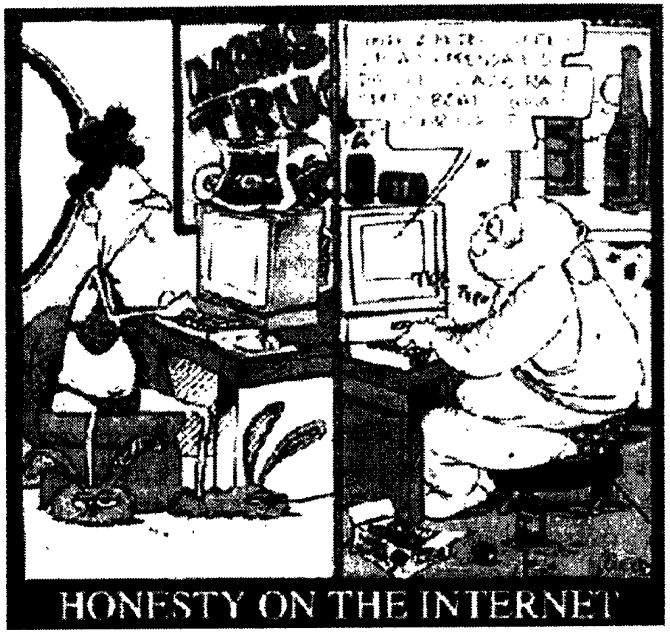
Unit VII.
Virtual Reality



Prereading Discussion

1. What developments in computer technology have changed the way people live and work?
2. How have some home entertainments such as television, video recorders, and video games affected people's life?
3. How will further advances in computer technology continue to change the world?
4. It has been said that technology is a double-edged sword. What does that statement mean?
5. What is virtual reality?
6. Who can use virtual reality?
7. How can virtual reality benefit society?
8. How can virtual reality harm society?
9. Which uses of virtual reality appeal to you most?

Reading Analysis

VOCABULARY LIST

Nouns: sitcom, voyage, goggles, gear, content, combat, oblivion.
Verbs: slip on (off), feature, strap, blast, bind, clutch, swoop.
Adjectives: incredible, appropriate, ambitious, exciting, paraplegic.
Word combinations: *to take a ride, to go astray, the age of dinosaurs, to fight monsters, to don (strap on/into) cyberspace gear, a military point of view, a fiber optic glove, a computer-enhanced fantasy world.*

TEXT I. STRAP ON SOME EYEPHONES AND YOU ARE VIRTUALLY THERE

(1) One of the most exciting new areas of computer research is virtual reality. Having been featured in TV sitcoms as well as public television documentaries, virtual reality is merely an ambitious new style of computer interface. Virtual reality creates the illusion of being in an artificial world — one created by computers.

(2) Virtual reality visitors strap on a set of eyephones, 3-D goggles that are really individual computer screens for the eyes. Slipping on the rest of the gear allows you not only to see and hear, but also to sense your voyage. The world of virtual reality has been called cyberspace, a computer-enhanced fantasy world in which you move around and manipulate objects to your mind's content.

(3) When you move your head, magnetic sensors instruct the computer to refocus your eye phones to your new viewpoint. Sounds surround you, and afiber-optic glove allows you to "manipulate" what you see. You may seek out strange new worlds, fight monsters in computer combat, or strap yourself into the seat of a Star Wars-type jet and scream through cyberspace, blasting all comers to oblivion (computer oblivion, at least). Or, with your stomach appropriately settled, you might even try out the most incredible roller coaster ride you will ever take in your life.

(4) For the disabled, virtual reality promises a new form of freedom. Consider the wheelchair bound paraplegic child who is suddenly able to use virtual reality gear to take part in games like baseball or basketball. Research funded by the government takes a military point of view, investigating the possibility of sending robots into the real conflict while human beings don cyberspace gear to guide them from back in the lab.

(5) Spectrum Holobyte, a computer games development company, announced its first virtual reality computer game for the home during 1991 Christmas season. Imagine yourself suddenly clutching your handheld laser pistol as a giant bird swoops right at you from the age of dinosaurs! Your laser shot goes astray, and you feel yourself suddenly lifted off the ground and carried higher and higher. That's enough - for some of us it can be virtually too real.

EXERCISES

I. True or false?

1. Virtual reality is a computer-built fantasy world.
2. Virtual reality is also called cyberspace.
3. There are no limits to virtual reality.
4. Virtual reality is created by being in a special room.
5. Virtual reality is available only on expensive computer systems.
6. Virtual reality is the leading edge of the computer technology.
7. Eyephones are the 3DFX fiber-optic glasses.
8. Eyephones are not the only virtual reality gear.
9. Virtual reality might be misused.
10. Virtual reality can return the disabled to the full-fledged life.
11. Virtual reality was designed by the military to guide robots.
12. One can not only see or hear virtual reality, but also feel and smell it.
13. Virtual reality is only a type of computer interface.

II. Read the words as they are used in the following sentences and try to come up with your own definition:

1. Using computers to create graphics and sounds, virtual reality makes the viewer believe he or she is in another world.
2. Three-dimensional images are created using technology that fools the viewers' mind into perceptive depth.
3. Plug a terminal directly into the brain via a prepared skull and you can enter cyberspace.
4. I've got a set of eyephones, 3D goggles, a fiber optic glove and the rest of the gear.
5. There are many word substitutes for invalids, e.g. the handicapped, challenged by birth or by accidents, disabled people.
6. The bowman took a deep breath, aimed at the target and shot, but the arrow went astray.

Virtual reality — _____

Three-dimensional (3D) — _____

Cyberspace — _____

Gear — _____

Disabled — _____

To go astray — _____

III. Put the proper words into sentences:

a) *fiber-optic, swoop, go astray, clutching, gear, to one's mind content, enhance, cyberspace, eye phones.*

1. Virtual reality is sometimes called...
2. 3-D ... are really individual computer screens for the eyes.
3. Virtual reality can ... possibilities of the disabled.
4. The manual ... box allows you to slow down without braking, while the automatic one doesn't.
5. Cyberspace allows everybody to change it...
6. The letters wrongly addressed...
7. ... unknown things may cause an accident.
8. By the end of the 20th century metal wires had been replaced by ... ones.
9. In one of the s the NATO has lost their most expensive fighter.

b) *be, have, see, do, leave, write, tell.*

1. It was more than a hundred years ago that Lewis Carroll ... about Alice's trip through the looking glass.
2. Now that fiction ... became a reality ... or you might say, a virtual reality ... because that's the name of a new computer technology that many believe will revolutionize the way we live.
3. Trainees fighting in virtual battles often cannot ... a man from a machine.

4. Virtual reality lets you travel to places you've never ..., do things you've never — without ... the room.
5. Some day, you will ... that virtual reality makes other forms of entertainment, such as TV and movies, obsolete.

IV. Guess the meaning of the italicized words:

1. Virtual reality *straddles* the foggy boundary between fantasy and fact.
2. Imagine a place and you'll be able to step into it. *Conjure* up a dream and you'll be able to fly through it.
3. He's *launched* one of the first computers to mass-produce virtual reality systems.
4. Virtual reality techniques have been used to make a 3D model of the planet Mars. There are, of course, more *down-to-earth* applications. Virtual reality models of urban landscapes are allowing urban planners to redesign Main Street without leaving the room.
5. We're now reaching a point where the simulations are so realistic that the line between playing a game or a simulation and actually blowing people up is becoming *blurred.*

V. Construct other sentences in these patterns:

1. Virtual reality has been featured in TV sitcoms as well as public television documentaries.
2. Slipping on the rest of the gear allows you to sense your voyage.
3. For the disabled, virtual reality promises a new form of freedom.
4. Eyephones are not the only virtual reality gear.
5. You can not only see or hear in virtual reality, but also feel and smell
6. Virtual reality lets you travel to places you have never visited.
7. In the future, people will be able to have easy access to virtual reality systems.
8. If virtual reality technology were more affordable at present time, many more people would be able to try it.
9. Virtual reality makes other forms of entertainment such as TV and movies obsolete.

VI. Fill in the chart with the appropriate info:

Who uses virtual reality?

User	Use	Implementation	Benefit
NASA	recreating different worlds	flight simulation; battle simulation	risk-free, inexpensive military training
Urban planners			
Architects			early problem solving
Medicine		turning a CAT scan into 3D model of the patient's body	
Disabled			

VII. Translate into English:

1. Виртуальная реальность — это интерактивная, мультисенсорная среда, смоделированная компьютером.
2. Для человеческой расы виртуальная реальность станет поворотной вехой.
3. Виртуальная реальность принесет человечеству больше вреда, чем пользы.
4. Наилучшее применение виртуальная реальность найдет в военной и медицинской технике.
5. Виртуальная реальность дает шанс полноценного развития инвалидам.
6. Человек создал компьютер, компьютер создал виртуальную реальность.
7. С дальнейшим совершенствованием техники виртуальная реальность станет одним из наиболее популярных способов путешествия.
8. Искусство со временем станет ненужным, так как его заменит виртуальная реальность.
9. Когда-нибудь виртуальная реальность сделает другие формы развлечения, такие как телевидение и кино, устаревшими.

10. Термин *кибёрпространство* был придуман писателем-фантастом В.Гибсоном для описания безразмерного виртуального пространства электронной среды.

Topics for Essays, Oral or Written Reports

1. Virtual reality, a reality?
2. Is it possible to create a perfect virtual reality?
3. Computers take you on mind trips. Where would you like to go on a mind trip?
4. Virtual reality as the way of exploring the world.
5. The perspectives of the virtual reality development.

Essay Selection for Reading as a Stimulus for Writing

IS IT POSSIBLE TO CREATE PERFECT VIRTUAL REALITY?

Human beings have always been seeking for a better place to live, better food to eat, better people to meet. The wise have concluded that there's no perfection itself. Human's brain identifies reality by its imperfection. And thus, the attempts to create ideal world turned to creating the world alike reality — virtual reality.

On the first stage, when technology wasn't so developed, virtual reality models just presented the essence of the current processes. But along with the development of technology and science a real world model is quite similar to our life. It's still something alike, a copy but not perfect. Copying itself isn't an example to follow, but this way we may explore the universe more carefully. So what are the problems of creating perfect virtual reality — cyberspace where you can't say whether it's cyberspace or not?

One of the difficulties is that it doesn't look like reality. We can't present the needed number of colors, the full palette our eye can catch. We can't introduce shades that really look like shades because the rendering algorithms we have are huge and approximate. And it's still not possible to show such a movie in real time.

If we'd like just to imitate the movements of molecules, which are easy to be programmed, and this way to model the reality, again, we have a great wall to be stepped over. Our knowledge of micro world is poor and even though Einstein himself worked at the Uniform Field Theory, it is still uncompleted. On the other hand, the molecules are so many that programming a single cell, let alone even an insect, is the work of life for hundreds of programmers. Nobody can imagine the difficulty of virtualization of a human being. To model the universe we should create another one.

There are tasks to be solved before we can create 99% acceptable virtual reality: e.g. the speed of processing, fractal algorithms for rendering, quark mechanics and so on. But has anybody thought of connecting a computer to human's brain and clipping the images you and your ancestors have seen to present for someone else, or maybe using the calculating and data processing capabilities of the cortex? By the way, the process of seeing, hearing, smelling, and feeling the world is just a bunch of electric signals entering the brain. May be, the answer is here, and the distance is not the unaccomplished technical achievements, but ideas, strategic decisions, some crazy projects like the Head Of Professor Dowel. Will there be the final step to create perfect virtual reality? Let's see.