平成28年度入学者選抜学力検査問題(前期日程)

外　国　語

英　　語

(注　意)

1. 問題冊子は指示があるまで開かないこと。
2. 問題冊子は9ページ，解答用紙は2枚である。
   指示があってから確認すること。
3. 解答はすべて解答用紙の指定のところに記入すること。
4. 解答用紙は持ち帰ってはならないが，問題冊子は必ず持ち帰ること。

〔Ⅰ〕 次の英文を読んで以下の設問に答えよ。

The brain loves efficiency and being able to do something without thinking — how to tie our shoelaces, how to open a door, or how to unwrap a candy bar. These habits were all learned when we were small children, and it certainly makes life easier to know how to do such simple, everyday things without having to stop and think every time we need to do them.

(1) However, the brain resists change, making changing old habits and creating new habits extremely difficult. This can change, of course, if there's sufficient reward involved. In this latter case, the brain will think about it and get motivated enough to complete the difficult new action.

Although the brain can be divided up into many different parts, I'm mainly concerned with two areas that control how we behave: the basal ganglia* and the prefrontal cortex*.

The prefrontal cortex is the part of our brain that actually does some deep thinking. It considers the future, cause and effect, and how things could be. Since I'm not fond of difficult medical terms, I'm going to call the prefrontal cortex the Slowly Thoughtful part of the brain.

The Slowly Thoughtful part of the brain is the part that's responsible for wanting to change the future. It wants us to get fit, earn more money and learn French. Slowly Thoughtful reads fitness articles and says, "Hey, you should go to the gym every day and do some sit-ups. That'll give you nice stomach muscles."

The basal ganglia, or the Stupidly Efficient part of the brain, is the part of the brain that's responsible for recognizing and repeating patterns, unless it's told otherwise. This is because the basal ganglia really is, in some ways, very stupid. Unlike Slowly Thoughtful, it doesn't think or consider the consequences; it just wants to repeat patterns and behaviors that it knows. When Slowly Thoughtful says, "You should go to the gym," Stupidly Efficient says, "No, I'll just lie here on the couch like I always do and watch TV."

It would be great if the Slowly Thoughtful part of our brain could take control of things instead of the Stupidly Efficient part when needed. And sometimes, it can. Think of the times when you meant to watch something on TV but then decided you really, really needed to go to the gym. Your motivation levels were running high — maybe you'd just read about a woman who'd lost twenty pounds in two months, or you had a party coming up and wanted to look your best. If our motivation levels are high enough, we can do what Slowly Thoughtful thinks we should do instead of just following the Stupidly Efficient part of the brain. The trouble is, it's hard to keep up such high levels of motivation.

Most of the time, Stupidly Efficient is so strong it just can't be overpowered. The Stupidly Efficient section of our brain is responsible for our habits, and what we do on a day-to-day basis.

Most people, whether successful or not, are dependent on the Stupidly Efficient part of their brain. The difference is that successful people know how to make Stupidly Efficient work for them by training it.

Instead of being trained to lie on the couch, Stupidly Efficient learns to go to the gym and learns to prefer doing so. (2) Once Stupidly Efficient is trained to go to the gym, it no longer complains when it's time to exercise; instead, it complains when we don't go to the gym.

The key to creating new habits is to get Stupidly Efficient on your side and making it want to take action.

Most people do this by tempting the brain with rewards. If there's a sufficiently nice reward involved, the Stupidly Efficient part of our brain allows us to take action.

For instance, even if you have a fixed habit of coming home, changing out of your work clothes and dropping onto the couch, you'd probably be thrilled to modify this behavior and head straight to the gym if someone offered you ten million dollars in return.

Unfortunately, most of us don't have supporters offering us millions of dollars just for going to the gym. So we try to get by with lesser rewards. The most common way to encourage ourselves is by using treats — an ice-cream after writing that article, for instance.

Turning a onetime action into a habit involves finding a reminder to start doing that action. For instance, get home from work (reminder), change into exercise clothes and do some exercises (routine) in expectation of something pleasant (reward). Repeat this a couple of times, and it becomes a habit.

Stanford Professor B. J. Fogg and author Charles Duhigg have both written extensively about habits; both have also identified the same sequence for habits: a reminder that leads to us performing a routine that is followed by a reward.

出典：A. J. Winters, *The Identity Switch: An Effortless, Lethal Method for Unavoidable Success* (CreateSpace Independent Publishing Platform, 2015)に基づく。

*basal ganglia　脳幹神経節

*prefrontal cortex　前頭前皮質

問 1　下線部(1)を和訳せよ。

問 2　本文の内容に基づくならば，次の 1 ～ 4 のうち "the Slowly Thoughtful part of the brain" が**最も関与していない**行動はどれか，一つ選び記号で答えよ。

1. 3ヵ月先の資格試験に向けて，朝 1 時間早く起きて勉強する。
2. 天気図をみると雨が降りそうなので，傘をもって出かける。
3. いつも通っている通学路を通る。
4. ダイエットを始めたので，いつもより食べる量を減らす。

問 3　本文の内容によれば，次の１～４のうち私たちの日常的な習慣行動に**最も関与している**ものはどれか，一つ選び記号で答えよ。

1. difficult medical terms
2. Stupidly Efficient
3. Slowly Thoughtful
4. going to the gym

問 4　下線部(2)を和訳せよ。ただし，Stupidly Efficient は「ステューピッドリー・エフィシャント」と訳せ。

問 5　新しい行動を習慣化させるプロセスに reminder, routine, reward の要素があるが，以下の英文で示される状況において，それぞれの要素に該当する部分を選び，下線部の記号で答えよ。

In my first year at university I got a low grade for English, but in my second year I got a high grade. How I did this was by renting a movie(1) after doing some extra English study(2) every weekend.(3)

reminder：(　　)
routine：(　　)
reward：(　　)

〔Ⅱ〕 次の英文を読んで以下の設問に答えよ。

If there's one thing that distinguishes humans from other animals, it's our ability to use language. But when and why did this ability evolve? A new study concludes that the art of conversation may have arisen early in human evolution, because it made it easier for our ancestors to teach each other how to make stone tools — a skill that was crucial for the spectacular success of our species.

(1) Researchers have long debated when humans started talking to each other. Estimates range wildly, from as late as 50, 000 years ago to as early as 2 million years ago, because spoken words leave no traces behind.

Now, a team led by Thomas Morgan, a psychologist at the University of California, Berkeley, has attacked the problem in a very different way. He and his colleagues explored the way that language may help modern humans learn to make early tools. The researchers used 184 students from the University of St. Andrews in the United Kingdom, and organized them into five groups. The first person in each group was taught how to make Oldowan* tools. These are fairly simple stone flakes that were manufactured by early humans beginning about 2. 5 million years ago. This technology consists of hitting a stone "core" with a stone "hammer" in such a way that a flake sharp enough to butcher an animal is struck off. Producing a useful flake requires hitting the core at just the right place and angle.

The students in each of the five groups learned to produce Oldowan flakes in different ways. Students in the first group were presented with a core, a hammer, and some examples of finished flakes and told to just make flakes by themselves. In the next group, a second student learned how to make the tools by simply watching the first student and trying to copy what he or she did with no interaction at all between them; in the third group, students actively showed each other what they were doing but without gesturing; in the fourth group, gesturing and pointing were allowed but no talking; and in the fifth group, the "teacher" was permitted to talk to the "learner" and say whatever was necessary.

In each group, the learner became the teacher in the next round. In this fashion, (2) the research team created five different "chains of transmission*" of Oldowan toolmakers, which produced a total of more than 6,000 flakes. The results of the experiment were striking. As might be expected, subjects sitting alone and attempting to make Oldowan flakes simply by looking at cores, hammers, and examples of the flakes had only limited success. But performance improved very little among students who just watched others make the tools. Only (3) the groups in which gesturing or speaking was allowed performed significantly above the results of the first two groups on several markers of toolmaking skill. These markers included the total number of flakes produced that were long enough and sharp enough to be usable and the proportion of hits that resulted in a usable flake. For example, the probability that a single strike would result in a usable flake was two times greater with teaching by gestures and four times greater with spoken teaching, the team found.

(4) The researchers conclude that the successful spread of even the earliest known toolmaking technology, more than 2 million years ago, would have required the capacity for teaching, and probably also the beginnings of spoken language. "The ability to rapidly share the skill to make Oldowan tools would have brought clear benefits" to early humans, Morgan says. Such benefits include greater efficiency in butchering animals. After that, Darwinian* natural selection would have acted to gradually improve early language abilities, eventually leading to the complex languages we speak today.

"This is an exciting paper," says Thomas Suddendorf, a psychologist at the University of Queensland, St. Lucia, in Australia, because it "nicely demonstrates the transmission power of teaching and symbols . . . in a context that was critical in human evolution." And Dietrich Stout, an archaeologist* at Emory University in Atlanta, comments that "a major strength of the paper is that it adopts an experimental approach to questions that have otherwise largely been addressed through intuition or common sense."

Although Suddendorf finds the team's interpretations "sensible" and "reasonable," he cautions that the experimental results cannot be considered direct proof for the theory behind them. For one thing, Suddendorf says, the subjects "already have language and have grown up with language," and so it would be expected that they would learn more effectively when they could talk to each other, which may not have been true for our earliest ancestors. Another weakness of the study, Stout adds, is that the students were given only 5 minutes to learn the toolmaking techniques, and then no more than 25 minutes to produce Oldowan flakes. Had they been given more time, Stout suggests, the additional practice might have erased "any noticeable difference in the transmission conditions."

出典：Michael Balter, "Human Language May Have Evolved to Help Our Ancestors Make Tools" (news.sciencemag.org, 13 January, 2015)に基づく。

*Oldowan　オルドゥヴァイ文化(期)の
*transmission　伝達
*Darwinian　ダーウィン説の
*archaeologist　考古学者

問 1　下線部(1)を和訳せよ。

問 2　次の 1 ～ 4 のうち，下線部(2)の内容として最もふさわしいものを一つ選び，記号で答えよ。

1. the way students were assigned to groups
2. the way to make Oldowan flakes round
3. the way each student learned from and taught other students
4. the style of clothing worn by the students

問 3　下線部(3)が指し示すグループの数はいくつか。数字で答えよ。

問 4　次の 1 ～ 5 のうち，本文の内容と**合致するもの**を二つ選び，記号で答えよ。

1. Making Oldowan flakes was an early toolmaking technology.
2. In each group, sharp stone flakes were used to butcher animals.
3. In the groups that made the highest number of usable flakes with the greatest efficiency, students were not able to talk to each other.
4. Humans were unable to make tools until they developed spoken language.
5. Both Suddendorf and Stout see strengths and weaknesses in this study.

問 5　下線部(4)を和訳せよ。

問 6　最終段落の内容をふまえ，次の空所を埋めよ。

Stout は，もし＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿＿ならば，研究者たちは異なった結果を得ていたかもしれない，ということを示唆している。

〔Ⅲ〕 下線部を英訳せよ。

1. どんな立派な「内容」でも，言い方が下手だと伝わらないし，内面がどんなに素敵な人でも，ちゃんと表現しないと，その魅力は伝わりません。

出典：鴻上尚史『表現力のレッスン』(講談社，2005)

2. 本を深く読むということは，どういうことか。読むことを通じて，あるいは読むことにおいて，世界への〈問い〉が開かれ，思考が触発される，ということである。本は，情報を得るためだけに読むわけではない。そういう目的で読む本もあるかもしれないが，少なくとも，読書の中心的な悦びはそこにはない。

出典：大澤真幸『〈問い〉の読書術』(朝日新聞出版，2014)