

英語

(100分)

1 下線部(1), (2)を和訳しなさい。

Contrary to the old, simplistic notion that art and music are processed in the right hemisphere of our brains, with language and mathematics in the left, recent findings are showing us that music is distributed throughout the brain. Through studies of people with brain damage, we've seen patients who have lost the ability to read a newspaper but can still read music, or individuals who can play the piano but lack the ability to button their own sweater. Music listening, performance, and composition engage nearly every area of the brain that we have so far identified. Could this fact account for claims that music listening exercises other parts of our minds, that listening to Mozart twenty minutes a day will make us smarter?

The power of music to evoke emotions is utilized by advertising executives, filmmakers, military commanders, and mothers. Advertisers use music to make a soft drink, beer, running shoe, or car seem more attractive than their competitors'. Film directors use music to tell us how to feel about scenes that otherwise might be ambiguous, or to influence our feelings at particularly dramatic moments. Think of a typical chase scene in an action film, or the music that might accompany a lone woman climbing the stairs in a dark old mansion: Music is being used to manipulate our emotions, and we tend to accept, if not outright enjoy, the power of music to make us experience these different feelings. Mothers throughout the world, and as far back in time as we can imagine, have used soft singing to soothe their babies to sleep,

or to distract them from something that has made them cry.

(Adapted from Daniel J. Levitin, *This Is Your Brain on Music: The Science of a Human Obsession*, 2006)

2 次の文章を読み、設問に答えなさい。(*を付した語には、注があります。)

A colleague of mine at The Times who is a triathlete* had a question: Everyone tells you to listen to your body, but what are you supposed to listen to? It turns out it's not so obvious.

Deena Kastor, the American record holder for the marathon, interprets the advice selectively. "Running isn't always comfortable," she said. "I remember running through a lot of discomfort and pain." And, Ms. Kastor added, she also runs when she does not feel like it. "So many times the alarm goes off in the morning and you tell yourself you are too tired," she said. But if you ignore those messages from your body and just go out and run or do your sport, she said, "those are the days when we have the most pride." "The trick in listening to your body is to know what you can run through. If you have a sharp pain you should take care of it."

So does listening to your body mean learning to understand the difference between a pain that signals a serious injury and one that can be ignored? And if it does, why do athletes like Ms. Kastor become seriously injured, anyway? Last year she broke her foot about five kilometers into the marathon at the Beijing Olympics. In that same race, Paula Radcliffe, who holds the world record in the women's marathon, ran less than her best because ①[a stress fracture / by / her / interrupted / training / was].

Maybe the problem is that it is hard to understand what your body is saying. "Listening to your body' is always tough," said Keith Hanson, a coach who directs the Hansons-Brooks Distance Project, which recruits talented distance runners and supports them while they train full time. One of his runners, Brian Sell, was in the Beijing Olympics, and others are internationally competitive. "There are several aches and pains that you can run through,"

Mr. Hanson said, "and others that need some time to rest. I always try to follow one key rule: If you are limping after 10 minutes of running, then it is an injury and not just an ache or pain. You should never run through injuries. If you do, they almost always turn into even more serious injuries. ② [an ankle / as / becomes / knee and hip problems / pain / started / what]."

On the other hand, there is also a different interpretation of "listening to your body." It's one favored by Asker Jeukendrup, the director of the Human Performance Laboratory at the University of Birmingham, in England. "Listening," he said, "means that you are supposed to listen for 'valuable information' and learn to disregard 'other negative information that may come into your thoughts that is actually irrelevant.' Dismiss, for example, 'some feelings of fatigue.'" The goal is to push your body to its limits, but not beyond. This is easier said than done. "Not everyone can do it."

"Actually," said Tom Fleming, "it is unlikely that anyone can do it." Mr. Fleming won the New York City Marathon twice and has coached athletes ranging from adolescents to nationally ranked runners. "I never listened to my body," he said. "Maybe I should have. So let's get that clear right now: I think it's an impossible task."

When he was training, Mr. Fleming said, he couldn't train less or make himself go more slowly. And he added, "if you really listen to your body, you will not achieve what you are capable of."

(Adapted from Gina Kolata, "When the Pain Sets In, Listening to the Body," *The New York Times*, Sunday, July 5, 2009)

<注> triathlete*: an athlete who competes in triathlon, a sport in which one engages in three different activities, usually swimming, cycling and running

設問 1 下線部(1)が述べているのは具体的にどのようにすることか、本文に即して日本語で説明しなさい。

設問 2 文中の①と②の[]内の語句を適切な順序に並び替え、解答欄に書

きなさい。大文字で始めるべき語は大文字で始めること。

設問 3 Asker Jeukendrup と Tom Fleming (本文中に波線~~~~を付してある)の意見の違いを、本文に即して日本語で説明しなさい。

3 次の英文を読み、設問に答えなさい。

We're all so used to clothing that we never stop to marvel at its remarkable properties. But just imagine trying to get through the day wearing nothing but cotton wool for trousers and tissue paper for a shirt -- within 20 minutes our clothes would be quickly torn apart. Our clothing is not made from anything particularly different from these substances, yet somehow it is enormously strong, able to withstand normal wear and tear for years. But if the strength of cloth does not only come from its material, where does it come from?

The answer is the twist. It's a trick that's very easy to see today: take a piece of tissue paper and tear off a long strip, about 3 cm wide. Try pulling it apart. It should be clear that tissue paper has very little strength. Now tear another long strip off, 3 cm wide, the same as the first. Turn one end one way and the other end the other way, twisting the tissue paper until it looks like a straight piece of string. Now fold it into two and twist it together again, making a fatter piece of string. Try pulling it apart now. You may well find it impossible to tear it into two.

The simple act of twisting creates enormously strong substances from potentially very weak ones. The cause of the strength is friction. Imagine two parallel conga lines of people, each holding onto their companion's waist in front of them. The strengths of the conga lines are only as strong as the two weakest links -- whoever has the weakest grip on the companions will break their lines first. This is why tissue paper breaks so easily, for it is nothing more than a sheet of parallel conga lines of plant fibres. Now imagine the two

conga lines are rather more complicated: the person in the left line is holding onto the waist of the person ahead on the right, the person on the right holds onto the waist of the person ahead on the left. All the way up the two lines, each holds onto the person on the other side, all their arms crossing over. Now if one person loses their grip it doesn't matter so much, for everyone is still locked together by their arms. This is what twisting does to a material. It winds the internal fibres around each other so much that even if a few individual fibres break, they are still locked by friction into the string and so they continue to provide strength. Twisting is so effective that it allows shorter fibres to become woven together, locking them into strings of any length.

It should not be that surprising to discover that the friction of individual fibres can result (a) such strength. Every knot ever tied relies (b) exactly the same principle: the locking together of individual threads in clever loops designed to trap and squeeze them together. (You may have noticed that it's much harder to tie knots in really shiny, slippery cords because there is not enough friction to keep the knot tight.) In most materials all the tiny fibres have rough surfaces, so when they are squeezed together they become locked together by all their bumps, like pieces of a jigsaw. Friction caused by twisting can give immense strength, regardless (c) the individual strength of the constituent fibres.

(Adapted from Peter J. Bentley, *The Undercover Scientist: Investigating the Mishaps of Everyday Life*, 2009)

設問 1 下線部(1), (2)を和訳しなさい。

設問 2 conga lines (本文中に波線~~~~を付してある)とは中米の踊りから来ている表現ですが、この^①比喩で語られているものの形状はどのようなものですか。正しいものを以下から二つ選び、記号を解答欄に書きなさい。

- (a) two lines crossing at one point
(b) two lines crossing over alternately

- (c) two parallel lines
(d) two parallel lines one of which is twisted

設問 3 文中の (a) ~ (c) に入る適当な前置詞を以下から選び、解答欄に書きなさい。

at / by / from / in / of / on

4 次の文章を読み、その内容について、設問に答えなさい。

家が片付けられない。

いつまでたっても。

おかげで、母が去り、父が去り、息子が結婚して去ったわが家は、彼らが置いていった物たちであふれたまま。その中で、私はまるで下宿人のよう。自分の部屋に自分のものをすべて置いて、ひとり、窮屈に暮らしている。

これまで、思い切りがいい人と言われてきたのだけれど、年のせいか、思い出の染みた過去のものたちへの愛着、未練が募り、気持ちがぐずぐずになるのだ。

そうだ、「捨てる技術」ではなく、「遺す技術」を磨けばいい!

そんなわけで、自分にとって「捨てられないものは捨てない」と、決めてしまった。不思議、不思議、そうしたら、おのずと「捨てていいもの」がぐっつきりしてきたのだ。

かくして、とうとう、私は家の片付けに着手することになった。

(久田恵「遺す技術」磨けばいい『産経新聞』(2009年7月30日)より一部改変)

設問 1 著者が物であふれ窮屈な生活をするようになった経緯、および物を捨てられない理由について、英語でわかりやすく説明しなさい。

設問 2 著者がたどりついた解決策はどのようなもので、その結果どのようなことになったのか、英語でわかりやすく説明しなさい。