

第1問 次の英文の [1] ~ [10] に入れるのに最も適当なものを、下の①~⑩から1つずつ選べ。

In 1838, Matthias Schleiden, a botanist, and Theodor Schwann, a physiologist, [1] working in Germany, had claimed that all living organisms were built out of [2] building blocks called cells. Borrowing and extending this [3], Virchow set out to create a "cellular theory" of human biology, basing it on two fundamental tenets. First, that human bodies (like the bodies of all animals and plants) were made up of cells. Second, that cells only arose from other cells — *omnis cellula e cellula*, as he [4] it.

The two tenets might have seemed simplistic, but they [5] Virchow to propose a crucially important hypothesis about the nature of human growth. If cells only arose from other cells, then growth could occur in only two ways: [6] by increasing cell numbers or by increasing cell size. Virchow called these two modes hyperplasia and hypertrophy. In hypertrophy, the *number* of cells did not change: [7], each individual cell merely grew in size—like a balloon being blown up. *Hyperplasia*, in contrast, was growth [8] virtue of cells increasing in *number*. Every growing human tissue could be described in [9] of hypertrophy and hyperplasia. In adult animals, fat and muscle usually grow by hypertrophy. In contrast, the liver, blood, the gut, and the skin all grow through hyperplasia—cells becoming cells becoming more cells, *omnis cellula e cellula e cellula*.

That explanation was persuasive, and it provoked a new understanding not just of [10] growth, but of pathological growth as well.

(出典 Siddhartha Mukherjee. *The Emperor of All Maladies*. Scribner, 2010.)

(注) Virchow, フィルヒョウ (人名): tenet, 原則: tissue, 組織:
pathological, 病的な

- | | | | | |
|-----------|-----------|----------|----------|---------------|
| ① allowed | ② both | ③ by | ④ either | ⑤ fundamental |
| ⑥ idea | ⑦ instead | ⑧ normal | ⑨ put | ⑩ terms |

第2問 次に与えられた語について、1~3 (~) は下線部の発音と同じ発音を含むものを、4~6 (~) は第1アクセント(第1強勢)の位置が同じものを、それぞれ下の①~④から1つずつ選べ。

1. change

- ① gain ② care ③ health ④ fear

2. ough

- ① proud ② bought ③ allow ④ flood

3. though

- ① path ② breathe ③ throat ④ thick

4. mes·sage

- ① ac·cept ② po·lice ③ re·cent ④ ad·vice

5. au·to·mat·ic

- ① ex·per·i·ment ② trans·por·ta·tion
③ i·den·ti·ty ④ com·fort·a·ble

6. per·mis·sion

- ① con·tin·ue ② cir·cum·stance
③ in·di·cate ④ vol·un·teer

第5問 次の1～3の文において、それぞれ下の①～⑦の語句を並べかえて空所を補い、最も適当な英文を完成させよ。ただし、文頭にくるべき語も小文字で始められている。解答は ～ に入れるものの番号のみを答えよ。

1. I said in class.

- ① impossible ② everything ③ write down ④ it
⑤ the teacher ⑥ to ⑦ found

2. In America the percentage of young people in 1976. In other words, young Americans are not getting more education than their parents.

- ① a degree today ② have ③ it was ④ as
⑤ who ⑥ about the same ⑦ is

3. *The Tale of Genji* was written in an ancient court language.

translated into modern Japanese by Akiko Yosano.

- ① was ② that ③ the early 20th century
④ it ⑤ the novel ⑥ wasn't ⑦ until

第6問 次の英文を読み、下の問い（問1・問2）に答えよ。

Vaccination's immediate benefit is individual immunity. It provides long-term, sometimes lifelong protection against a disease. The vaccines recommended in the early childhood immunization schedule protect children from measles, chicken pox, pneumococcal disease, and other illnesses. As children grow older, additional vaccines protect them from diseases that affect adolescents and adults, as well as for diseases they may encounter during travel to other regions. Travelers to certain parts of South America and Africa, for example, are required to receive the yellow fever vaccine, as the disease is still prevalent there.

The secondary benefit of vaccination, however, is herd immunity, also known as community immunity. Herd immunity refers to the protection offered to everyone in a community by high vaccination rates. (1)With enough people immunized against a given disease, it's difficult for the disease to gain a foothold in the community. This offers some protection to those who are unable to receive vaccinations—including newborns and individuals with chronic illnesses—by reducing the likelihood of an outbreak that could expose (2)them to the disease. It also protects vaccinated individuals who may not have been fully immunized against a disease (no vaccine is 100% effective).

When community vaccination rates drop below the threshold of herd immunity, widespread disease outbreaks can occur. The threshold of herd immunity for polio, for example, is estimated to be between 80% and 86%; if the vaccination rate drops significantly below this level, the level of community protection may not be enough to prevent the disease from spreading—primarily to those who have no prior immunity because they haven't been vaccinated (due to chronic illnesses or vaccine refusal) or because they were vaccinated, but it was not effective.

This is precisely what happened in England when MMR (measles, mumps, and rubella) vaccination rates dropped. Measles is extremely infectious; therefore, it has a (A) herd immunity threshold than most other diseases. In the late 1990s, MMR vaccination rates began to drop from more than 90% to 80% or lower—well below the level required for herd

immunity against measles. In response, the number of cases began to rise: while only 56 cases were confirmed in Wales and England in 1998, 1,348 were confirmed by 2008. (3)A disease whose spread in the country had been halted more than a decade prior was once again endemic.

Vaccination does more than just protect (B); it protects (C). Sufficient vaccination levels can provide protection against disease for members of the community who would otherwise be left vulnerable.

(出典 *The History of Vaccines*. Retrieved from<<http://www.historyofvaccines.org/content/articles/why-vaccinate>>Accessed 20 Jun. 2016.)

(注) vaccination, ワクチン接種: measles, はしか: chicken pox, 水ぼうそう: pneumococcal, 肺炎球菌の: yellow fever, 黄熱病: foothold, 足がかり: chronic, 慢性の: outbreak, 集団発生: threshold, 閾値 (限界値): polio, ポリオ、小児まひ: mumps, おたふくかぜ: rubella, 風疹: endemic, 風土病の

Windom

問2 本文の内容に合うように、次の1～3の文の ～ に入れるのに最も適当なものを、それぞれ下の①～④から1つずつ選べ。

1. The primary benefit of vaccination is that .

- ① it protects infants from adults who have some diseases
- ② it protects adolescents and adults from diseases
- ③ it prevents travelers from getting sick in foreign countries
- ④ it protects people who are vaccinated from certain diseases

2. The secondary benefit of vaccination is that .

- ① everyone in a community is offered to receive vaccines
- ② people get additional vaccines when they get older
- ③ it protects everyone in a community under certain conditions
- ④ it is provided for everyone even though the cost is high

3. In order to prevent polio from spreading, .

- ① vaccine which is 100% effective should be developed
- ② the age at which people can receive polio vaccination should be lowered
- ③ we should make sure there is enough vaccine to go around
- ④ more than 80% of the people in a community should be vaccinated