

福島県立医科大学

平成 31 年 度
医学部前期入学試験問題

英 語

(時間：100 分)

注 意 事 項

- 1 試験開始の合図があるまで、この問題冊子の中を見てはいけません。
- 2 試験中に問題冊子の印刷不鮮明、ページの落丁・乱丁および解答用紙の汚れ等に気付いた場合は、手を挙げて監督者に知らせなさい。
- 3 解答は、すべて解答用紙の所定の欄に記入しなさい。
- 4 問題冊子の余白は、下書きなどに利用して構いません。
- 5 試験終了後、解答用紙のみを回収します。

[1] 次の文章を読み、問いに答えよ。

Most of the world's languages mark verbs with time using ¹tenses—especially past, present, and future—to convey meaning and reveal thinking. In some sense, we think in tenses. And that's especially true when we think about ourselves.

Daniel Gilbert of Harvard University and Timothy Wilson of the University of Virginia have argued that while “all animals are on a voyage through time,” humans have an edge. ⁽¹⁾ Animals can predict the consequences of events they've experienced before. But only humans can “pre-experience” the future by simulating it in our minds, what Gilbert and Wilson call “prospection.” However, we're not nearly as skilled in this ability as we believe we are. While the reasons vary, the language we speak—literally the tense we use—can play a role.

⁽²⁾ M. Keith Chen, an economist now at ²UCLA, was one of the first to explore the connection between language and economic behavior. He first grouped thirty-six languages into two categories—those that have a strong future tense and those that have a weak or nonexistent one. Chen, an American who grew up in a Chinese-speaking household, offers the differences between English and ³Mandarin to illustrate the distinction. He says, “If I wanted to explain to an English-speaking colleague why I can't attend a meeting later today, I could not say ‘I go to a seminar.’” In English, Chen would have to clearly mark the future by saying, “I *will be going* to a seminar” or “I *have to go* to a seminar.” However, Chen says, “If on the other hand I were speaking Mandarin, it would be quite natural for me to omit any marker of future time and say *Wǒ qù tīng jiǎngzǎo* (I go listen seminar).” Strong-future languages such as English, Italian, and Korean require speakers to make sharp distinctions between the present and the future. Weak-future languages such as Mandarin, ⁴Finnish, and ⁵Estonian draw little or often no contrast at all.

Chen then examined—controlling for income, education, age, and other factors—whether people speaking strong-future and weak-future languages behaved differently. They do—in somewhat surprising fashion. Chen found that speakers of weak-future languages—those that did not mark exact differences between present and future—were 30 percent more likely to save for retirement and 24 percent less likely to smoke. They also exercised more regularly and were both healthier and wealthier in retirement. This was true even within countries such as Switzerland, where some citizens spoke a weak-future language (German) and others a strong-future one (French).

Chen didn't conclude that the language a person speaks *caused* this behavior. It could merely *reflect deeper differences.* ⁽⁴⁾ And the question of whether language actually shapes thought and therefore action remains unresolved in the field of linguistics. Nonetheless, other research has shown we plan more effectively and behave more responsibly when the future feels more closely connected to the current moment and our current selves. For example, one reason some people don't save for retirement is that they somehow consider the future version of themselves a different person than the current version. But showing people age-advanced images of their own photographs can improve their motivation to save. Other research has found that simply thinking of the future in smaller time units—days, not years—“made people feel closer to their future self and less likely to feel that their current and future selves were not really the same person.” The highest function of the future is to enhance the significance of the present.

Which leads to the (A) itself. The following study ⁽⁵⁾ is fascinating and convincing. Five Harvard researchers asked people to make small “time capsules” of the present moment (three songs they recently listened to, an inside joke, the last social event they attended, a recent photo, etc.) or write about a recent conversation. Then they asked people to guess how curious they'd be to see what they documented several months later. When the time came to view the time capsules, people were far more curious than they had predicted. They also found the contents of what they'd memorialized far more meaningful than they had expected. Across multiple experiments, people underestimated the value of rediscovering current experiences in the future.

“By recording ordinary moments today, one can make the present a ‘(B)’ for the future,” the researchers write.

(Daniel H. Pink, *When: The Scientific Secrets of Perfect Timing*, modified)

注

¹tense: 時制

²UCLA: カリフォルニア大学ロサンゼルス校

³Mandarin: 北京官話, 標準中国語

⁴Finnish: フィンランド語

⁵Estonian: エストニア語

問 1 下線部(1)について, 人間はどのような点で動物より優れているのかを動物の場合と比較しながら日本語で説明せよ。

問 2 下線部(2)について, 言語間のどのような特徴の違いが問題となるのかを日本語で説明せよ。

問 3 下線部(3)の Chen 氏の調査で明らかになった事実を 120 字以内(句読点を含める)の日本語で具体的に述べよ。

問 4 下線部(4)について, どのような違いかを日本語で説明せよ。

問 5 下線部(5)の研究で被験者にした質問を日本語で「～(です)か?」という形にして答えよ。

問 6 (A), (B)に入る適語をそれぞれ past, present, future の中から 1 つ選んで答えよ。

〔2〕 次の文章を読み、問いに答えよ。

Why can't I remember anything that happened before I was two years old? You may already be thinking, "But wait! I distinctly remember my first birthday!" or "My first trip to Niagara Falls was when I was one and a half!" But those memories could easily have been created by seeing photographs or hearing events described by others, over and over, not necessarily by remembering the actual (A). Still, there are some exceptional people who really do remember things from a very young age. But no more than 1 to 2 percent of the population seem to be able to do that.

For the vast majority of people, first memories can be recalled from the age of about three to three and a half years. A child's brain is rapidly developing before that, and somehow, during that crucial process, stored memories seem to mysteriously (B).

Researchers have tried to prove that children under the age of two can actually store memories, but because very young children lack a good command of language, proof is difficult. But New Zealand psychologists Harlene Hayne and Gabrielle Simcock found a way around this problem, by building something called the Magic Shrinking Machine.

The Magic Shrinking Machine was used with children ranging in age from just over two years old to just over three. Each child learned to start the machine by pulling a lever that turned on lights. One of the experimenters then put a large toy into the machine, making it "disappear," then the same experimenter turned a handle to produce a set of sounds. Finally, the child was shown how to retrieve the toy from the machine. When the child retrieved the toy, it had shrunk. The child repeated the actions seven times, each time with a different toy that had magically shrunk. By the end of the experiment, the children were able to repeat the entire sequence by themselves. This proved they clearly remembered what to do.

Six months later, then a year later, the children were tested to see if they could remember the Magic Shrinking Machine and how it operated. They were tested using two different methods. One was verbal: they were asked questions about the machine, like "Last time I visited you, we played a really exciting game! Tell me everything that you can remember about the game. What were the names of the toys? And how did we make the Magic Shrinking Machine work?"

Then the experimenters tried to bring back nonverbal memories by showing the children pictures of the machine, the toys, and the bag the toys had been carried in. They even showed the children the actual machine to see if they could operate it. They found that the younger the child had been at the time of the experiment, the less they remembered, and the more time had passed, the worse the memories were. They also found that if a child lacked the vocabulary to describe the machine in the past, they couldn't describe it later—even if they'd acquired the appropriate vocabulary in the meantime, and even if the nonverbal tests showed that they remembered the machine in some detail. This suggests that our ability to talk about our early memories is limited by our ability to process language.

Six years later the children were tested yet again. Many remembered the machine, even those who were only two years old at the time they'd first been introduced to it. That finding was surprising. It showed that the language barrier wasn't as impenetrable as once thought. But it was still significant for a lot of test subjects.

A number of theories have been proposed to explain what is (C) for us to form perfectly clear memories. One is that we can't do that before we realize we have an ³identity. That happens sometime around the age of two—roughly the same time that we start speaking and understanding words. It's not yet understood how those two events relate, but there is evidence that the kinds of conversations children have with their parents play an important role in establishing memories, especially those that can be described verbally.

Of course some events in a child's life much earlier than this—even in the first few months—can still influence emotional life into adulthood, especially if those events are extremely stressful or ⁴traumatic. But these "memories" are not actively remembered. The youthful developing brain is likely to be more forgetful, too. It's busy rapidly assembling the structures and networks necessary for laying down permanent memories. And the creation of a memory involves multiple complicated steps: recording the memory, stabilizing it, and preparing it for storage in ⁵long-term memory banks. Making it through each of these steps is a risky process: if a memory isn't firmly established, it will be lost along the way, ⁵forever forgotten.

So when you think back to the earliest events you can remember, the ⁶sketchiness of those few memories you've managed to keep is likely due to the fact that your two-year-old brain was busy desperately building an effective memory system. Once you turned five or six, that system was pretty much (D), and your detailed memories began to be recorded from that time on.

(Jay Ingram, *The Science of Why*², modified)

注：

¹impenetrable: (物が)突き通せない

²subject: 実験を受ける人, 被験者

³identity: 個性, 独自性

⁴traumatic: 精神的に深く傷つける

⁵long-term: 長期にわたる, 長く持続する

⁶sketchiness: 不完全さ, 貧弱さ

問 1 下線部(1)の内容を 160 字以内(句読点を含める)の日本語で説明せよ。this problem についても説明すること。

問 2 下線部(2)によって得られたそれぞれの結果を対照して明らかになった事実を日本語で具体的に述べよ。

問 3 下線部(3)はどのようなものかを日本語で説明せよ。

問 4 下線部(4)を日本語に訳せ。

問 5 下線部(5)を日本語に訳せ。

問 6 (A) ~ (D) の部分に入る最も適切な語句をそれぞれア~エのうちから 1 つずつ選び, 記号で答えよ。

(A) {
ア. experience
イ. information
ウ. knowledge
エ. process

(B) {
ア. emerge
イ. increase
ウ. remain
エ. vanish

(C) {
ア. necessary
イ. obvious
ウ. useful
エ. wrong

(D) {
ア. at its peak
イ. in place
ウ. on trial
エ. under development

[3] Read the following essay by Daniel Everett and answer the questions (Questions 1–5) *in English*.

In a ¹Pirahã village along the Maici River in Brazil, I squeezed mustard onto a piece of bread. An old woman from the village watched me. “Why do you eat bird ²poop?” she asked. There was irritation in her voice. Then I looked at her more closely. She was sucking the brains out of a roasted rat head.

There was newness in what we were seeing. Diverse perspectives. We had encountered the necessary condition for all learning.

There are those who say that learning is changed behavior following exposure to new information. If we already know the information we are receiving, such as the familiar food, we have not mentally expanded. Same food, no learning. New food, learning.

It is harder to learn things from people like ourselves—say, someone who grew up with us in our neighborhood, from our ethnic background and our gender. We already know most of what each other knows. This is not our situation as we enter life, of course. We are born as aliens, everyone in our world a stranger, except our mother (whose food preferences, patterns of intonation, and fear reactions we learn inside her body). The child’s behavior changes daily with new information.

But then the child begins to feel comfortable in his or her limitations, slowing the rate of learning. The brain is prepared for this, cutting back ³synapses in part to reduce search space for new information, what some refer to as “the critical period.” Thus, early on, our capacity for learning from newness is reduced, requiring greater effort to expand our mind.

But new behavior and new information take effort. Why listen to harsh jazz when the steady 4/4 beat of country or rock is familiar? Why eat haggis instead of pot roast? ^(A) “Comfort food” is just food that requires no learning. Why learn another language? Why make friends of a different color, a different ⁴sexual orientation, a different nationality?

But even in societies of strangers, we learn far less than we might. We often limit our contact with strangers—the less another person is like us, the less we desire to know that person. Some of us want “comfort relationships” even more than we desire comfort food. Learning is hard. The professor who never varies course form or content is not learning. The students who take only the courses that interest them are reducing their learning potential.

Of course, learning requires more than exposure to difference. To acquire wisdom from strangers, we must submit ourselves to those strangers, as a child submits to the world of his or her parents. Everyone should live for at least a week with strangers, ideally those most unlike themselves: a non-religious individual in a strict Muslim home; a sophisticated urban type with a family of wheat farmers.

But let’s be clear: Diversity is about self-interest, not self-sacrifice. If you hire college teaching staff from a ⁵minority group or make an effort to recruit more minority students, you are not doing them a favor so much as increasing the likelihood of learning in your college, your business, and in your life.

Social science can benefit from diversity by studying people very much unlike ourselves. Not to regard such people as exotic, but to learn from them. To live among them, under their teaching, to learn about the limits of human experience. I have learned as much in casual discussions around Amazonian campfires as in any academic course I have ever taken or any research I have conducted. By watching people point out ⁶constellations that my culture doesn’t recognize, or having someone teach me about plants and animals I have never seen, or learning words that don’t fit my conceptual categories, I become wiser.

Some of us might think that the ability to learn from strangers is limited by a universal biological fact—we all share an identical human nature. But what if there is no such unity? Others of us, on the other hand, believe that ⁷psychic unity, or “human nature,” is a fantasy. Each human, without the influence of an innate set of concepts, is shaped by a mixture of their cultural and individual experiences.

The role of culture in shaping, indeed providing, our concepts, values, social roles, and knowledge structures has long been debated. But many may feel there is little evidence for a human nature. Instead, there is only an individual shaped by his or her ⁸apperceptions interpreted through the light of culture and held together by unreliable memory. Culture, in

other words, has no existence without one individual's learning from other individuals. If, as I believe, there is no human nature, then the lessons from other individuals and cultures that are unlike us become much more profound. The more we remain comfortable, the less we learn, the less our behaviors change, the less adaptable we are. The worse for the species.

Getting to know the minds of strangers reduces our fears. We fear our neighbors and our world in proportion to our unfamiliarity with them. Condemning one another is unproductive.

Minorities may gather into isolated groups, but they have no choice but to learn from the majority. It is the majority that is at the greatest danger of missing the power of diversity. Members of the ⁹LGBT community, for example, who can function well in general society have learned more than members of the sexual majority who cannot enjoy LGBT society. This is not to say that all cultures, all values, or all knowledge structures are of equal value. But it does say that values are local, not universal.

Diversity is the heart of success because it is the heart of learning, whether for individuals or nations. Without ensuring a flow of wisdom from strangers, a country chooses the comfort of sameness and predictability over the challenge of new ways of thinking and living. One thing that is similar across human populations is the set of problems we all have to solve—food, (____), (____), (____), and so on. The power of diversity offers us ¹⁰inexhaustible sets of solutions to those problems.

(The Chronicle of Higher Education, 2017, modified)

Notes:

- ¹Pirahã: a remote people that lives on the banks of the Maici River in the Amazon rainforest in Brazil
- ²poop: an informal word meaning the solid waste expelled from the lower bodies of humans and other animals
- ³synapse: the tiny gap where a signal passes from one nerve cell to another
- ⁴sexual orientation: interest in, preference for, attraction to a particular gender
- ⁵minority: (belonging to) a part of a population that has different characteristics from the population in general, which sometimes leads to discrimination
- ⁶constellation: a group of stars that seem to form a pattern or image, for example, of an animal, a god, etc.
- ⁷psychic: of the mind or relating to the mind
- ⁸apperception: the mental process of using past experience to make sense of a new experience
- ⁹LGBT: letters that stand for Lesbian, Gay, Bisexual, and Transgender
- ¹⁰inexhaustible: If something is "inexhaustible," it cannot be used up, because there is no limit to its supply.

Question 1: In the underlined sentence (A), explain briefly why the author mentions these two *particular* foods ("haggis" and "pot roast").

Question 2: Imagine what would best fit in the underlined spaces (B). Write *one* word for each space to complete the meaning of the sentence as naturally as possible.

Question 3: From the following sentences ((a)–(e)), choose the *two* that best reflect what the author believes.

- (a) Culture shapes the individual by gradually replacing the universal concepts we have at birth.
- (b) A willingness to learn from others enables us to cope better with change.
- (c) Isolated minorities absorb information from their environment unwillingly.
- (d) There would be no such thing as culture unless people learned from each other.
- (e) Practical experience of life is of greater value than academic learning and research.

Question 4: Think of a title for this essay in *three to five* words that reflects the content of the passage as a whole.

Question 5: Write a short essay of about *100 words*, describing your reaction to the opinions the author expresses in this passage. When writing your essay, be sure to give specific examples of the points you agree with and/or disagree with.