Unit 12-1, 2: The Robots Are Coming!

Park Geum Hee

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Conjunctive mood

If S had p.p., S would have p.p.

If S past verb (were), S would bare form

If S present verb, S will bare form

If S should bare infinitive, S will bare form or imperative

IVERSION
1. Had S p.p., S + would have p.p.
2. Were +S+ C/ Did + S + bare form OC, S + would + bare form
3. Should S bare form of the verb OC, S will bare form / imperative

EX) If she **had not been** ill, she **would have submitted** the report on time.
It **would be my pleasure** if you **were** in presence.
If he **is** qualified, we **will** surely **hire** him.

N.B.

Fill in the missing words. Use the correct forms.
If you __asked__ the same computer why people __play__ chess or if playing chess __is__ fun, it __might__ be able to find an answer that someone __had told__ it, but it __couldn't__ think of the answer on its own any more than an ant __could__.

Starting TOEIC

N.B.

Circle the correct answer.

1. _____ they did not understand the cause, they could not think of a cure.
(A) If   (B) whether   (C) Because   (D) That

2. "If only you _____ a boy, how happy I should be!"
(A) are   (B) were   (C) should be   (D) had been

3. Many other parents and teachers _____ him, if they had been asked to answer Albert Einstein's questions.
(A) laugh   (B) laughed   (C) have laughed   (D) would have laughed

4. "If you _____ that again, I'll, I'll. . .!" she shouted.
(A) try   (B) tried   (C) have tried   (D) had tried

5. But when robot guards started being destroyed, people insisted that the robots _____ armed.
(A) Are   (B) were   (C) have been   (D) be

What does this picture remind you of?

Robot serves the drink

BICENTENNIAL MAN THE 3 LAWS OF ROBOTICS

Class Objectives

1. Students will be able to read and discuss about the subject.

2. Students will be able to understand and use the vocabulary words in context.

3. Students will be able to know and use personification and understand the relationship between technology and society.

Pair Work

Vocabulary notes

1. **dubious** (adjective) not sure whether something is good or true
2. **sentient** (adjective) able to experience things through your senses
3. **capacity** (noun) someone's ability to do something
4. **formation** (noun) the way in which a group of things are arranged to form a shape
5. **distinction** (noun) the quality of being special
6. **manufacture** (verb) to use machines to make goods or materials
7. **behavior** (noun) the things that a person or animal does
8. **deteriorate** (verb) to become worse
9. **colonist** (noun) someone who settles in a new colony

Vocabulary words in sentences

Pair Work

1. Marx founded a new science: the science of the history of social **formations**

2. Daewoong Pharm Co. is the company that **manufactures** the drug.

3. I think a child's **capacity** for learning is limited so we must use his or her critical age.

4. It is important to reward good **behaviour** .

5. The firm was accused of **dubious** accounting practices .

6. Man is a **sentient** being.

7. There is often no clear **distinction** between an allergy and food intolerance.

8. Ethel's health has **deteriorated** .

9. The **colonists** struggled through their first winter.

Killer Robots (pp. 158-159)

Group Work

Few people have ever heard of thirty-seven-year-old Kenji Urada. But while **working** at a **manufacturing** plant in 1981, he had the dubious distinction of **becoming** the first person **to be killed** by a robot.

The idea of robots **killing** people has long been a fascination of science fiction writers and scientists. When Urada died, people realized that the robot **had broken** the first of Isaac Asimov's (1920-1992) three robot 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 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.

Urada's death was an accident; he was trying to repair the manufacturing plant robot but didn't **turn** it **off** properly. The accident **made** people **more aware of** the dangers, and new rules were **brought in to protect** people. However, many people **are** still **concerned about** the impact of robotics and computing on their daily lives.

Movies and novels certainly haven't **made** people **feel** more comfortable. Robots and computers are almost always depicted as evil geniuses that want to destroy the world. One example is found in the novel and film *2001: A Space Odyssey* by Sir Arthur C. Clarke (1917-), a scientist who first **thought of**

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Group Work

the idea for Earth's satellites. The story relates how a spaceship travels on a mysterious search for alien signals **coming** from one of Jupiter's moons. **On board** the spaceship is a supercomputer called HAL 9000.

HAL **is responsible for running** everything on the spaceship and speaks in a normal calm voice but, **as** it becomes sentient, it decides to kill all the humans on board. Essentially, the story is a metaphor of how we create a tool **without thinking** that it might kill us one day. Other movies, such as the *Terminator* series, use the same idea, but in this case a supercomputer has been put **in charge of** the world's defenses and starts a nuclear war.

But how likely are such scenarios? Will robots and computers ever be able to think? If so, will they **have reason to** kill humans one day?

By human standards, most robots and computers are incredibly stupid. Yes, they might, like the supposedly brilliant IBM supercomputer "Deep Blue," **be** able to win at chess. But this is only a trick of the computer's **ability to calculate** mathematical chance **at** lightning **speed**. If you **asked** the same computer **why** people **play** chess or **if playing** chess **is** fun, it **might** be able to find an answer that someone **had told** it, but it **couldn't** think of the answer **on its own** any more than an ant **could**.

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Group Work

But an ant is an **interesting** model. Ants are tiny and their brains are even **tinier**, but they still **seem capable of organizing** themselves **to do** complex activities. Artificial intelligence researchers have been looking at ants and other cooperative insects **such as** bees **as** models of machine intelligence. A lot of insect behavior, or even **that** of birds, often follows a few simple rules. For example, scientists **studying** bird behavior have created virtual birds **on** the computer that fly **in formation**. The rules they use to do this are: • Don't go backward.   • Keep a meter away from other bird.   • Don't **fly** more than two meters **away from** other bird.   • **Keep away from** the ground and do not fly too high or too far.

What if machines **could** be programmed to do the same thing? Already military organizations around the world are **working on** robots that **could** be used **instead of** human soldiers **to fight** in wars. The rules they **would** follow **would** be much more complex, but **would** involve **recognizing** friends from enemies.

As it has sometimes been difficult **for** human soldiers **to recognize** friends from enemies during battles, perhaps we should **be** very **worried about giving** robots the reasons and capacity **to break** Asimov's three laws.

Choose the best answer. (p. 169)

Group Work

1. *Dubious distinction* means _____.
   a. unsettled opinion
   b. suspect quality
   c. questionable honor
   d. uncertain nature

2. What is not one of Asimov's robot laws?
   a. A robot may not inure or harm a human being.
   b. A robot must not come into conflict
   c. A robot must protect its own existence.
   d. A robot must obey human orders.

3. A synonym for *sentient* is _____ .
   a. emotional
   b. thinking
   c. angry
   d. human

4. People are less comfortable because robots and computers are depicted _____ .
   a. in a negative way
   b. as geniuses
   c. as world leaders
   d. as inconvenient

5. Sir Arthur C. Clarke is not _____.
   a. a writer
   b. a scientist
   c. an inventor
   d. an astronaut

6. What is not a result of Urada's working on the plant robot? .
   a. Death
   b. New rules
   c. Home robots
   d. Increased awareness

7. Which statement is not true? Computers can _____.
   a. operate appliances
   b. play chess
   c. calculate chance
   d. think independently

The Last Letter (p. 165)

Group Work

June 1, 2050

Anyone

Anywhere

Dear Anyone,

As the last of the Homo sapiens on Earth — and an old human at that — I've decided to write the last letter. Perhaps someone, somewhere, sometime will be able to read it. Perhaps only robots and computers will peruse it and have a good laugh. How did I come to be the last living person? Let me explain.

People have **dreamed about** robots and thinking machines for thousands of years. The ancient Greeks talked about *Talos*, a giant metal robot **that** supposedly walked around the island of Crete three times each day. It was a slave that **helped** the King of Crete **fight** his enemies. And this has always been the problem. People have always **thought of** robots as slaves; they never thought these powerful tools might one day become the masters and **make people the slaves**.

At first, people didn't **think about** how they **were being surrounded by** thinking machines. But they were soon everywhere. **Some of the** earliest thinking machines controlled the temperature — when it was too cold, they **turned up** the heat and when it was too warm, they **turned on** the air conditioner. This doesn't sound too dangerous, but **once** people **got used to** temperatures and then lights **being controlled**, they

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Group Work

started **having** machines **control** the doors of buildings, fire sprinklers and many household appliances. Robot vacuum cleaners started **roaming around** the inside of people's homes and machines **programmed to tend** the gardens **worked** outside. It was great! People had more free time! Well, actually, only rich people had more free time. The humans who **used to do** a lot of the robots' jobs had to find other work. Suddenly, the world was **breaking into** two classes: technology **haves** and technology **have-nots**.

Of course, it was only natural that technology have-nots would want more. Soon, they started **stealing** from and **rebelling** against humans with technology. Something had **to be done**. Again, machines seemed to be the answer. People installed security systems in their homes and businesses. Computers used video cameras **to watch** everything and everyone. When security deteriorated, people started **thinking about having** robot guards. Of course, the robot guard **were** just **supposed to stop and detain** criminals, **not hurt** them. But when robot guard started **being destroyed**, people **insisted** that the robots **be armed**.

While all this was going on, two other lines of research **were being pursued in** artificial intelligence laboratories. One area of interest was robots that could recreate themselves. The plan was **to send** them to a new planet, like Mars, and **let** them **start building** cities for colonists who would **come after**. No one ever thought of what **would happen** if they **escaped** their labs on Earth. Another research direction was in parallel processing. **Rather than** just **create** supercomputer, scientists realized that several ordinary computers **networked** together could think in the same way. Soon, computers **connected over** the Internet were talking

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Group Work

to each other and solving problems. But they could also create problems.

One of the real problems was the whole idea of remote control. In Finland, people started **using** their mobile phones **to control** all kinds of things in their homes. They wanted their rooms **warm** when they got home from work and wanted the stoves **cooking** their dinners and the bathtubes **full of** hot water. But **what if** someone — or something — else **could control** these same thing? **What if** your rooms **could be turned** ice cold while you slept, your oven **set** on fire and your bathtube **made to overflow**? When my old wind-up radio still worked, the first news reports **blamed** have-not computer hackers **for spreading** computer viruses that **made** robots and computers **do** everything they could **to kill** humans, **starting with interrupting** food, water, electricity and fuel supplies. I don't know **if** that's true.

But I **did see** the end **coming**. Forty years ago, I left the city, moved into a cave **high** in the mountains and started **growing** my own food and **making** everything I need by hand. When the first robot wars started, they didn't even notice I was up here, without electricity or a single machine. Eventually, of course, the robots ruled the world. And what did they need humans **for**?

Well, I **better** finish this now. The robot mailman will be here in a few minutes.

Yours sincerely and good luck,

Eve Last

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Summarizing "the Last Letter"

Group Work

Paragraph 1 - • Writer – the last of the Homo Sapiens, an old man

• Readers – someone or robots and computers

• Topic – How did I come to be the last living person?

Paragraph 2 – • People wanted to make robots and thinking machines as slaves.

Ex) Talos – a giant bronze robot made by Hephaestus for King Minos

• Problem – These tools might one day become the masters.

Paragraph 3 – • The earliest robots controlled the temperatures

Ex) turn up the heat / turn on the air conditioner – not one of too dangerous ideas

• Robots controlled lights, building doors, sprinklers, household appliances, gardened.

• Results – free time / unemployment /

breaking into two classes (tech-haves / tech-have-nots)

Paragraph 4 – • Have-nots' rebellion against haves → installed security systems (video cameras) →

robots guards (to stop and detain criminals, not hurt, but destroyed, so armed)

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Group Work

Paragraph 5 - • Artificial intelligence ① robots recreating themselves, ② building cities for colonists in

a new planet like Mars

What would happen if the robots escaped their labs on Earth?

• Parallel processing –networking several ordinary computers connected over the Internet

Paragraph 6 - • Problem ① - remote control (Ex) Finland – using mobile phones to control all in homes

What if someone or something else could control them?

• Problem ② - Have-nots hackers spread viruses so robots / computers killed humans

by interrupting food, water, electricity and fuel supplies, etc.

Paragraph 7 - • The writer moved into a cave has lived a self-sufficient life without electricity or a single

machine 40 years ago.

• Robots ruled the world.

Ex) a robot mailman

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Choose the best answer. (p. 169)

Group Work

1. Homo sapiens are
   _____ .
   a. humans
   b. the Earth
   c. robots
   d. computers

3. In the letter, _____ .
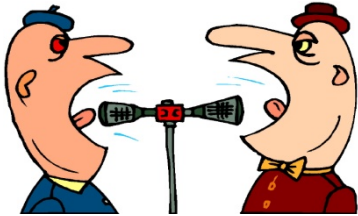
   a. everyone was safer
   b. some people became unemployed
   c. homes and gardens were tidier
   d. no one has any free time

2. Which is not an interest of computer research?
   a. Robots that can recreate themselves.
   b. Parallel processing
   c. Artificial intelligence
   d. Ancient Roman computing

Activities for next class: Debate

Assignment : Prepare for a debate. (p. 170)

★ For: Computers and robots will one day be smarter than humans.

Points & Examples:
• fantasy in the past, but now common
• improving everyday
• designing computers themselves
• _____
• _____
• _____

★ Against: Computers and robots will never be smarter than humans.

Points & Examples:
• quite stupid
• not working without electricity
• only doing what they're told
• _____
• _____
• _____
• _____
• _____

<Useful expressions for a debate>

✓ My first point is … because …
✓ As I'm sure you saw on the news …
✓ __-ing, __-ing, and __-ing are three things that …
✓ Common sense suggests that …
✓ Just because … happened doesn't mean that … will happen.
✓ That's too general because … is not the same as …
✓ I'm very confident that …
✓ This is the best argument because …
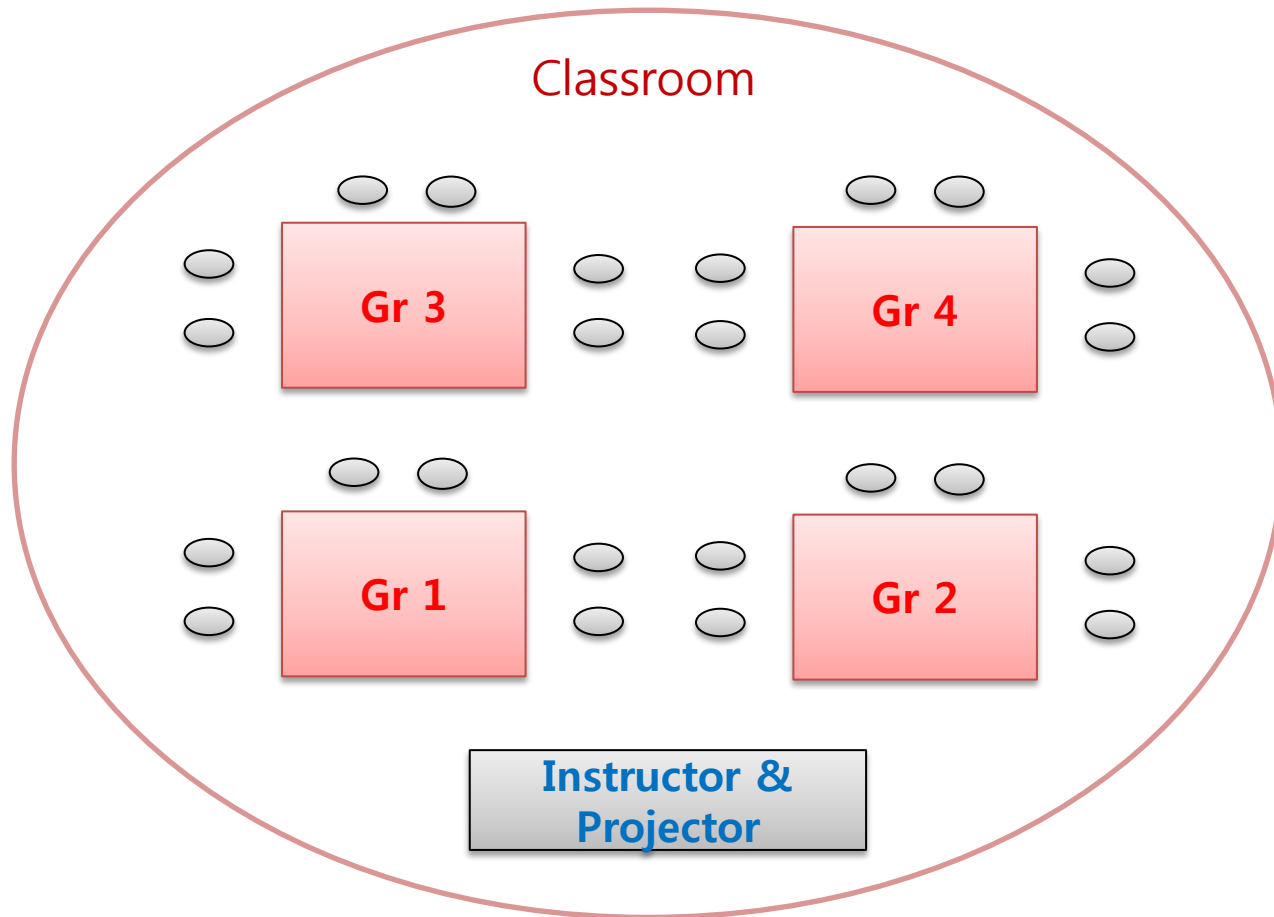✓ This argument is taking us away from the point …

★ To agree

• I agree with you.
• I think so, too.
• That's right.
• I feel the same way.

★ To disagree

• I'm afraid I disagree with you.
• I see what you mean, but I think…
• (You've) got a good point, but I have
   a slightly different opinion.
• That's true, but I think….

<Appendix>

Classroom Setting: Please arrange tables before class.

THANK YOU.