

大阪医科大学

平成 29 年度 入学 試験 問題 (後期)

英 語

注 意

1. 合図があるまで表紙をあけないこと。
2. 受験票は机に出しておくこと。

I 以下の英文を読み、下の問いに答えよ。

5. 人工知能

Imagine reading an automated news story that was composed entirely by a computer. Or imagine yourself sitting on a couch, conversing with an artificially intelligent psychotherapist who interacts with you from a screen across the room. These are examples of a growing trend of automated and artificially intelligent technology that is being designed to communicate on behalf of, and at times in place of people.

While most people tend to think that automation affects only certain sectors of labor (especially work performed in blue-collar professions), the computerized automation of communication will have a serious impact on a wide variety of fields. A new study recently published examines the social and political impact of this transformation. What happens, asks author and Communication scholar Joshua Reeves of Oregon State University, if people increasingly rely on automated machines to carry out the socially essential work of communicating with one another? Reeves argues that automation of communication raises broad social, economic, and political concerns.

The economic consequences of automated communication are already affecting people who work in fields that rely heavily on communication, including psychotherapists, personal assistants, college advisers, life coaches, and even teachers and professors. In fact, most people have already been exposed to automated discourse when ordering fast food, learning the positions of political candidates, checking bank balances, or making doctor appointments.

“The widespread circulation of automatic communicating machines gradually reduces the opportunity and impulse for cooperative human struggle,” says Reeves. As machines develop abilities in interpreting and producing discourse, they are gradually taking over many domains of social life in which communication is of utmost importance. In one example borrowed from Sherry Turkle’s 2013 presentation to the American Association for the Advancement of Science, a robotic baby animal is designed to function as a conversational companion for older adults who need caring for. But Reeves argues that this device is depriving people of the communicative act of listening to their elders. He quotes Turkle: “We are building the machines that will literally let the elderly’s stories fall on deaf ears.”

“By idealizing the machine, people become more impatient with the flaws and uncertainties of human relationships,” writes Reeves. But communicative labor relies on the productive, spontaneous surplus of human communication to generate diversity and creativity. The socially essential work of human communication is being “drained of its spontaneity and creative potential.” In an era of automated communicative labor, those uniquely human qualities are destined for elimination.

While blue-collar workers have been subject to automated labor for some time, people in other fields of work also should be concerned about their fate, says Reeves. He examines the threats to communicative workers such as journalists. “Robo-journalism” has become commonplace. In March 2014, when an earthquake hit southern California, *The Los Angeles Times* was able to use an algorithmic discourse generator called “Quakebot” to break the news. While some are not worried that robo-journalism will take over the field, others disagree. The company Narrative Science estimates that 90 percent of news stories will be bot-generated by 2030.

Reeves argues that as automated communication becomes more prevalent, people need to develop a stronger understanding of the challenges facing others in communication-oriented fields. While opening doors to other forms of creative work, automation also leads to social isolation and loss of labor opportunities.

(出典：National Communication Association. June 9, 2016. 一部変更あり)

(1) 下線部(1)を和訳せよ。

(2) 下線部(2)を和訳せよ。

(3) 下線部(3)はどのような状況が起こることを危惧しているのか。本文に即して50字以内(句読点を含む)で述べよ。

(4) 下線部(4)を和訳せよ。

II 以下の英文を読み、下線部を和訳せよ。

Once I saw two tourists trying to find their way around central London streets using an Underground train map. While this is marginally better than using a Monopoly board, it is not going to be very helpful. The map of the London Underground is a wonderful piece of functional and artistic design which has one striking property: it does not place stations at geographically accurate positions. It is a *topological* map: it shows the links between stations accurately but for aesthetic and practical reasons distorts their actual positions.

When Harry Beck first introduced this type of map to the management of the London Underground railway, he was a young draftsman with a background in electronics. The Underground Railway was formed in 1906, but by the 1920s it was failing commercially, not least because of the duration and complexity of traveling from its outer reaches into central London—especially if changes of line were necessary. A geographically accurate map looked a mess, both because of the disordered nature of inner London's streets, which had grown up over hundreds of years without any central planning, and because of the huge extent of the system. London was not New York, or even Paris, with a simple overall street plan. People didn't like using the Underground in its early years.

Beck's elegant 1931 map solved many of its problems at one go. Unlike any previous transport map, it was reminiscent of an electronic circuit board; it used only vertical, horizontal, and 45-degree lines; eventually had a symbolic River Thames drawn in; introduced a neat way of representing the exchange stations; and distorted the geography of outer London to make remote places seem close to the heart of the city while enlarging the crowded inner region. Beck continued to refine and extend this map over the next forty years, accommodating new lines and extensions of old ones, always striving for simplicity and clarity. He succeeded brilliantly.

Beck's classic piece of design was the first topological map. This means that it can be changed by stretching it and distorting it in any way that doesn't break connections between stations. Imagine it drawn on a rubber sheet which you could stretch and twist however you liked without cutting or tearing it. You could make space in the central area where there were lots of lines and stations, and bring distant stations closer to the center so that the map didn't contain lots of empty space near its boundaries. Beck was able to manipulate the spacing between stations and the positions of the lines so as to give an aesthetically pleasing balance and uniformity to the spread of information on the map. It displayed a feeling of unhurried order and simplicity. Pulling far-away places in toward the center not only helps Londoners feel more connected; it also helps create a beautifully proportioned diagram that fits on a small fold-out sheet which can be popped into your pocket.

Its impact was sociological as well as cartographical*, by redefining how people saw London. It drew in the outlying places on the map and made their residents feel close to central London. It defined the house-price contours**. For most people who lived in the city this soon became their mental map of London. Not that Beck's map would help you much if you were above ground—as the tourists mentioned at the start presumably discovered—but its topological approach makes good sense. When you are on the Underground you don't need to know where you are in the way that you do when on foot or traveling by car.

(出典: John D. Barrow. *100 Essential Things You Didn't Know You Didn't Know About Maths and the Arts*. The Bodley Head, 2014. 一部変更あり)

*cartography: the science or practice of drawing maps

**contour: a line joining points on a diagram at which some property has the same value

III 下線部を英訳せよ。

古代ギリシアのプロメテウス神話や聖書の楽園追放の物語からうかがえるように、好奇心は人々を知識の探求へと突き動かす⁽¹⁾が災いをもたらしうる、という考えは西洋文化を長らく支配してきた。 おそらくこれは、西洋の人々は非常に探求心が強⁽²⁾かったために、彼らの活動の負の結果を恐れてもいたからである。 実際、科学技術や文明の進歩にともなって、核戦争の脅威や⁽³⁾環境破壊などの困難な問題も生じている。しかし、基本的には、知的進歩のおかげで、我々はこれまでのところ、かつてよりも大きな物質的豊かさと長く健康的な生活を享受している。