

I 次の(ア)～(ク)の空欄に入るもっとも適当な語句を、それぞれ①～④のうちから一つずつ選びなさい。

(ア) The average number of children born alive to a woman in her lifetime is called the () rate.

- ① infant ② maternal ③ fertility ④ mortality

(イ) In order to survive and produce young, most animals depend on their relationship with other members of their own ().

- ① species ② characters ③ countries ④ targets

(ウ) Because of the increases in road traffic and the cost of gasoline in the last few years, people have () the advantages of bicycles as a means of transport.

- ① reduced ② rejected ③ renounced ④ rediscovered

(エ) The expanding human population is () more and more on previously remote areas such as rainforests.

- ① infecting ② intruding ③ inhabiting ④ outbreaking

(オ) Masao was afraid that being president of the *shogi* club would take too much of his time. But in total, his duties only () about an hour of work each week.

- ① added to ② adjusted to ③ amounted to ④ agreed on

(カ) If you encounter a problem within the 30-day trial period, we will exchange your Home Gym XXX for ().

- ① another ② other ③ others ④ otherwise

(キ) The management took () measures to ensure that the fragile goods were treated with care.

- ① sense ② senses ③ sensory ④ sensible

(ク) Refusing to hire someone on the basis of gender, race or religion is not () in any government workplace.

- ① allow ② allows ③ allowing ④ allowed

(ケ) The increase in employment figures is considered a () promising sign for the country's economy.

- ① high ② highly ③ higher ④ highest

(コ) The pilot on flight JAL 320 decided to delay () off until the local weather conditions improved.

- ① took ② taken ③ taking ④ to take

(サ) The merger left both companies () that they had solved the conflict.

- ① convince ② convinced ③ convincing ④ conviction

(シ) This morning's clinical meeting was canceled, () a maintenance problem was found in the conference room.

- ① as ② due to ③ however ④ though

(ス) Dr. Carter is a world-renowned surgeon about () we found a lot of information on the Internet.

- ① which ② that ③ what ④ whom

(セ) () the doctor told me the whole story, I would not have become his patient in this hospital.

- ① Had ② Maybe ③ Were ④ If

(ソ) () to split into two teams, the doctors were able to complete the emergency work much faster.

- ① Instruct ② Instructs ③ Instructed ④ Instructing

II 次の(ア)~(オ)はAとB二人の対話である。空欄に入れるのにもっとも適当な文または語句を、それぞれ①~④のうちから一つずつ選びなさい。

(ア) A: Be careful if you go swimming here.

B: Why? Is the water deep?

A: Not really. But the rocks on the bottom are so sharp that many people ().

- ① have come to be hurt while swimming
- ② got hurt themselves by walking on them
- ③ swam over them without getting hurt
- ④ hurt themselves while wading in the water

(イ) A: Mary seems to have a lot on her mind recently.

B: Indeed. She said that () if she can afford it.

- ① she will study abroad
- ② study abroad will happen
- ③ being able to study abroad
- ④ she studies abroad

(ウ) A: I lost the key to my suitcase.

B: Oh, no. What are you going to do?

A: I tried to open it, but ().

B: Maybe if you contact the company that makes it, they could help you out.

- ① it was broke
- ② made no effort
- ③ it was impossible
- ④ cracked it open

(エ) A: This is where you will stay while you are here with us.

B: Wow! Everything looks brand new.

A: To tell the truth, this room ().

- ① has been empty forever
- ② has never been used before
- ③ wasn't one of our best
- ④ is going to be renovated next month

(才) A: I'm getting thirsty. Why don't we go in here for a drink?

B: That sounds great. () right about now.

A: Me too. I might even get a little something to go with it.

- ① I'll drink some coffee
- ② I'm not ready for a drink
- ③ I'd like to have some tea
- ④ I've had enough to drink

Ⅲ 次の(ア)～(コ)の各英文は、下線部①～④のうちどれかを直せば正しい英文になる。その箇所を選びなさい。

(ア) I was born in Hirosaki which is famous for its castle and cherry blossoms.
① ② ③ ④

(イ) I don't know the ex-prime minister Eisaku Sato personally, but I know him.
① ② ③ ④

(ウ) I remember having read something recently which would fit in beautiful with what you are now preparing for.
① ② ③ ④

(エ) It is often said that the ease or difficulty of learning other language can depend on your mother tongue.
① ② ③ ④

(オ) Even so you may feel shy using your second language, it is sometimes considered rude to say nothing.
① ② ③ ④

(カ) In the U.K., when a bus reaches standing capacities, the destination sign will read "Sorry, Bus Full."
① ② ③ ④

(キ) It is with facts like these that the psychologist are primarily concerned.
① ② ③ ④

(ク) He was perfect puzzled about the message to the point of embarrassment.
① ② ③ ④

(ケ) They say that it is the use to which it is put what makes it beneficial or dangerous.
① ② ③ ④

(コ) Kyorin University has many an unique courses and practical training opportunities under the slogan of "Moving global, Staying local."
① ② ③ ④

IV 次の2つの文章を読み、それぞれに続く設問に答えなさい。*が付いている語には注がある。

(英文1)

Everybody and every body has a story. Your body in fact has several stories. One is the story of your life, your biography: who your parents are and how they met, where you grew up, and how your body was molded by life's vicissitudes*. The other story is evolutionary: the long chain of events that transformed your ancestors' bodies from one generation to the next over millions of years, and which made your body different from that of a *Homo erectus*, a fish, and a fruit fly. Both stories are worth knowing, and they share certain common elements: characters (including putative heroes and villains*), settings, chance events, triumphs, and tribulations*. Both stories can also be approached using the scientific method by framing them as (ア) whose facts and assumptions can be questioned and rejected.

To appreciate this logic, consider the example of type 2 diabetes, an almost entirely preventable disease whose incidence is soaring throughout the world. This disease arises when cells throughout your body cease to respond to insulin, a hormone that shuttles sugar out of the bloodstream and stores it as fat. When the inability to respond to insulin sets in, the body starts acting like a broken heating system that fails to deliver heat from the furnace* to the rest of the house, causing the furnace to overheat while the house freezes. With diabetes, blood sugar levels keep rising, which in turn stimulates the pancreas* to produce even more insulin, but with futile results. After several years, the fatigued pancreas cannot produce enough insulin, and blood sugar levels stay persistently high. Too much blood sugar is toxic and causes horrid* health problems and eventually death. Fortunately, medical science has become adept at recognizing and treating the symptoms of diabetes early on, enabling millions of diabetics to survive for decades.

Why humans get type 2 diabetes does not lie solely in the cellular and genetic mechanisms that precipitate* the disease. More deeply, diabetes is a growing problem because human bodies, like those of captive primates, were adapted primarily for very different conditions that render us inadequately adapted to cope with modern diets and physical inactivity. Millions of years of evolution favored ancestors who craved energy-rich foods including simple carbohydrates like sugar that used to be rare, and who efficiently stored excess calories as fat. In addition, few if any of your distant ancestors had the opportunity to become diabetic by being physically inactive and by eating lots of soda and donuts. Apparently, our ancestors also did not experience strong

selection to adapt to the causes of other recent diseases and disabilities like hardening of the arteries*, osteoporosis*, and myopia*. The fundamental answer to why so many humans are now getting sick from previously rare illnesses is that many of the body's features were adaptive in the environments for which we evolved but have become maladaptive in the modern environments we have now created. This idea, known as the mismatch hypothesis, is the core of the new, emerging field of evolutionary medicine, which applies evolutionary biology to health and disease.

Evolution, in addition, isn't just about biological evolution. How genes and bodies change over time is incredibly important, but another momentous dynamic to grapple* with is *cultural evolution*, now the most powerful force of change on the planet and one that is radically transforming our bodies. Culture is essentially what people learn, and so cultures evolve. Yet a crucial difference between cultural and biological evolution is that culture doesn't change solely through chance but also through intention, and the source of this change can come from anyone, not just your parents. Culture can therefore evolve with breathtaking rapidity and degree. Human cultural evolution got its start millions of years ago, but it accelerated dramatically after modern humans first evolved around 200,000 years ago, and it has now reached dizzying speeds.
(ウ)

I would therefore argue that, when applied to humans, Dobzhansky's brilliant statement that "nothing in biology makes sense except in the light of evolution" applies not just to evolution by natural selection *but also to cultural evolution*. To go a step further, since cultural evolution is now the dominant force of evolutionary change acting on the human body, it follows that we can better understand why more people are getting chronic noninfectious mismatch diseases and how to prevent these illnesses by considering interactions between cultural evolution and our inherited, still-evolving bodies.

(The Story of the Human Body: Evolution, Health, and Disease by Daniel Lieberman. Reproduced with permission of Brockman, Inc.)

- * vicissitude 変化, 栄枯盛衰
- villain 悪役
- tribulation 苦難, 試練
- furnace 炉, かまど
- pancreas 膵臓
- horrid 恐ろしい
- precipitate 発生を早める, 突然引き起こす
- artery 動脈
- osteoporosis 骨粗鬆症
- myopia 近視
- grapple 成し遂げようと努力する, 取り組む

(ア) Fill in the blank (ア).

- ① stories ② parents ③ hypotheses ④ ancestors

(イ) Why does the writer use the metaphor of *the furnace*?

- ① To show the importance of increasing blood sugar levels.
- ② To recreate what happens when the body effectively produces insulin.
- ③ To examine how insulin affects the body's performance.
- ④ To explain the function of the pancreas to a non-scientific reader.

(ウ) In the context of the passage, what is the word closest in meaning to dizzying?

- ① shocking ② stagnating ③ terminating ④ ^(ウ) disrupting

(エ) According to the passage, which of the following is true?

- ① Scientific methodology objects that every body has evolved in the same way.
- ② Both biographical and evolutionary characteristics can be validated through scientific methodology.
- ③ The evolutionary hypothesis contests that humans have developed similar characteristics to other species in order to survive.
- ④ Biology but not evolution can be explained by scientific methodology.

(オ) According to the passage, what is the main reason why type 2 diabetes is on the rise?

- ① There has been an increase in the number of people genetically prone to diabetes.
- ② The increase in our daily activity in comparison to the level of that of our ancestors.
- ③ The need for our bodies to fight off recent diseases and disabilities at a higher pace.
- ④ The inability of our bodies to cope with our contemporary diet and lifestyle.

(カ) What can be inferred from the passage?

- ① Evolution occurs solely through chance and at an amazing pace of change.
- ② The study of cultural evolution is essential for future medical researchers.
- ③ Evolution far outreaches cultural evolution in scope and amount of change.
- ④ Cultural evolution has only occurred recently as lifestyles have become more modern.

(キ) According to the passage, which of the following is false?

- ① Type 2 diabetes illustrates what is meant by the mismatch hypothesis.
- ② We alter the state of our bodies through adapting ourselves culturally.
- ③ Finding cures for rare diseases that are now commonplace is impossible.
- ④ A modern-day diagnosis needs to consider changes occurring through cultural evolution.

(ク) According to the passage, what is the importance of Dobzhansky's statement?

- ① Biology examines our bodies' physical adaptation to light.
- ② To understand evolution, we need to recognize the role of culture.
- ③ The study of evolution is key to understanding biology.
- ④ Nothing is clear in the study of evolution without cultural appreciation.

(ケ) According to the passage, which of the following is true?

- ① The effect of cultural evolution is now stronger than that of biological evolution.
- ② Our bodies have ceased to evolve due to chronic mismatch diseases.
- ③ How to prevent illness requires merely understanding the medical symptoms.
- ④ Natural selection was an intentional way humans decided their future state of being.

(コ) Choose a suitable title for the passage:

- ① Two Stories, One Body
- ② Diagnosed Diseases
- ③ Why Evolution Matters
- ④ The Science of Disease

(英文2)

No doubt because of my own attempts to derive some use and meaning from my mental illness, I have been particularly interested in the uses to which adversity* is put in those who have chosen to be a part of the healing professions. Adversity teaches well, and its lessons are essential to those who heal, (サ) it is through the practice of medicine or psychology or creation in the arts. Because my entire professional life has been in academic medicine, and because apprenticeship* teaching is at the heart of clinical teaching, it has been to young doctors that I have spoken most often about the role of suffering in the making of a compassionate physician. I tell these doctors that medicine is an extraordinary and profoundly human profession. Even in this ridiculously litigious* and bureaucratic, mindlessly managed world of ours, medicine is an extraordinary and deeply human endeavor. It is also difficult. Doctors are asked to be scientists, humanists, and healers, and they are asked to do this (シ) of their own lives, temperaments, problems, blessings, and liabilities.

Doctors are asked to diagnose, to treat, to understand, and to heal. They are asked to know science, to know suffering, to know joy, and to understand and address the profundities* of psychological and physical experience, human biology, and personality. I talk to young doctors about the inevitable suffering that they themselves will experience, and the suffering they will be called upon to ameliorate* in the lives of their patients. I encourage them to read the works (ス) of writers who have transformed their suffering into (セ).

I do this for two reasons. First, I deeply believe that learning from the lives and works of others is one of the most powerful ways of learning. Second, I believe that doctors—like writers—need to draw upon the pain they see in the lives of others and in their own experiences. They (ソ) need to observe, understand, and then transform the experience of suffering into a more general understanding; this they can use to help their patients and, indeed themselves, deal with what has been dealt them. Sir William Osler, the first physician-in-chief at the Johns Hopkins Hospital, said that “Sorrows and griefs are companions, sure sooner or later to join us on our pilgrimage*.” This is indisputable. He, like so many physicians before and after him, turned to writers for ways to make sense of grief.

Learning through intense, extreme, and painful experiences, and using what has been learned to add meaning and depth to one's life and work, is a recurring theme in the work of great writers. John Keats, who trained to be a surgeon, wrote, “Do you not see how necessary a world of pains

and troubles is to school an intelligence and make it a soul, a place (夕) in a thousand diverse ways?" This is, of course, a variation on the ancient theme of suffering is learning, of insight as the product of trial and anguish. Doctors, like writers, can derive strength from their struggle to come to terms with pain and adversity, can derive from adversity some redemptive* value. Adversity alone does not guarantee good art, a good life, or a good physician. But if it is coupled with imagination, compassion, and discipline, the possibilities for creating sustaining art or a great healer are enhanced.

I have taught for more than twenty years at a great teaching hospital, Johns Hopkins; it has been a privilege. It has been my pleasure to watch good doctors become better ones after their apprenticeships in medicine and life. I revel* in the high energy and spirits that accompany clinical and intellectual pursuits, and I see far more idealism than cynicism among my colleagues. I respect my medical and scientific colleagues for their willingness and ability to treat difficult diseases, and for their attempts to understand the underlying genetic, neurobiological, and psychological causes of these diseases. I watch how seriously they take the art and science of medicine. I watch them work long and responsibility-laden* hours, fight mindless bureaucracy, and compete against dismayingly smart and energetic colleagues. Most of them feel they are part of a meaningful endeavor and realize their good fortune in their life's work.

Although my work has been that of traditional academic medicine—writing about the clinical features, natural course, and treatment of a particular disease—I have spent long periods of time on the borders of medicine as well. I have found immense satisfaction in this. I am glad I made the decision to become a doctor of philosophy—it has been an unfinished pursuit suited to my temperament—but I have loved the study of medicine in equal measure. I feel blessed in what I do. By choosing a road that took me away from medicine, I find I come back to it time and time again.

(On not Becoming a Doctor (From Becoming a Doctor: From Student to Specialist, Doctor-Writers Share Their Experiences) by Kay Redfield Jamison. Reproduced with permission of the author.)

- * adversity 逆境, 苦難, 不運
- apprenticeship 見習いの身分・期間, 実習の身分・期間
- litigious 訴訟好きな
- profundity 深さ, 深遠
- ameliorate 良くする, 改善する
- pilgrimage 巡礼の旅, 長い旅
- redemptive 贖罪の, 救いの
- revel 大いに楽しむ
- laden 荷を積んだ

(サ) Fill in the blank (サ).

- ① whether
- ② nevertheless
- ③ however
- ④ furthermore

(シ) Fill in the blank (シ).

- ① about understanding or treating illness
- ② according to the standards
- ③ with increasingly detailed observations
- ④ within the context and constraints

(ス) In the context of the passage, which of the following is closest in meaning to the underlined part called upon?

- ① visited
- ② requested
- ③ considered
- ④ phoned

(セ) Fill in the blank (セ).

- ① phrases that remind us of illness and sickness
- ② rich and luxurious lives
- ③ beautiful and gracious drawings
- ④ words that inform and heal

(ソ) In the context of the passage, which of the following is closest in meaning to the underlined part draw upon?

- (ソ)
- ① pass by slowly
 - ② approach
 - ③ make use of
 - ④ put on a piece of clothing

(タ) Fill in the blank (タ).

- ① which stands up on the remote hill
- ② which is best suited for education
- ③ where teachers and students interact
- ④ where the heart must feel and suffer

(チ) Which of the following is false about *the Johns Hopkins Hospital*?

- ① Good doctors become better ones after their apprenticeships there.
- ② The author's colleagues there are willing and able to treat difficult diseases.
- ③ Doctors there take the art and science of medicine very seriously.
- ④ Doctors work long hours for bureaucracy and dismaying colleagues.

(ツ) Which of the following does the author suggest to young doctors?

- ① Young doctors should suffer from mental illness like her.
- ② Young doctors should willingly experience adversity to become compassionate.
- ③ Young doctors should read the works of writers who have the experience of suffering.
- ④ Young doctors should become writers for ways to make sense of grief.

(テ) According to the passage, which of the following is true?

- ① Sir William Osler was a writer and founded the Johns Hopkins Hospital.
- ② John Keats pursued a career in medicine after becoming a famous writer.
- ③ The author is proud of working with her colleagues in the Johns Hopkins Hospital.
- ④ The author regrets that she couldn't become a medical doctor.

(ト) According to the passage, which of the following is false?

- ① Doctors need to be ridiculously litigious, bureaucratic, and mindless to manage their hospitals.
- ② Adversity and its lessons play an important role in the making of a compassionate physician.
- ③ Medicine is an extraordinary profession which is asked to be scientific, humane, and caring.
- ④ Doctors can derive strength from their struggle to come to terms with suffering and derive from suffering some healing value.