

Mind your thoughts

1 Warm-up

Do you think it will be possible for a computer to read your mind? Why/why not?

Ex.1. Match the words to their definitions.

1. capable of (something) a. going into somewhere without being wanted

2. intrusion b. having the ability to be able to do something

3. ensure c. progress in an area of science or technology

4. self-determination d. the ability to make decisions for yourself

5. sophisticated e. the use of something in a harmful way

6. paralysed f. to make certain something is done or happens

7. advances g. unable to move all or part of your body because of illness or injury

8. abuse h. very advanced

Ex.2. You are going to read an article about how machines will be able to read our thoughts in the future.

Before you read, decide whether the statements below are `T' (true) or `F' (false). Then read the text

on the next page to confirm or correct your answers.

1. Scientists think that we need laws to protect us from the intrusion of machines into our minds.

2. Social media sites are concerned about what will happen if machines are able to read our thoughts.

3. People will be aware that a computer is reading their thoughts.

4. Experts are anxious that new brain technology will be misused.

5. Companies are not allowed to use technology that produces an image of the brain to help them

understand their customers.

6. According to the article, most people think that computers are only able to read people's minds in

science fiction stories.

ENGLISH

New computers could delete thoughts

without your knowledge, experts warn

New human rights laws are required to protect sensitive information in a person's

mind from `unauthorised collection, storage, use or even deletion'

1 Technological advances in machines that can

read our thoughts mean that the privacy of our

brain is under threat.

2 Now, two biomedical scientists are calling for the

creation of new human rights laws to ensure

people are protected. The new laws include the

right to mental privacy and the right of humans to

control their own mental processes.

3 Scientists have already developed devices

capable of telling whether people are politically

right-wing or left-wing. In one experiment,

researchers were able to read people's minds to

tell with 70 per cent accuracy whether they

planned to add or subtract two numbers.

4 Facebook also recently revealed it had been

secretly working on technology to read people's

minds so they could type by just thinking.

5 Medical researchers have also managed to

connect part of a paralysed man's brain to a

computer to allow him to stimulate muscles in his

arm so he could move it and feed himself.

6 The scientists also stressed the "unprecedented

opportunities" that would result from the

distribution of cheaper and easier to use

applications that would make neurotechnology\*

part of our everyday lives.

7 However, the academics made it clear that these

devices were open to abuse on a frightening level.

8 And they warned that the techniques were so

sophisticated that people's minds could be read

or interfered with without their knowledge.

9 They said that illegal intrusion into a person's

mind could happen not because they were

persuaded to allow it, but because they weren't

aware it was happening.

10 Professor Roberto Andorno, an academic at

Zurich University's law school and a co-author of

the paper, said that brain imaging technology had

already reached a point where there had been

discussion about whether it could be used in a

criminal court, for example when assessing the

risk of a criminal re-offending.

11 He also said that consumer companies were

using brain imaging for `neuromarketing' to

understand consumer behaviour and to achieve

desired responses from customers.

12 He added that there were also tools such as `brain

decoders' which can turn brain imaging data into

images, text or sound.

13 His colleague Marcello Ienca, of the Institute for

Biomedical Ethics at Basel University, said: "The

mind is considered to be the last refuge of

personal freedom and self-determination, but

advances in neural engineering, brain imaging and

neurotechnology put the freedom of the mind at

risk."

14 He admitted such advances might sound like

something out of the world of science fiction.

15 But he added: "Neurotechnology featured in

famous stories has in some cases already

become a reality, while others are inching ever

closer, or exist as military and commercial

prototypes."

16 "We need to be prepared to deal with the impact

these technologies will have on our personal

freedom."

Adapted from the Independent by Ian Johnston,

26th of April 2017

\* neurotechnology = technology used to interact

with the brain and nervous syst

Ex.3. What do you remember? Answer the questions according to the article.

1. What do scientists think should be included in the new laws that will help to protect our brains?

2. What can scientists tell about a person's political position using a special device?

3. What was a paralysed man able to do when his brain was connected to a computer?

4. How could brain imaging be useful in criminal cases?

5. What can brain 'decoders' do?

Ex.4. Find a word or phrase in the text which means ...

1. in danger (phrase, P.1) :

2. possibilities that haven't existed before (phrase, P.6) :

3. people who teach and do research at colleges or universities (noun - plural, P.7) :

4. changed without permission (phrasal verb - past participle form, P.8) :

5. wanted (adj., P.11) :

6. the final safe place (collocation, P.13) :

7. becoming much nearer (phrase, P.15) :

Ex.5. Match the prefixes to their definitions.

1. neuro- a. again

2. bio- b. original

3. de- c. relating to living things

4. proto- d. relating to nerves

5. co- e. remove

6. re- f. together

Ex.6. Discuss any of the questions below.

1. Do you think that we will need laws to protect ourselves from machines collecting or deleting

information in our brains? Why/why not?

2. Do you believe what is written in the article or do you think that this type of thing is only possible in

science fiction books? Why/why not?

3. Do you think that neurotechnology will do more harm than good? Why/why not?

Answer key

Ex.2 Give examples of each word where necessary. Students can work in pairs and then check with the teacher.

1. b 2. a 3. f 4. d 5. h 6. g 7. c 8. e

Ex. 3- Reading

1. T

2. F - Facebook has secretly been working on technology that will let people type just by thinking.

3. F - People may not realise that this is happening.

4. T

5. F - Companies already use this technology, (called brain imaging), to help with marketing.

6. F - The article does not mention anything about whether people believe if computers are capable

of reading our minds.

Ex. 4- Checking understanding

1. The right to mental privacy and the right of humans to control their own mental processes.

2. Whether they are right-wing or left-wing.

3. He was able to move his arm and feed himself.

4. It will be useful to assess whether a criminal will re-offend.

5. Brain decoders can turn data into images, text or sound.

Ex.5- Find the words

1. under threat 2. unprecedented opportunities

3. academics 4. interfered with

5. desired 6. the last refuge

7. inching ever closer

Ex. 6- Prefixes

1. d 2. c 3. e 4. b 5. f 6. a

Prefix examples in the text: neuro-: neurotechnology; neuromarketing; bio-: biomedical; de-: delete, deletion,

decoders; proto-: prototype; co: co-author; re: re-offending