

令和6年度一般選抜前期日程

英語問題紙

注意事項

1. 試験開始の合図があるまで、この問題紙を開いてはいけません。
2. 英語の問題紙は、11ページあります。
3. 解答用紙は4枚あります。
4. 受験番号は、監督者の指示に従って、解答用紙の指定された箇所に必ず記入
しなさい。
5. 受験番号および解答以外のことを解答用紙に書いてはいけません。
6. 解答はすべて解答用紙の指定された欄に書きなさい。
7. 解答用紙のみを提出しなさい。問題紙は持ち帰りなさい。

問題 1 次の英文を読み、問いに日本語で答えなさい。

Why human societies still use arms, feet, and other body parts
to measure things

If you had to estimate the dimensions of a room without the benefit of a tape measure, you might walk its perimeter heel to toe, counting your steps. To estimate the height of a wall, you might count hand spans from floor to ceiling. In (1)doing so, you'd join a long human tradition. Most human societies around the world — perhaps all — have employed similar body-based measurement strategies, according to a first-of-its-kind study published today in *Science*. And these informal body-based systems can persist for centuries after a culture has introduced standardized units of measure because, the authors argue, they often lead to more *ergonomic designs of tools, clothing, and other personalized items.

“Nobody has ever done this kind of systematic, cross-cultural study of body-based measurement before,” says Stephen Chrisomalis, an anthropologist of mathematics at Wayne State University who penned an editorial accompanying the new paper. “It brings together a huge amount of data that show not just how common they are, but that they tend to fall along certain patterns. That is actually an extraordinarily important finding.”

Many past and present standard units of measure have been inspired by human body parts. As early as 2700 B.C.E., the ancient Egyptians employed the royal †cubit, a unit of length of about 53 centimeters that was likely derived

*ergonomic 人間工学的な

†cubit 腕尺

from the distance from one's elbow to the tip of the middle finger. Other units still in use today, such as the foot and the †fathom (originally the span of one's outstretched arms, now standardized to 1.8 meters) were similarly inspired.

Although standardized units are often upheld as superior to informal corporeal measures, people in many societies have continued to use their bodies this way well after standardization has taken root, notes Roope Kaaronen, a cognitive scientist who studies cultural evolution at the University of Helsinki.

To explore how widespread such practices have been in human history, Kaaronen and colleagues pored over ethnographic data from 186 past and present cultures across the world, looking for descriptions of body-based units of measurement in a database called the Human Relations Area Files. This database is the product of an international nonprofit organization that has been collecting and administering ethnographies and anthropological literature since the 1950s.

The team found these systems used in every culture they looked at, particularly in the construction of clothes and technologies. For example, in the early 1900s, the Karelian people, a group indigenous to Northern Europe, traditionally designed skis to be a fathom plus six hand spans long. In the late 1800s the Yup'ik people from the Alaskan coast recorded building kayaks that were 2.5 fathoms long plus a cockpit, which was the length of an arm with a closed fist.

(2)Next, the team looked at a subsample of 99 cultures that, according to a widely used benchmark in anthropology, developed relatively independently of

†fathom 尋(ひろ)

one another. Fathoms, hand spans, and cubits were the most common body-based measurements, each popping up in about 40% of these cultures. Different societies likely developed and incorporated such units because they were especially convenient for tackling important everyday tasks, the authors argue, such as measuring clothes, designing tools and weapons, and building boats and structures. “Think of how you’d measure a rope or a fishing net or a long piece of cloth,” Kaaronen says. “If you measured it with a yardstick, it would be quite cumbersome. But measuring slack items with the fathom is very convenient: Just repeatedly extend your arms and let the rope pass through your hands. So it’s no coincidence that we find the fathom being used for measuring ropes, fishing nets, and cloth around the world.”

Body-based units also often result in more ergonomic designs, he notes, because items are made for the person actually using or wearing them. Kaaronen is a kayaker and woodworker who makes his own paddles — basing their length on a traditional measurement of his fathom plus his cubit. “I personally vouch for traditional paddle designs,” he says. “They are very ergonomic and functional.”

③ Advantages like these could explain why body-based measurements have persisted for so long, the team says. It found that these methods were still being used hundreds or even thousands of years after the introduction of standardized units in every region they examined.

Because the archaeological record rarely preserved these kinds of informal systems, and because anthropologists and ethnographers haven’t always documented the use or absence of such measurement systems, it’s impossible

to say exactly how commonplace body-based units have been throughout history, Kaaronen stresses. “(4)I’ve yet to encounter a culture where we could explicitly say that they haven’t used any kind of body-based units of measure, though,” he says.

Dor Abrahamson, a cognitive scientist at the University of California, Berkeley, calls the paper’s analysis and conclusions “compelling.” It serves, he adds, as a sort of counterargument to the push to standardize tools and objects for more convenient manufacturing. “I am a cellist, and there is this idea of a ‘lady’s cello’ — an instrument that is a bit smaller, and hence suitable for people who, historically, have been a bit smaller,” he says. “But now (5)you hardly see those instruments, as if we must all obey the machine, as if it is us who must accommodate to exacting measures.”

Karen Francois, a philosopher of math at the Free University Brussels, agrees that the study showcases the enduring worth of body-based measuring. “It has value for human problems on human scales,” she says. “It’s local knowledge, it’s ergonomic, it’s technical, and it’s still used.”

(Adapted from *Science*, 1 June 2023, by Michael Price)

問 1 下線部(1)の内容を本文に即して述べなさい。

問 2 下線部(2)の調査によって明らかになったことを、本文に即して簡潔に述べなさい。

問 3 下線部(3)の内容を本文に即して述べなさい。

問 4 下線部(4)の内容を本文に即して述べなさい。

問 5 下線部(5)の理由を本文に即して述べなさい。

問題 2 Read the following text and answer the questions in English according to the text.

Thinking, Bad and Good

In 2013, Fairleigh Dickinson University's PublicMind poll revealed that 25 percent of Americans believed that the Sandy Hook school shooting, which had occurred the year before, involved a cover-up of some sort. This skepticism — or, perhaps more accurately, cynicism — appears impervious to overwhelming evidence that, in fact, Adam Lanza murdered his mother before driving to Sandy Hook Elementary School, where he methodically killed six staff members and twenty children. The available evidence concerning Lanza's actions, including photographs of carnage, autopsy reports, witness testimonials, interviews with acquaintances of Lanza, disturbing material found on Lanza's computer documenting other mass shootings, and so on, should leave no doubt in a rationally functioning individual that the shooting did, without question, occur. Apparently, a large proportion of Americans are not functioning rationally.

Five years following the PublicMind poll, the online news source Patch published an article titled "How Dumb Is America: 10 Things People Actually Believe." Here are some of the actual beliefs that, according to Patch, suggest that America is, after all, pretty "dumb." Nearly one-third of Americans deny the historically established fact that approximately six million Jews were killed in the Holocaust, and instead insist on a far lower number. A still greater number of Americans do not even know that Auschwitz was a concentration camp. Seventy-four percent of Americans are unable to name all three branches of their own government, and an astounding one-third of Americans

could not identify even a single branch of the government. A quarter of Americans believe that the sun orbits the earth. Over a third of Americans believe that human beings, rather than evolving through natural selection, were created by God in their present form, and not very long ago. While the number of Americans who accept the fact of climate change has been increasing, 20 percent of them still deny climate change, and an even larger percentage deny that human activity has anything to do with it. About a third of Americans continue to believe that President Obama was born in Kenya, and about a fifth are skeptical about the safety of vaccines, despite very large studies that show the incidence of afflictions like autism to be no higher in vaccinated populations than unvaccinated ones.

We prefer to resist the Patch article's description of Americans as "dumb." In our view, it is not the right word to describe America, or, more specifically, a discouragingly high proportion of Americans. Nor, to take a more global perspective, does it describe those around the world who similarly hold beliefs that fly in the face of overwhelming counter-evidence. However, we do agree with the general sentiment the article expresses. America's future — and the future of the world — is jeopardized by people who should know better. Not every false belief will have bad consequences — not much harm can come from believing that the earth is flat, unless, perhaps, you work for NASA — but many will. Climate change is real, and the longer people drag their feet responding to it, the more damage it will do. Similarly, the cost of avoiding vaccines is high. As the number of unvaccinated children grows, so too will the number of deaths that could have been prevented by a simple and easily procured inoculation. And those who deny horrific episodes like the Sandy Hook shooting should think hard about the parents of the slain children, whose misery they are cruelly compounding.

One reason why we do not like the word 'dumb' to describe the Americans that the Patch article singles out is simply that the word is insulting and thus unlikely to make its targets receptive to learning the skills that can help them understand why their beliefs are false or unjustified. But a more significant reason for avoiding the label is its inaccuracy. Many of the Americans who hold false beliefs are not in fact dumb. They did as well or better in school, or on standardized tests, as Americans who hold true beliefs. They may be able to defend their false beliefs with careful, articulate, and creative reasoning. There can be no doubt that proponents of the flat-earth hypothesis, for instance, have made a mistake in their reasoning somewhere, but a striking feature of this community is the cleverness of its misguided arguments.

Finally, in addition to being inaccurate, the adjective 'dumb' is unhelpfully imprecise. 'Being dumb' is simply too vague of a description to offer any insight into why Americans hold so many false beliefs or lack important true ones, thus making the path toward a remedy that much harder to follow. Looking more closely at some of the examples suggests at least two very different explanations for why Americans might insist on such blatant falsehoods or at least fail to recognize certain truths. Start with the observation that over a third of Americans do not know that Auschwitz was a concentration camp, and that about the same fraction cannot name a single branch of the US government. The explanation for ignorance like this is pretty straightforward. This group of Americans is poorly educated. They did not learn basic facts about the Holocaust or the organization of the government. Of course, the reasons why some Americans are poorly educated might themselves be quite complex, involving details about social and economic status, racism, geographical location, state budgets, tax rates, and so

on. Nevertheless, whatever the reasons why some Americans are poorly educated, we can say that a failure to know that Auschwitz was a concentration camp, or that the US government is divided into three branches, is a product of poor education. The poorly educated simply do not know things that they should.

On the other hand, a person who denies that human beings have evolved by natural selection, or who refuses to admit that the earth is warming or that vaccinations are beneficial, or who sees a connection between the introduction of 5G networks and the spread of COVID-19 may not be poorly educated at all. Maybe this person attended very good schools and studied diligently. One prominent champion of the Sandy Hook *cover-up story is an academic philosopher—a person who has spent his entire adult life associated with institutions of higher learning. Lack of education cannot be his excuse. What sort of deficiency leads these people to refuse to see the most rational conclusion to which clear and easily accessible evidence points? How should we characterize people who, while apparently normal and well educated in most contexts, display a bewildering irrationality when asked to think about global warming or vaccines or school shootings? These people could, and should, see their errors if only they were willing to properly weigh the evidence that tells against their false beliefs and in favor of the true beliefs. They are not dumb; rather, their bad thinking is an instance of *epistemic stubbornness*.

(Adapted from *When Bad Thinking Happens to Good People: How Philosophy Can Save Us From Ourselves*, by Steven Nadler and Lawrence Shapiro)

*cover-up 隠蔽の

- Question 1. The authors wrote, "Apparently, a large proportion of Americans are not functioning rationally." What does this mean?
- Question 2. In what way do the authors agree with the Patch article?
- Question 3. State the reasons why the word 'dumb' is inappropriate to describe the Americans holding false beliefs.
- Question 4. How do the authors describe the Americans who do not know that Auschwitz was a concentration camp?
- Question 5. Why is holding a false belief not always attributable to poor education?

問題 3 There is a new drug that slows the progression of Alzheimer's Disease. This drug is very expensive and is in short supply. How would you decide who gets this drug? Write an essay in English. Considering age, occupation, personal funds, family support, etc., state your criteria. Explain the criteria and argue against any potential shortcomings.

