

СЕКЦІЯ 3. КОМП'ЮТЕРНИЙ ДИСКУРС

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THE IMPACT OF ARTIFICIAL INTELLIGENCE IN THE EVERYDAY LIVES

“Everything we love about civilization is a product of intelligence, so amplifying our human intelligence with artificial intelligence has the potential of helping civilization flourish like never before – as long as we manage to keep the technology beneficial“

Max Tegmark, President of the Future of Life Institute

An interesting statement by a person who truly possesses a depth of knowledge on the subject of *artificial intelligence*, but the fact is that his statement is born of both optimism and ignorance of what intelligence, artificial or otherwise actually is [1]. In the 1990s and early 21st century AI achieved its greatest success. There are more and more jobs which humans leave to robots such as exploring another planet, defusing bombs, exploring inside a volcano or just doing boring household chores like cleaning. Computers can perform a lot of functions: they can control cars and planes, give us the news, play chess and football or compose music. Many factory jobs are performed by industrial robots nowadays. It has led to cheaper production of various goods, including automobiles and electronics. Industrial robots have little resemblance to a human being.

Artificial intelligence has successfully been used in a wide range of fields including medical diagnosis, stock trading, robot control, law, scientific discovery and toys. Industrial robots are also used for packaging of manufactured goods, transporting goods around warehouses or hospitals or removing tiny electronic components with great accuracy, speed and reliability. Robots can move around, sense and manipulate their environment, predict the actions of others and exhibit intelligent behavior. Scientists are interested in designing robots that resemble a human.

Are robots our best friends or are they dangerous? It is still very difficult to answer this question. Some futurists believe that artificial intelligence will fundamentally transform society. *Ray Kurzweil* has calculated that desktop computers will have had the same processing power as human brains by the year 2029, and that by 2045 artificial intelligence will have reached a point where it is able to improve itself. Other futurists and science fiction writers have predicted that human beings and machines will merge into powerful cyborgs – humans with significant mechanical enhancements [2]. Many people fear that highly intelligent robots may take over and destroy the human race. There are a lot of books and films about people losing control over clever machines which begin to kill their creators. But maybe it is early to worry as robots are still clumsy and not very intelligent.

Certainly, there are some reasons to worry about robots. The use of robots in industry leads to unemployment as many jobs are performed by machines. In addition, industrial robots can be dangerous and cause harm to human workers. So, much attention must be paid to security. Many large companies have created robots which can perform specific functions in the manner of a man. Here are some of them:

Hitachi created its second humanoid robot EMIEW 2 in 2008. EMIEW2 weighs 13kg and can move on wheels as well as two legs. The robot is 80cm tall, a height for looking over desk tops. It has 14 microphones which enable it to recognize human voice and sounds. The robot can distinguish voices even when three people are speaking at the same time and it can recognize voices spoken as far as 2m away [3].

ASIMO (Advanced Step in Innovative Mobility) is a humanoid robot created by Honda Motor Company. The robot is 130 cm tall and weighs 54 kilograms. It can walk or run on two feet at speeds up to 6 km/h. The robot can perform various functions. ASIMO can follow the movements of people with its camera, follow a person, or greet a person when he or she approaches. ASIMO can also recognize when a person offers him a handshake and other people's movements. The robot can sense the environment and avoids hitting people and other objects. It can respond to its name, face people when being spoken to, and recognize sudden, unusual sounds. ASIMO is also able to respond to questions, either by a brief nod, a shake of the head or a verbal answer. The robot has the ability to recognize 10 different faces. By accessing information via the Internet, ASIMO can provide news and useful information [4].

Wakamaru is a Japanese domestic robot made by Mitsubishi Heavy Industries. The robot has been created to provide companionship to elderly and disabled people and to make their life easier. The robot is yellow, 1m tall, and weighs 30 kilograms. Wakamaru can connect to the Internet, and has limited speech and speech recognition abilities. It can say, 'Welcome back!', 'Let me search the Internet' and other simple phrases. The functions it can perform include reminding the user to take medicine on time, and calling for help if it suspects something is wrong. When its batteries run out, Wakamaru recharges itself [5].

Electronics and Telecommunications Research Institute of Korea has developed a robot with four human senses such as seeing, hearing, touching, and smelling. POMI (Penguin rObot for Multimodal Interaction) can move the eyebrow, eye lid, eye ball and lips. It also uses various colors to show face expressions. POMI has two kinds of built-in scent sprays to express happiness, sadness, and joy. It also has a heartbeat device which makes people feel like the robot's heart really beats up when they put the hands on the left chest of the robot. It also can talk to people through a built-in speaker.

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