

英 語

注 意

1. 問題は全部で18ページである。
2. 解答用紙に氏名・受験番号を忘れずに記入すること。(ただし、マーク・シートにはあらかじめ受験番号がプリントされている。)
3. 解答はすべて解答用紙に記入すること。
4. 問題冊子の余白等は適宜利用してよいが、どのページも切り離してはいけない。
5. 解答用紙は必ず提出のこと。この問題冊子は提出する必要はない。

マーク・シート記入上の注意

1. 解答用紙(その1)はマーク・シートになっている。HBの黒鉛筆またはシャープペンシルを用いて記入すること。
2. 解答用紙にあらかじめプリントされた受験番号を確認すること。
3. 解答する記号・番号の○を塗りつぶしなさい。○で囲んだり×をつけたりしてはいけない。

解答記入例(解答が1のとき)

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| 1 | <input checked="" type="radio"/> | <input type="radio"/> 2 | <input type="radio"/> 3 | <input type="radio"/> 4 | <input type="radio"/> 5 | <input type="radio"/> 6 | <input type="radio"/> 7 | <input type="radio"/> 8 | <input type="radio"/> 9 | <input type="radio"/> 0 |
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4. 一度記入したマークを消す場合は、消しゴムでよく消すこと。×をつけても消したことになる。
5. 解答用紙をよごしたり、折り曲げたりしないこと。

問題 1 注を参考にして、次の英文を読み、設問に答えなさい。

One day in the early 1900s, a prominent American executive named Claude C. Hopkins was approached by an old friend with a new business idea. The friend explained that [a hit/an amazing product/convincing/discovered/⁽¹⁾had/he/he/that/was/would be]. It was a toothpaste, a minty, frothy mixture he called “Pepsodent.” This venture, he promised, was going to be huge. If that is, Hopkins would consent to help design a national promotional campaign.

Hopkins, at the time, was at the top of a booming industry that had hardly existed a few decades earlier: advertising. Hopkins was the man who had convinced Americans to buy Schlitz beer by boasting that the company cleaned their bottles “with live steam,” while neglecting to mention that every other company used the exact same method. He had seduced millions of women into purchasing Palmolive soap by proclaiming that Cleopatra had washed with it, despite the strong protests of outraged historians. He had made Puffed Wheat famous by saying that it was “shot from guns” until the grains puffed “to eight times normal size.” He had turned dozens of previously unknown products — Quaker Oats, Goodyear tires, the Bissell carpet sweeper, Van Camp’s pork and beans — into household names. And in the process, he had made himself so rich that his autobiography devoted long passages to the difficulties of spending so much money.

Claude Hopkins was best known for a series of rules he coined explaining how to create new habits among consumers. These rules would transform industries and eventually became conventional wisdom among marketers, educational reformers, public health professionals, politicians, and chief executive officers. Even today, Hopkins’s rules influence everything from how we buy cleaning supplies to the tools governments use for eliminating disease. They are fundamental to creating any new routine.

However, when his old friend approached Hopkins about Pepsodent, the ad

man expressed only mild interest. It was no (3) that the health of Americans' teeth was in deep decline. As the nation had become wealthier, people had started buying larger amounts of sugary, processed foods. When the government started drafting men for World War I, so many recruits had rotting teeth that officials said poor dental hygiene was a national security risk.

Yet as Hopkins knew, selling toothpaste was financial suicide. There was already an army of door-to-door salesmen selling doubtful tooth powders and liquids, most of them going broke.

The ⁽⁴⁾problem was that hardly anyone bought toothpaste because, despite the nation's dental problems, hardly anyone brushed their teeth.

So Hopkins gave his friend's proposal a bit of thought, and then declined. He'd stick with soaps and cereals, he said. "I did not see a way to educate ⁽⁵⁾people in technical toothpaste theories," Hopkins explained in his autobiography. The friend, however, was persistent. He came back again and again, appealing to Hopkins's considerable ego until, eventually, the ad man gave in. "I finally agreed to undertake the campaign," Hopkins wrote.

It would be the wisest financial decision of Hopkins's life. Within five years of that partnership, Hopkins turned Pepsodent into one of the best-known products on earth and, in the process, helped create a toothbrushing habit that moved across America with startling speed. Soon, everyone was talking proudly about their "Pepsodent smile." By 1930, Pepsodent was sold in China, South Africa, Brazil, Germany, and almost anywhere else Hopkins could buy ads. A decade after the first Pepsodent campaign, market researchers found that toothbrushing had become a ritual for more than half the American ⁽⁶⁾population. Hopkins had helped establish toothbrushing as a daily activity.

So what, exactly, did Hopkins do? Hopkins doesn't spend any of his autobiography discussing the ingredients in Pepsodent, but the recipe listed on the toothpaste's patent application and company records reveals something (X): Unlike other pastes of the period, Pepsodent contained citric acid, as

well as doses of mint oil and other chemicals. Pepsodent's inventor used those ingredients to make the toothpaste taste (Y), but they had another, unanticipated effect as well. They created a cool, tingling sensation on the tongue and gums.

After Pepsodent started dominating the marketplace, researchers at competing companies scrambled to figure out why. What they found was that customers said that if they forgot to use Pepsodent, they realized their mistake because they missed that cool, tingling sensation in their mouths. They expected that slight irritation. If it wasn't there, their mouths didn't feel clean.

Claude Hopkins wasn't selling (Z) teeth. He was selling a sensation. Once people craved that cool tingling — once they equated it with cleanliness — brushing became a habit.

When other companies discovered what Hopkins was really selling, they started imitating him. Within a few decades, almost every toothpaste contained oils and chemicals that caused gums to tingle. Soon, Pepsodent started getting outsold. Even today, almost all toothpastes contain additives with the sole job of making your mouth tingle after you brush.

"Consumers need some kind of signal that a product is working." Tracy Sinclair, who was a brand manager for Oral-B and Crest Kids Toothpaste, says: "We can make toothpaste taste like anything — blueberries, green tea — and as long as it has a cool tingle, people feel like their mouth is clean. The tingling doesn't make the toothpaste work any better. It just convinces people it's doing the job."

Companies have already used similar tactics in hundreds of other products. Sinclair says: "Shampoo doesn't have to foam, but we add foaming chemicals because people expect it each time they wash their hair. Same thing with laundry soap. And toothpaste — now every company adds sodium laureth sulfate to make toothpaste foam more. There's no cleaning benefit, but people feel better when there's a bunch of suds around their mouth. Once the

(B)

customer starts expecting that unique feeling, the habit starts growing.

〈注〉 frothy 泡立った hygiene 衛生 citric acid クエン酸

sodium laureth sulfate ラウレス硫酸ナトリウム suds 泡

設問A

- 1) []内を適切な順序に並べる場合、最後から2番目はどれか。
 1. an amazing product
 2. that
 3. would be
- 2) historians が outraged になったのはなぜか。
 1. 許可を取らずに Cleopatra を宣伝に使ったから。
 2. 歴史上の事実を金もうけに利用したから。
 3. 歴史にない事実をねつ造したから。
- 3) 括弧内に入るべき最も適切なものはどれか。
 1. choice
 2. secret
 3. way
- 4) “them” が指しているのは次のうちどれか。
 1. liquids
 2. salesmen
 3. tooth powders and liquids
- 5) 下線部の内容にあたるのは次のどの文か。
 1. continue advertising
 2. continue purchasing
 3. continue using
- 6) 下線部の意味として最も適切なものはどれか。
 1. おごそかな行為
 2. 宗教的な行為
 3. 日常的な行為

- 7) 空欄 (X, Y, Z) に入るべき語の最も適切な組み合わせはどれか。
1. beautiful, interesting, fresh
 2. fresh, beautiful, interesting
 3. interesting, fresh, beautiful
- 8) 下線部の内容として適切なものはどれか。
1. cleanliness
 2. sensation
 3. usefulness
- 9) Hopkins の販売促進法は、現在どうなっているか。
1. 今はさらに拡大し、幅広く応用されている。
 2. 過去のものであり、今ではあまり利用されていない。
 3. Hopkins と同じ商品に同じ方法で利用されている。
- 10) 消費者の購買行動を決める要因として、本文が強調しているのはどれか。
1. イメージ
 2. 価格
 3. 性能

設問B

下線部(B)を和訳しなさい。(解答用紙(その2)を使用すること)

問題 2 次の日本語を英訳しなさい。(解答用紙(その2)を使用すること)

アメリカでは銃を使った犯罪があとを絶たず、毎年、何千人もの死傷者が出ている。

問題 3 注を参考にして、次の英文を読み、設問に答えなさい。

In the last half-century, the prevalence of autoimmune disease in which the immune system attacks healthy tissue in the body has increased sharply in the developed world. An estimated one in 13 Americans has one of these often disabling, generally lifelong conditions. Many, like Type 1 diabetes, are linked with specific gene variants of the immune system, suggesting a strong genetic component. But their prevalence has increased much faster, in two or three generations, than the human gene pool has changed.

Many researchers are interested in how the community of human microbes may have contributed to the rise of such disorders. Perhaps society-wide shifts in these microbial communities, driven by changes in what we eat and in the quantity and type of microbes we're exposed to in our daily lives, have increased our vulnerability.

To test this possibility, some years ago, a team of scientists began following 33 newborns who were genetically at risk of developing Type 1 diabetes, a condition in which the immune system destroys the insulin-producing cells of the pancreas.

The children were mostly Finnish. Finland has the highest prevalence — nearly one in 200 under the age of 15 — of Type 1 diabetes in the world. After three years, four of the children developed the condition. The scientists had periodically sampled the children's microbes, and when they looked back at this record, they discovered that the microbes of children who developed the disease changed in predictable ways nearly a year before the disease appeared. Diversity declined and hostile microbes bloomed.

The study, published last year, was small. But for Ramnik Xavier, an author on the study, the findings suggested for the first time that intervention might be possible. Maybe doctors could catch and correct the microbial disorder in time to slow or even prevent its emergence.

The question was how. The scientists turned to Russia for an answer. People living just over the border in Russian Karelia, as the region is known, have the same prevalence of genes linked to autoimmune disease. They also live at the same latitude and in the same climate. And yet they have a much stronger resistance to autoimmune disease. Type 1 diabetes, for example, occurs about one-sixth as often in Russian Karelia as in Finland. Allergic diseases are also far less common.

So in a follow-up study, Dr. Xavier and his colleagues followed 222 children who were genetically at risk of developing autoimmune diabetes. The newborns were equally divided among Finland, Russia and Estonia, where the prevalence of Type 1 diabetes is on the rise, but still well below Finland's.

Autoimmune diabetes can be predicted by the appearance of certain antibodies in the bloodstream that attack one's own tissues. After three years, 16 Finnish children and 14 Estonian children had these antibodies; only four Russian children did. And when the scientists compared the children's microbes in the three countries, they found stark differences. A group of microbes called bacteroides dominated in Finnish and Estonian infants. But in Russia, microbes called bifidobacteria and *E. coli* were prevalent.

The scientists focused on a microbial byproduct called endotoxin, which usually spurs white blood cells into action. Both communities of microbes produced endotoxin, but not, it turned out, of equal strength. Endotoxin from Russian microbes strongly stimulated human immune cells. And when given to diabetes-prone mice early in life, it lowered their chances of developing the condition. But the Finnish endotoxin was comparatively inactive. White blood cells didn't register its presence, and it failed to protect mice from developing autoimmune diabetes.

These findings are very early, but they support a decades-old idea called the hygiene hypothesis. In order to develop properly, the immune system needs a certain type of stimulation early in life. It needs an education.

The Russian kids evidently received this education by means of their distinct microbes. The Finns and Estonians seemingly did not.

Why were the Russian microbes so different? The scientists aren't sure. They controlled for diet, so it probably wasn't food—although the Finns generally eat more packaged foods than the Russians. Differences in breast-feeding couldn't explain it either. If anything, Finnish mothers nursed longer than Russians.

But Mikael Knip, a professor at University of Helsinki and a senior author on the study, describes Russian Karelia as resembling Finland before World War II. It's relatively poor. Many families in the study drink untreated well water. Russian kids have more infections related with water pollution, suggesting more sharing not only of pathogens, but of microbes that may benefit health. And previous studies have found that Russian homes harbor a richer and more diverse community of microbes than Finnish ones.

The hygiene hypothesis is sometimes misinterpreted as being about personal cleanliness. But it describes a much more complicated relationship with the microbial world. Lifestyle seems to be the major determinant—the way you live does or doesn't guarantee exposure to a rich variety of microbes that favorably shapes the immune system.

It's worth noting that at 66.6 years, life expectancy in Russian Karelia is 13 years less than in Finland. Modern Nordic civilization does have its advantages.

But Dr. Knip's personal belief is that children growing up in Russian Karelia early on encounter microbes that are absent in Finland. The takeaway, in his view, is this: The human immune system most likely anticipates a set of microbes that more closely resembles Russia's because, for most of human evolution, the world was, microbiologically speaking, more like Russian Karelia than modern Finland. When we don't encounter the attendant stimulation early in life, the immune system can become unsteady. Thus, in

the past half-century, as Finland became a modern state, the incidence of autoimmune diabetes increased more than five times.

There may also be other, stranger interactions at work. Scientists think, for example, that certain infections can bring on autoimmune diseases like Type 1 diabetes, which has been linked to a common family of viruses called enteroviruses. And yet, the Russian kids probably encounter more enterovirus infections than the Finns, but develop Type 1 diabetes less often.

What gives? One possibility is that toughening the immune system early in life alters how we respond to hits later, making those viral infections less likely to provoke autoimmunity. Another is that the kind of microbes you have when the virus arrives determines how you respond. And yet another is that *when* you first encounter viral infections determines how dangerous they are. If they arrive when infants are protected by their mothers' antibodies, as they probably do in Russian Karelia, no problem. But if they arrive after that protection has decreased, they can push you toward autoimmunity.

The world today is very different from the one our immune system evolved to anticipate — not just in what we encounter, but in when we first encounter it. Preventing autoimmune disorders may require mirroring aspects of that “dirtier” world: safely bottling the kinds of microbes that protect the Russian kids, so we can give them to everyone and guide the “postmodern” immune system along a healthier path of development.

〈注〉 immune 免疫のある diabetes 糖尿病 gene 遺伝子
microbe 微生物 pancreas 膵(すい)臓 latitude 緯度
antibodies 抗体 hypothesis 仮説, 假定
pathogens<pathogen 病原菌 life expectancy 平均寿命

設問

- 11) Autoimmune diseases are generally caused by changes in what?
 1. climate patterns
 2. food supplies
 3. human genetics
 4. mental attitudes
- 12) Human microbes may have caused a rise in autoimmune disorders due to changes in what?
 1. food consumption
 2. global warming
 3. political relations
 4. the job market
- 13) Children from which European country were found most likely to develop an autoimmune disorder?
 1. Denmark
 2. Estonia
 3. Finland
 4. Russia
- 14) The word "small" in the first sentence of paragraph 5 refers to what?
 1. the number of cells tested
 2. the number of people tested
 3. the size of cells tested
 4. the size of people tested
- 15) The word "how" in the first sentence of paragraph 6 refers to what about diabetes?
 1. how to copy it
 2. how to prevent it
 3. how to reset it
 4. how to strengthen it

- 16) Autoimmune diabetes may be detected early on by looking at the amount of white what?
1. blood cells
 2. collar workers
 3. rice fields
 4. snow cones
- 17) The word "education" in the last sentence of paragraph 10 refers to the need to educate what?
1. children living in Russia
 2. human immune systems
 3. people with allergic diseases
 4. scientists who study biology
- 18) What best explains the difference between the immune systems of children in Russian Karelia and children in Finland?
1. the amount of personal hygiene
 2. the cleanliness of drinking water
 3. the length of time babies are nursed
 4. the type and amount of food eaten
- 19) Scientists think people who experience viral infection early in life will contract a disorder like diabetes later in life how often?
1. almost always
 2. almost never
 3. less often
 4. more often
- 20) Which of the following is the important factor regarding our body's reaction to a viral infection?
1. how you first contract the virus
 2. when you first contract the virus
 3. where you first contract the virus
 4. who you contract the virus from

問題 4 空所に入れるべき最も適切な語を選びなさい。(同じ語を二回以上用いてはいけません)

- 21) As a (), you should put on a heavy coat before going out in cold weather.
- 22) When the car slid off of the road, it fell into the ().
- 23) The gardener used her () to make a hole for the seed.
- 24) The () of the ancient Egyptians can be seen in their monuments.
- 25) The physics textbook gave the student new () about gravity.
- 26) The mother had () about her child's future.
- 27) A good () for a headache is an aspirin and a glass of water.
- 28) She received a lot of () after her performance in the film.
- 29) The floor around the garbage can was covered with all kinds of ().
- 30) After three months of (), the vegetation and trees started dying.

- | | | | |
|-------------|---------------|--------------|-----------|
| 1. ditch | 2. drought | 3. insight | 4. legacy |
| 5. optimism | 6. precaution | 7. publicity | 8. remedy |
| 9. rubbish | 0. spade | | |

問題 5 次の英文を読み、最も適切なものに下線部を書き換えなさい。

Recent discussions about the plight⁽³¹⁾ of African Americans — especially those at the bottom of the social ladder — tend to divide into two camp⁽³²⁾. On the one hand, there are those who highlight⁽³³⁾ the structural constraints on the life chances of black people. Their viewpoint involves a subtle⁽³⁴⁾ historical and sociological analysis of slavery, racial, job and housing⁽³⁵⁾ discrimination, false employment rates, inadequate health care, and poor education. On the other hand, there are those who stress the behavioral impediments⁽³⁶⁾ on black upward mobility. They focus on the waning⁽³⁷⁾ of the Protestant ethic — hard work, deferred gratification, frugality, and responsibility — in much of black America.

Those in the first camp — the liberal structuralists — call for full employment, health, education, and childcare programs, and broad affirmative action practices. In short, a new, more sober⁽³⁸⁾ version of the best of the New Deal and the Great Society: more government money, better bureaucrats, and an active citizenry. Those in the second camp — the conservative behaviorists — promote self-help programs, black business expansion, and non-preferential job practices. They support vigorous “free market” strategies that depend on fundamental⁽³⁹⁾ changes in how black people act and live. To put it bluntly⁽⁴⁰⁾, their projects rest largely upon a cultural revival of the Protestant ethic in black America.

31) 1. difficulty

2. fortune

3. lifestyle

32) 1. containers

2. facilities

3. groups

- 33) 1. bring up to
2. call attention to
3. put up with
- 34) 1. criminal
2. delicate
3. tragic
- 35) 1. developmental
2. occupational
3. residential
- 36) 1. barriers
2. carriers
3. worriers
- 37) 1. declining
2. rising
3. stabilizing
- 38) 1. colorful
2. earnest
3. unsound
- 39) 1. elementary
2. indirect
3. moderate
- 40) 1. awkwardly
2. frankly
3. reluctantly

問題 6 注を参考にして、空所に入れるべき最も適した文を選びなさい。(同じ文を二回以上用いてはいけません)

I passed all other courses that I took at my university, but I could never pass botany. This was because all botany students had to spend several hours a week in a laboratory looking through a microscope at plant cells, and I could never see through a microscope. (41). This used to enrage my instructor. He would wander around the laboratory pleased with the progress all the students were making in drawing the involved and, so I am told, interesting structure of flower cells, until he came to me. I would just be standing there. "(42)," I would say. He would begin patiently enough, explaining how anybody can see through a microscope, but he would always end up in a fury, claiming that I could *too* see through a microscope but just pretended that I couldn't. "(43)," I used to tell him. "We are not concerned with beauty in this course," he would say. "We are concerned solely with what I may call the *mechanics* of flowers." "Well," I'd say, "I can't see anything." "(44)," he'd say, and I would put my eye to the microscope and see nothing at all, except now and again a nebulous milky substance — a phenomenon of maladjustment. You were supposed to see a vivid, restless clockwork of sharply defined plant cells. "(45)," I would tell him. This, he claimed, was the result of my not having adjusted the microscope properly, so he would readjust it for me, or rather, for himself. And I would look again and see milk.

I finally took a postponed pass and waited a year and tried again (you had to pass one of the biological sciences or you couldn't graduate). The professor had come back from vacation brown as a berry, bright eyed, and eager to explain cell-structure again to his classes. "Well," he said to me, cheerily, when we met in the first laboratory hour of the semester, "we're going to see cells this time, aren't we?" "(46)," I said. Students to the right and left of me and in front of me were seeing cells; what's more, they were quietly drawing

pictures of them in their notebooks. Of course, I didn't see anything.

"We'll try it," the professor said to me grimly, "with every adjustment of the microscope known to man. As God is my witness, I'll arrange this glass so that you see cells through it or I'll give up teaching. (47)" He cut off abruptly for he was beginning to quiver all over and he genuinely wished to hold onto his temper; his scenes with me had taken a great deal out of him.

So we tried it with every adjustment of the microscope known to man. With only one of them did I see anything but blackness or the familiar milky transparency, and that time I saw, to my pleasure and amazement, a mixed group of flecks, specks, and dots. These I hastily drew. The instructor, noting my activity, came back from an adjoining desk, a smile on his lips and his eyebrows high in hope. He looked at my cell drawing. "(48)" he demanded, with a slight high pitch in his voice. "That's what I saw," I said. "(49)" he screamed, losing control of his temper instantly, and he bent over and looked into the microscope. His head snapped up. "That's your eye!" he shouted. "(50) You've drawn your eye!"

〈注〉 botany 植物学 nebulous 星雲 (状) の

1. Yes, sir
2. I can't see anything
3. What's that?
4. In twenty-two years of botany, I . . .
5. I see what looks like a lot of milk
6. Try it just once again
7. You didn't, you didn't, you *didn't!*
8. I never once saw a cell through a microscope
9. You've fixed the lens so that it reflects!
0. It takes away from the beauty of flowers anyway

問題 7 注を参考にして、空所に入れるべき最も適切な語を選びなさい。(同じ語を
二回以上用いてはいけません)

Last summer Colin Benton died after receiving a kidney transplant at a private London hospital. Several months later, however, his case made headlines throughout Britain when his widow (51) that her husband's kidney transplant had come from a Turkish citizen who was paid \$3,300 to fly to Britain and donate the organ. The donor said that he had decided to sell his kidney to pay for medical treatment for his daughter. Concern in Britain over issues raised in the case (52) in a law passed on July 28, 1989 in Parliament banning the sale of human organs for transplant.

The same concerns and those over loopholes in the transplant laws in some other nations (53) the World Health Organization to condemn the practice recently. In a resolution in May, the organization (54) member nations to take appropriate measures, including legislation, to prohibit trafficking in human organs.

But as Britain was moving to make the sale of human organs unlawful, as it is in the United States, ethicists and policy analysts in the United States were beginning to suggest that paying donors, or their estates, may be an effective way to increase the supply of organs available for transplant.

The idea of organs for sale "is creeping into health care discussions," Joel L. Swerdlow (55) in a recent report for the Annenberg Washington Program, a public policy research group (56) with Northwestern University in Evanston, Illinois. "The 'gift relationship' may be inadequate as a motivator and an anachronism in medicine today," he wrote. If paying seems wrong, it may nevertheless be preferable to accepting the suffering and death of patients who cannot otherwise obtain a transplant.

Doctors, lawyers and health authorities say the sale of organs by impoverished donors is a growing phenomenon. Because it is possible to live

with just one kidney and because demand for the organs is so high, kidneys are among the most popular organs for commercial transactions. People have (57) their own blood for years.

The new British law makes it a criminal offense to give or receive money for supplying organs of either a living or dead person. It also prohibits acting as a broker in such an arrangement, advertising for organs for payment or transplanting an organ from a live donor not closely (58) to the recipient.

A new computerized nationwide registry, which records all transplants from donors, will be (59) to help enforce the law. Punishment for breaking the law is either a \$3,300 fine or three months in prison. Doctors (60) under the law could lose their right to practice medicine.

〈注〉 loopholes<loophole 抜け穴 anachronism アナクロニズム (時代錯誤)

- | | | | |
|---------------|--------------|--------------|------------|
| 1. affiliated | 2. used | 3. resulted | 4. related |
| 5. led | 6. convicted | 7. confessed | 8. asked |
| 9. disclosed | 0. sold | | |