

# 大阪医科大学

平成 28 年度 入学試験問題 (前期)

## 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、下線部を日本語に訳せ。

One of the most provocative YouTube videos in the past two years begins mundanely enough: A one-year-old girl plays with an iPad, sweeping her fingers across its touch screen and shuffling groups of icons. In following scenes, she appears to pinch, swipe and prod the pages of paper magazines as though they, too, are screens. For the girl's father, the video is evidence of a generational transition. In an accompanying description, he writes, "Magazines are now useless and impossible to understand, for digital natives\*." Whether or not his daughter truly expected the magazines to behave like an iPad, this video brings into focus an important question that is relevant to all of us: How exactly does the technology we use to read change the way we read?

Since at least the 1980s researchers have published more than one hundred studies exploring differences in how people read on paper and on screens. Before 1992 most studies concluded that people read stories and articles on screens more slowly and remember less about them. Recent surveys suggest, however, that although most people still prefer paper, attitudes are changing as tablets and e-reading technology improve and reading digital texts for facts and fun becomes more common.

Even so, laboratory experiments, polls and consumer reports indicate that digital devices prevent people from efficiently navigating long texts, which may subtly inhibit reading comprehension. Compared with paper, screens may also drain more of our mental resources while we are reading and make it a little harder to remember what we read when we are done.

Understanding how reading on paper differs from reading on screens requires some explanation of how the brain interprets written language. Since we are not born with brain circuits dedicated to reading, the brain improvises a brand-new circuit for reading by weaving together various ribbons of neural tissue devoted to other abilities. Some of these repurposed brain regions specialize in object recognition. So, although letters and words are symbols representing sounds and ideas, the brain also regards them as physical objects. When we read and write, we recognize letters by their particular arrangements of lines, curves, and hollow spaces.

Beyond this, the human brain may also perceive a text in its entirety as a kind of physical landscape. When we read, we construct a mental representation of the text. The exact nature of such representations remains unclear, but some researchers think they are similar to the mental maps we create of terrain—such as mountains and trails—and of indoor physical spaces, such as apartments and offices. Both anecdotally and in published studies, people report that when trying to locate a particular passage in a book, they often remember where in the text it appeared.

In most cases, paper books have more obvious topography than on-screen text. An open paper book presents a reader with two clearly defined domains—the left- and right-hand pages—and a total of eight corners with which to orient oneself. You can focus on a single page of a paper book without losing awareness of the whole text. You can even feel the thickness of the pages you have read in one hand and the pages you have yet to read in the other. Turning the pages of a paper book is like leaving one footprint after another on a trail—there's a rhythm to it and a visible record of how far one has traveled. All these features not only make the text in a paper book easily navigable, they also make it easier to form a coherent mental map of that text.

In contrast, most digital devices interfere with intuitive navigation of a text and inhibit people from mapping the journey in their mind. A reader of digital text might scroll through a seamless stream of words, tap forward one page at a time, or use the search function to immediately locate a particular phrase—but it is difficult to see any one passage in the context of the entire text. As an analogy, imagine if Google Maps allowed people to navigate street by individual street, as well as to teleport to any specific address, but prevented them from zooming out to see a neighborhood, state or country. Likewise, glancing at a progress bar gives a far more vague sense of place than feeling the weight of read and unread pages. And although e-readers and tablets replicate pagination, the displayed pages are ephemeral\*\*. Instead of hiking the trail yourself, you watch the trees, rocks and moss pass by in flashes, with no perceptible trace of what came before and no easy way to see what lies ahead.

(出典：Scientific American, November 2013. 一部変更あり)

\*digital natives: people who have been interacting with digital technologies from a very early age, surrounded by smartphones, Kindles, iPads, etc.

\*\*ephemeral: lasting for a very short time

## II 以下の英文を読み、下の問いに答えよ。

Asian cholera first came to Britain in 1831, claiming more than 50,000 lives. A second epidemic killed a similar amount<sup>(1)</sup> in 1848, a devastating figure for a country being told by its government that the new Public Health Act, passed in the same year, would transform the nation's sanitation. But cholera would prove a stubborn foe: By the time the third epidemic began to depopulate London's Soho at the end of summer in 1854, there was still widespread disagreement about its cause. Most believed that cholera was miasmatic (caused by airborne infection), but several leading epidemiologists had begun to suspect otherwise.

Dr. John Snow, in his 1849 pamphlet *On the Mode of Communication of Cholera*, dismissed the idea that there was just something in the air. He suggested cholera was caused either by the human consumption of contaminated food or water, or by infested clothes or bed linen. He suspected a cellular structure to the cholera organism, but as he had not been able to show it beneath a microscope he proceeded largely on instinct.

In late-August 1854 Snow was examining how the water supply routes from the Thames may have affected a serious cholera outbreak in south London when he learnt that new cases had been reported just a few hundred yards from where he lived in Sackville Street, Piccadilly. He used to live even nearer, in Frith Street, where there had already been several deaths, and he believed that his knowledge of the area, and contact with local residents, might yield the clues he needed to support his theory. He did what doctors still did in those days: He made house calls. It was a brave endeavour: In his efforts to<sup>(2)</sup> match human illness to human behaviour he appeared to put himself at grave risk, for if cholera was airborne, this inquisitive doctor would surely be one of its victims.

In the first week of his investigations more than five hundred Soho residents would die. People began falling ill on 31st August, with a peak in fatalities occurring two days later. But by the third day, Snow believed he had found his cause: the public water pump where Broad Street met Cambridge Street. This was not only the main water supply for those living nearby, but also a common stop for passing traders and children.

Snow tested the water from this pump on 3rd September, but his results were inconclusive: He detected few impurities with the naked eye, although when he looked again the following day, he saw an increase in "small white, flocculent particles." One resident also told him that the water had changed its taste. Seeing no other possible cause, and perhaps fearing that he was running out of time, he requested a list of the dead from the General Register Office. Eighty-nine people had died from cholera in the week ending 2nd September, and as Snow walked around with his list he immediately saw the pattern he had anticipated: "Nearly all the deaths had taken place within a short distance of the pump."

As Snow continued walking he found further confirmation of his theory. Only ten deaths had occurred near another water pump, and five relatives of the victims told him that they always drew water from Broad Street as they "preferred" it. Two out of five of the remaining cases were children who went to school near Broad Street. Snow argued that the outbreak couldn't be supported by the miasmatic theories (which associated disease directly with poverty) when he found that a nearby workhouse\* containing hundreds of people was not affected by cholera; it turned out they drew their water from their own well. The evidence now seemed overwhelming. On the evening of 7th September Snow met the local board of guardians and presented them with his findings. "In consequence of what I said, the handle of the pump was removed<sup>(3)</sup> on the following day."

(出典: Simon Garfield, *On the Map: Why the World Looks the Way It Does*. Profile Books, 2013. 一部変更あり)

\*workhouse: a public institution in UK where very poor people could live and work in return for food

- (1) 下線部(1)を日本語に訳せ。
- (2) 下線部(2)を日本語に訳せ。
- (3) 下線部(3)の処置がとられた理由を、本文に則して40字以内(句読点を含む)で述べよ。

## III 下線部を英訳せよ。

猫は熱心な愛猫家が考えたがっているほど社会的に洗練された動物ではない。猫はお互いに感情を隠し合うが、これは猫が<sup>(1)</sup> 孤独で競争的な動物として進化してきたことによる。<sup>(2)</sup> 他の哺乳類と同様、猫も恐れ、喜び、愛のような本能的な感情はもっている。しかし嫉妬、悲しみ、罪意識のような、他者との関係に関わる感情はおそらく彼らの手の届かないところにある。<sup>(3)</sup>