**PC\* DS type Mines 19 - 03 - 2021**

**2ème partie Expression**

**March of the machines** *The Economist.* Editorial board

Experts warn that “the substitution of machinery for human labour” may “render the population redundant”. They worry that “the discovery of this mighty power” has come “before we knew how to employ it rightly”. Such fears are expressed today by those who worry that advances in artificial intelligence (AI) could destroy millions of jobs and pose a “Terminator”-style threat to humanity.

After many false dawns, AI has made extraordinary progress in the past few years, thanks to a versatile technique called “deep learning”. Given enough data, large (or “deep”) neural networks, modelled on the brain’s architecture, can be trained to do all kinds of things. They power Google’s search engine, Facebook’s automatic photo tagging, Apple’s voice assistant, Amazon’s shopping recommendations and Tesla’s self-driving cars. But this rapid progress has also led to concerns about safety and job losses. Stephen Hawking, Elon Musk and others wonder whether AI could get out of control, precipitating a sci-fi conflict between people and machines. Others worry that AI will cause widespread unemployment, by automating cognitive tasks that could previously be done only by people. After 200 years, the machinery question is back. It needs to be answered.

The most alarming scenario is of rogue AI turning evil, as seen in countless sci-fi films. It is the modern expression of an old fear, going back to “Frankenstein” (1818) and beyond. But although AI systems are impressive, they can perform only very specific tasks: a general AI capable of outwitting its human creators remains a distant and uncertain prospect. Worrying about it is like worrying about overpopulation on Mars before colonists have even set foot there, says Andrew Ng, an AI researcher. The more pressing aspect of the machinery question is what impact AI might have on people’s jobs and way of life.

This fear has a long history. Panics about “technological unemployment” struck in the 1960s (when firms first installed computers and robots) and the 1980s (when PCs landed on desks). Each time, it seemed that widespread automation of skilled workers’ jobs was just around the corner.

Each time, in fact, technology ultimately created more jobs than it destroyed, as the automation of one chore increased demand for people to do the related tasks that were still beyond machines. E-commerce, for example, has increased overall employment in retailing. As with the introduction of computing into offices, AI will not so much replace workers directly as require them to gain new skills to complement it. Although a much-cited paper suggests that up to 47% of American jobs face potential automation in the next decade or two, other studies estimate that less than 10% will actually go.

Even if job losses in the short term are likely to be more than offset by the creation of new jobs in the long term, the experience of the 19th century shows that the transition can be traumatic. This time this transition is likely to be faster than in previous periods of history, as technologies diffuse more quickly than they did 200 years ago. Income inequality is already growing, because high-skilled workers benefit disproportionately when technology complements their jobs. This poses two challenges for employers and policymakers: how to help existing workers acquire new skills; and how to prepare future generations for a workplace stuffed full of AI.

Question 1: What are for the authors of this editorial the reasons for NOT being so much afraid of AI?

Answer the question in your own words. ( 80 words +/- 10% )

Question 2: What impact (other than what has been exposed in the article) do you think artificial intelligence (AI) is likely to have on our lives? (180 words +/- 10% )

🖛 Do not forget to indicate the number of words used for each question.