K 英 語 問 題

注 意

1. 試験開始の指示があるまでこの問題冊子を開いてはいけません。
2. 解答用紙はすべてＨＢの黒鉛筆またはＨＢの黒のシャープペンシルで記入すること になっています。ＨＢの黒鉛筆・消しゴムを忘れた人は監督に申し出てください。 (万年筆・ボールペン・サインペンなどを使用してはいけません。)
3. この問題冊子は**16ページ**までとなっています。試験開始後，ただちにページ数を確 認してください。なお，問題番号はⅠ～Ⅴとなっています。
4. 解答用紙にはすでに受験番号が記入されていますので，出席票の受験番号が，あな たの受験票の番号であるかどうかを確認し，出席票の氏名欄に**氏名**のみを記入して ください。なお，出席票は切り離さないでください。
5. 解答は解答用紙の指定された解答欄に記入し，その他の部分には何も書いてはいけ ません。
6. 解答用紙を折り曲げたり，破ったり，傷つけたりしないように注意してください。
7. この問題冊子は持ち帰ってください。

マーク・センス法についての注意

マーク・センス法とは，鉛筆でマークした部分を機械が直接よみとって採点 する方法です。

1. マークは，下記の記入例のようにＨＢの黒鉛筆で枠の中をぬり残さず 濃くぬりつぶしてください。
2. 1つのマーク欄には1つしかマークしてはいけません。
3. 訂正する場合は消しゴムでよく消し，消しくずはきれいに取り除いて ください。

マーク記入例： A 1 2 3 4 5 （3と解答する場合）

In a Cairo school basement, two dozen women analyze facial expressions on *laptops, training the computers to recognize anger, sadness and frustration. At Cambridge University, a strangely realistic robotic head named Charles sits in a driving simulator, moving its eyebrows, looking interested or confused. And in a handful of American middle school classrooms this fall, computers will monitor students' emotions in an effort to track when they are losing interest and when they are getting excited about lessons. All three are examples of an emerging approach to technology called affective computing, which aims to give computers the ability to read users' emotions, or "affect."

People are good at understanding one another's emotions. We realize quickly that now is not a good time to approach the boss or that a loved one is having a terrible day. Yet until recently, our machines could not identify even seemingly simple emotions, like anger or frustration. The GPS device beeps happily even when the driver is ready to throw it out the window. The online class keeps going even when half the students are lost in confusion. The airport security system can't tell whether someone is behaving as if he were concealing something or is just anxious about flying.

Technology that masters these skills could also help people who struggle to read the emotions of others or provide companionship and encouragement for nursing home residents. Without a grasp of emotions, some researchers argue, computers will never reach their full potential to support people.

"Our digital world for the most part lacks rich ways of expressing our emotions," said Dr. Rosalind Picard, director of the affective computing research group at the Massachusetts Institute of Technology (MIT) Media Lab. She has been working for more than two decades to translate emotions into 1's and 0's, the language of machines. One early project, with a collaborator, Dr. Rana el Kaliouby, was to design glasses for people who have difficulty reading facial expressions. Such people often focus on particular topics and find it hard to read the social signals, like yawning, fidgeting and looking away, that indicate the listener is bored. The design

of the glasses included a tiny traffic light, visible only to the wearer, that flashed yellow when the conversation was starting to drag and red when facial signals suggested the listener had completely stopped listening.

More recently, Dr. Picard and Dr. el Kaliouby have been developing software that maps 24 points on the face to guess an emotion. In the past, computers have had trouble distinguishing among genuine smiles and forced smiles that come with frustration, Dr. el Kaliouby said, because they are often fleeting and result in only very small changes to the face. To capture these subtleties, webcams needed to have high frame rates and resolutions not possible until recently. The software also requires thousands of examples of each facial expression, labeled by humans—hence the women in Cairo coding recorded expressions. "If we don't have enough examples, across cultures and age ranges, the machine won't be able to discriminate these subtle expressions," Dr. el Kaliouby said. Affective technology one day may help online education programs provide better learning experiences. Now, when a student makes a mistake, a program can't tell if it's because the student is bored or confused. A program that distinguishes this, Dr. el Kaliouby said, could offer more challenging problems to the bored students and simpler exercises to the struggling ones.

Dr. Picard and Dr. el Kaliouby are also working to develop something called Q Sensors, bands worn on the wrist that measure emotional arousal through the skin's electrical conductance and temperature, as well as activity level. For people who have trouble speaking or articulating their feelings, the sensors provide insights into emotional states that the users may not be able to articulate themselves. "With this technology, in the future we'll be able to understand things about our loved ones that we weren't able to see before, things that calm them, things that stress them," Dr. Picard said, adding that it will be true even for people without communication challenges.

The robotic head built at Cambridge University is part fun, part serious. It is the brainchild of Peter Robinson, a professor of computer technology at Cambridge who one day got annoyed that his GPS device kept leading him into traffic jams. What if he could design a robotic driving companion that could sense mood, he wondered, keeping drivers away from traffic jams if they were in a hurry or feeling

anxious?   Dr. Robinson is also working on a navigation system that will be able to shut down after recognizing that the driver is confused, distracted, sleepy or overly tense.   But the idea of emotionally aware devices makes many people feel uncomfortable.   "We want to have some control over how we display ourselves to others," said Nick Bostrom, director of the Future of Humanity Institute at the University of Oxford.   If computers were taught to read our emotions, "it's not obvious the world would be a better place."

Affective computing is well intentioned, but it raises questions about what society wants from technology.   Do we really want our Facebook accounts or online advertisements knowing how we're feeling today?   That's a project the researchers at MIT are considering.   How about robots that convince us they really care?

"There's something simplistic about the coming technology," said Irina Raicu, Internet ethics program manager at Santa Clara University in Northern California. "It reduces what may be a complex mix of emotions to maybe one."

And affective technology will always be limited by our own ability to interpret emotions, said Arvid Kappas, a professor of emotion research at Jacobs University Bremen in Germany.   People often misinterpret and misunderstand one another, and it's not clear the computers they program will perform much better, he said. "The relationship of what we show on our face and how we feel is a very loose one," Dr. Kappas said.

*laptops：ノートパソコン
**skin's electrical conductance：皮膚の電気伝導

1 ．The author gives three examples in the first paragraph in order to show that

　イ．computers have trouble understanding what humans want.

　ロ．the main purpose of computers is to help people.

　ハ．a new approach to computer technology is being developed.

　ニ．the use of computers is creating a global community.

2 . The main idea of paragraph 2 is that

　　イ． in the past there was not a strong need for affective computing.

　　ロ． computers have a wide variety of applications in everyday life.

　　ハ． it is better to rely on machines to judge emotions rather than people.

　　ニ． computers until recently have been unable to read users' emotions.

3 . The glasses designed by Dr. Picard and Dr. el Kaliouby worked by

　　イ． reading the facial cues of the person one is talking to.

　　ロ． sensing the feelings of the person wearing the glasses.

　　ハ． counting the words of the person one is talking to.

　　ニ． recording the conversation between speaker and listener.

4 . The underlined word "fleeting" (paragraph 5) is closest in meaning to

　　イ． active.

　　ロ． momentary.

　　ハ． profound.

　　ニ． sincere.

5 . Paragraph 5 suggests that the software developed by Dr. Picard and Dr. el Kaliouby

　　イ． has been around for a long time.

　　ロ． can make the Internet more interesting and useful.

　　ハ． can help identify people's emotions.

　　ニ． labels all emotions as either a "1" or a "0."

6 . Dr. el Kaliouby suggests that affective computing could help online education by making it possible to

　　イ． create study questions with better emotional content.

　　ロ． provide explanations that all students can understand.

　　ハ． adjust the content of learning to each student's ability.

　　ニ． offer emotional support as part of the learning experience.

7．The value of Q Sensors is that they allow wearers to

イ．control the emotions they feel during the day.

ロ．show their emotional state.

ハ．experience a wider range of emotion.

ニ．understand others who have trouble saying how they feel.

8．Among the people mentioned in this passage, the one who developed a form of affective computing after a frustrating personal experience was

イ．Rosalind Picard.

ロ．Rana el Kaliouby.

ハ．Peter Robinson.

ニ．Arvid Kappas.

9．The author would most likely agree that computers will

イ．someday be able to read emotions without relying on software.

ロ．always be limited by the ability of the people who program them.

ハ．someday be better than humans at interpreting emotions.

ニ．never understand cultural variation in emotional expression.

10．The most appropriate title for this passage is

イ．The Reliance on Computer Technology.

ロ．How Computers Influence Our Emotions.

ハ．The Emotional Life of Computers.

ニ．Computers That Sense Our Feelings.

"Tell me, why should we care?" he asks. It's a question I can expect whenever I do a lecture about the possible extinction of most of the world's 6,000 languages, a great many of which are spoken by small groups of *indigenous people. For some reason the question is almost always posed by a man seated in a row somewhere near the back.

Asked to elaborate, he says that if indigenous people want to give up their ancestral language to join the modern world, why should we consider it a tragedy? Languages have always died as time has passed. What's so special about a language?

The answer I'm supposed to give is that each language, in the way it applies words to things and in the way its grammar works, is a unique window on the world. In Russian there's no word just for blue; you have to specify whether you mean dark or light blue. In Chinese, you don't say next week and last week but the week below and the week above. If a language dies, a fascinating way of thinking dies along with it. I used to say something like that, but lately I have changed my answer.

Certainly, experiments do show that a language can have a fascinating effect on how its speakers think. Russian speakers are on average 124 milliseconds faster than English speakers at identifying when dark blue shades into light blue. A French person is a little more likely than an English speaker to imagine a table as having a high voice if it were a cartoon character, because the word is marked as feminine in his language.

This is cool stuff. But the question is whether such slight differences, perceptible only in a laboratory, qualify as worldviews—cultural standpoints or ways of thinking that we consider important. I think the answer is no.

Furthermore, inferring **cognitive implications from language differences is a delicate business. In Mandarin Chinese, for example, you can express, "If you had seen my sister, you'd have known she was pregnant" with the same sentence you would use to express the more basic, "If you see my sister, you know she's pregnant." One psychologist argued some decades ago that this meant that Chinese makes a

person less sensitive to such distinctions, which is close to saying Chinese people aren't as clever as the rest of us. Yet, a better understanding often comes from taking a simpler approach. The truth about Mandarin Chinese is more mundane—it depends on context to convey meaning.

If we can't consider this aspect of Mandarin a cognitive trait of being Chinese, then we can't, in fairness, associate the "cool" features of other languages with the worldviews of their speakers. Surely worldviews aren't only those ways of perceiving things that we consider admirable or charming.

But if a language is not a worldview, what do we tell the guy in the lecture hall? Should we care that in 100 years only about 600 of the current 6,000 languages may be still spoken? The answer is still yes, but for other reasons.

First, a central aspect of any culture's existence as a coherent entity is the fact of its having its own language, regardless of what the language happens to be like. Certainly, a culture can thrive without its own language. Yet because language is so central to being human, to have a language used only with certain other people is a powerful tool for connection and a sense of community. Few would deny, for example, that Jewish people living in the United States who still speak Yiddish in the home are closer and less at odds with questions about Jewish identity than Jewish people who speak only English.

Second, languages are scientifically interesting even if they don't index cultural traits. They offer variety equivalent to the diversity of the world's natural landscape. For example, whether or not it says anything about how its speakers think, the fact that there is a language in New Guinea that uses the same word for eat, drink and smoke is remarkable in itself. Another New Guinea language is Yeli Dnye, which not only has 90 sounds to English's 44, but also has 11 different ways to say "on" depending on whether something is horizontal, vertical, on a point, scattered, attached and more. And there is Berik, where you have to change the verb to indicate what time of day something happened. As with any other feature of the natural world, such variety tests and expands our sense of the possible, of what is "normal."

These are the arguments I have ready for the "Why should we care?" fellow these days. We should foster efforts to keep as many languages spoken as possible,

and to at least document what the rest of them are like.

Cultures, to be sure, show how we are different. Languages, however, are variations on a worldwide, cross-cultural perception of this thing called life. Surely, that is something to care about.

*indigenous people：先住民
**cognitive：認知の

1．In the first sentence of the passage, "he" refers to

    イ．a longtime friend of the author's.

    ロ．a lecturer on the world's languages.

    ハ．a representative of ethnic minority groups.

    ニ．a person attending the author's lecture.

2．The author's original argument for the need to preserve languages was that

    イ．each language is the expression of a particular worldview.

    ロ．indigenous groups should be allowed to join the modern world.

    ハ．language is what distinguishes human from nonhuman animals.

    ニ．if languages disappear, so will the indigenous groups that use them.

3．The underlined expression "the word" (paragraph 4) refers to

    イ．"cartoon character."

    ロ．"language."

    ハ．"table."

    ニ．"voice."

4．The underlined word "mundane" (paragraph 6) is closest in meaning to

    イ．absolute.

    ロ．doubtful.

    ハ．ordinary.

    ニ．surprising.

5. The author gives the example of Jewish people who speak Yiddish to show that

　イ. ethnic groups lacking their own language tend to grow stronger.

　ロ. it is possible to adapt to other cultures without losing one's identity.

　ハ. language use creates a sense of closeness among its speakers.

　ニ. each language is associated with its own communicative style.

6. The underlined word "index" (paragraph 10) is closest in meaning to

　イ. attract.

　ロ. decide.

　ハ. exclude.

　ニ. identify.

7. The passage mentions all the following ways in which languages can differ EXCEPT

　イ. how many basic sounds the language has.

　ロ. how changing the pronunciation of a word influences its meaning.

　ハ. how many words the language has to express a given meaning.

　ニ. how changing the form of a word influences its meaning.

8. The author's most recent argument for the need to preserve languages is that

　イ. language differences contribute to a sense of global identity.

　ロ. being able to speak many languages makes people smarter.

　ハ. language is the basis of cross-cultural understanding.

　ニ. variety in language gives us a broader sense of reality.

9. The author would most likely agree that

　イ. cultures are basically the same wherever you go.

　ロ. linguistic diversity is similar to diversity in nature.

　ハ. cultures cannot exist without their own language.

　ニ. there is little we can do to prevent languages from disappearing.

10. The most appropriate title for this passage is

イ. How Does Language Shape Reality?

ロ. Languages Around the World.

ハ. Why Save a Language?

ニ. The Window of Culture.

Ⅲ． 次の 1 ～ 7 それぞれの空所を補うのにもっとも適当なものを，各イ～ニから 1 つずつ選び，その記号を解答用紙の所定欄にマークせよ。

1．（　　　） animals will be accepted for transportation only when shipped in accordance with government regulations.

 イ．Alive   ロ．Live   ハ．Lived   ニ．Lively

2．A water pipe （　　　） broken for the last two weeks.

 イ．had been ロ．has been ハ．is   ニ．was

3．I don't mind （　　　） my son. I know he is an excellent swimming instructor.

 イ．for him coaching   ロ．he coach

 ハ．he coaching   ニ．him coaching

4．As the bad economy runs its course, many companies will have to reduce their development costs （　　　） improving productivity.

 イ．although ロ．as   ハ．because ニ．while

5．The belief （　　　） ignorance is the root of all prejudice has been called into question.

 イ．in that   ロ．in which ハ．that   ニ．which

6．Gender sensitivity is not about setting women against men.　（　　　）, it benefits members of both sexes.

 イ．By contrast   ロ．However

 ハ．On the contrary   ニ．On the other hand

7．（　　　） the endless supply of water, large herds of elephants have moved into the park.

 イ．Attracted by ロ．Attracting ハ．Attraction to ニ．Attractive to

Ⅳ. 次の空所（1）〜（6）を補うのにもっとも適当なものを，それぞれ対応する各イ〜ニから
1つずつ選び，その記号を解答用紙の所定欄にマークせよ。

A.

Tammy:　（　1　）if we go to dinner after the movie instead of before?

Jeff:　　　Not at all.　What do you feel like having?

Tammy:　Would it be okay to go to a vegetarian restaurant?

Jeff:　　　Why not?

Tammy:　I'm just a little worried that（　2　）

（1）　イ．What

　　　　ロ．Do you mind

　　　　ハ．How about

　　　　ニ．What happens

（2）　イ．we will have to eat meat.

　　　　ロ．you will be hungry before the movie.

　　　　ハ．I will have to eat so many vegetables.

　　　　ニ．there won't be anything on the menu for you.

B.

Clerk: (3)

Customer: I've had enough of my slow computer.   I'm looking to buy a new one.

Clerk: Well, this one is not only good for work, but also for playing games and watching movies.

Customer: (4)

Clerk: Shall I get one ready for you?

（3） イ．Are you available at the moment?

       ロ．What can I do for you today?

       ハ．Have you ever visited us before?

       ニ．Would you care to try this computer?

（4） イ．I'm looking forward to it.

       ロ．That sounds perfect.

       ハ．I can hardly believe my eyes.

       ニ．I'm too busy to play games.

C.

Tourist: (5) downtown?

Resident: Twenty minutes if you take the train.   It'll seem like forever if you drive.

Tourist: Thanks for the advice.

Resident: (6) the train, sit on the left side.   It has a better view.

Tourist: Thanks again.

（5） イ．When will it get to

       ロ．How often does it leave for

       ハ．How much does it cost to go to

       ニ．How long does it take to get to

（6）　イ．Speaking of

　　　ロ．Compared to

　　　ハ．By the way

　　　ニ．There's nothing better

Ⅴ. 次の空所（1）〜（5）それぞれにもっとも適当な1語を補い，英文を完成せよ。解答は解答用紙の所定欄にしるせ。

Of our five （ 1 ）, it is sight that gives us the most information. It is, for most people, more important than hearing, taste, smell, or touch. "Seeing is believing" is （ 2 ） a powerful idea that the majority of us accept it as true. However, in media studies things aren't so simple. As Richard L. Gregory points out in *Eye and Brain*, "we are so familiar （ 3 ） seeing, that it takes a leap of imagination to realize that there are problems to be solved.... From the patterns of stimulation on the *retinas we perceive the world of objects and this is nothing short of a miracle."

Gregory is concerned with the biological process of perceiving the world around us. Media studies, when analyzing images, concerns itself with the factors that influence （ 4 ） we look at images of our world. Images are created in order to communicate a message. Even simple holiday snapshots attempt to convey what it was like to be at a particular place at a specific （ 5 ）.

*retinas：網膜