# 英語

(英語 I・英語 I・リーディング・ライティング・ オーラルコミュニケーション I・オーラルコミュニケーション I

試験時間 120分

文学部, 教育学部, 法学部, 理学部, 医学部, 工学部

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Being bilingual, it turns out, can have a substantial effect on your brain, improving cognitive skills not related to language and even shielding against dementia in old age. This view of bilingualism is remarkably different from the understanding of bilingualism through much of the 20th century. Researchers, educators and policy makers long considered a second language to be an interference, cognitively speaking, that held back a child's academic and intellectual development.

They were not wrong about the interference: there is a considerable amount of evidence that in a bilingual's brain both language systems are active even when he is using only one language, thus creating situations in which one system obstructs the other. But this interference, researchers are finding out, isn't so much a handicap as a blessing in disguise. It forces the brain to resolve internal conflict, giving the mind a workout that strengthens its cognitive muscles.

Bilinguals, for instance, seem to be more proficient than monolinguals at solving certain kinds of mental puzzles. In a 2004 study by the psychologists Ellen Bialystok and Michelle Martin-Rhee, bilingual and monolingual preschoolers were asked to sort blue circles and red squares presented on a computer screen into two digital boxes—one marked with a blue square and the other marked with a red circle.

In the first task, the children had to sort the shapes by color, placing blue circles in the box marked with the blue square and red squares in the box marked with the red circle. Both groups did this with comparable ease. Next, the children were asked to sort by shape, which was more challenging because it required placing the images in a box marked with a conflicting color. The bilinguals were quicker at performing this task.

The collective evidence from a number of such studies suggests that the bilingual experience improves the brain's so-called executive function—a system that directs the attention processes that we use for planning, solving problems and performing various other mentally demanding tasks. These processes include ignoring distractions to stay focused, in other words, *inhibition*; switching attention willfully from one thing to another and holding information in mind—like remembering a sequence of directions while driving.

Why does the struggle between two simultaneously active language systems improve these aspects of cognition? Until recently, researchers thought the bilingual advantage stemmed primarily from an ability for inhibition that was strengthened by suppressing one language system, which would help train the bilingual mind to ignore unnecessary information in other contexts. But that explanation increasingly appears to be inadequate, since studies have shown that bilinguals perform better than monolinguals even at tasks that do not require

inhibition, like connecting an ascending series of numbers scattered randomly on a page.

The key difference between bilinguals and monolinguals may be more basic: a heightened ability to monitor the environment. "Bilinguals have to switch languages quite often—you may talk to your father in one language and to your mother in another language," says Albert Costa, a researcher at the University of Pompeu Fabra in Spain. "It requires keeping track of changes around you in the same way that we monitor our surroundings when driving." In a study comparing German-Italian bilinguals with Italian monolinguals on monitoring tasks, Mr. Costa and his colleagues found that the bilingual subjects not only performed better, but they also did so with less activity in parts of the brain involved in monitoring, indicating that they were more efficient at it.

In a 2009 study led by Agnes Kovacs of the International School for Advanced Studies in (5)

Trieste, Italy, seven-month-old babies exposed to two languages from birth were compared with others raised with one language. In an initial set of experiments, the infants were presented with a sound and then shown a doll on one side of a screen. Both infant groups learned to look at that side of the screen in anticipation of the doll. But in a later set of experiments, when the doll began appearing on the opposite side of the screen, the babies exposed to a bilingual environment quickly learned to switch their anticipatory gaze in the new direction while the other babies did not.

Bilingualism's effects also extend into the twilight years. In a recent study of 44 elderly Spanish-English bilinguals, scientists led by the neuropsychologist Tamar Gollan of the University of California, San Diego, found that individuals with a higher degree of bilingualism—measured by comparing skills in each language—were more resistant than others to the onset of dementia and other symptoms of Alzheimer's disease: the higher the degree of bilingualism, the later the appearance of symptoms.

注 cognitive:認識に関する dementia:認知症

- (問 1) 下線部(1)を日本語に直しなさい。
- (問 2) 下線部(2)の内容を日本語で述べなさい。
- (問3) 下線部(3)を日本語に直しなさい。
- (問 4) 下線部(4)の内容を日本語で述べなさい。
- (問 5) 下線部(5)の研究において2つのグループの子どもたちが示した行動の違いを日本語で述べなさい。
- (問 6) 下線部(6)の研究において明らかになったことを日本語で述べなさい。

I had rarely had reason to enter my father's room prior to this occasion and I was newly struck by the smallness and emptiness of it. Indeed, I recall my impression at the time was of having stepped into a prison cell, but then this might have had as much to do with the pale early light as with the size of the room or the bareness of its walls. For my father had opened his curtains and was sitting, shaved and in full uniform, on the edge of his bed from where evidently he had been watching the sky turn to dawn. At least one assumed he had been watching the sky, there being little else to view from his small window other than roof-tiles and guttering. The oil lamp beside his bed had been extinguished, and when I saw my father glance disapprovingly at the lamp I had brought to guide me up the rickety staircase, I quickly lowered the light. Having done this, I noticed all the more the effect of the pale light coming into the room and the way it lit up the edges of my father's rough, lined, still awesome features.

'Ah,' I said, and gave a short laugh, 'I might have known Father would be up and ready for the day.'

T've been up for the past three hours,' he said, looking me up and down rather coldly.

'I hope Father is not being kept awake by his aching knees.'

'I get all the sleep I need.'

My father reached forward to the only chair in the room, a small wooden one, and placing both hands on its back brought himself to his feet. When I saw him stood upright before me, I could not be sure to what extent he was hunched over due to infirmity and what extent due to the habit of adjusting to the steeply sloped ceilings of the room.

'I have come here to relate something to you, Father.'

'Then relate it briefly and concisely. I haven't all morning to listen to you chatter.'

'In that case, Father, I will come straight to the point.'

'Come to the point then and be done with it. Some of us have work to be getting on with.'

'Very well. Since you wish me to be brief, I will do my best to satisfy you. The fact is, Father has become increasingly infirm. So much so that even the duties of an under-butler are now beyond his capabilities. The master of the house is of the view, as indeed I am myself, that while Father is allowed to continue with his present round of duties, he represents an ever-present threat to the smooth running of this household, and in particular to next week's important international gathering.'

My father's face, in the half-light, revealed no emotion whatsoever.

'Principally,' I continued, 'it has been felt that Father should no longer be asked to wait at table, whether or not guests are present.'

'I have waited at table every day for the last fifty-four years,' my father remarked, his voice perfectly unhurried.

'Furthermore, it has been decided that Father should not carry heavy trays of any sort for even the shortest distances. In view of these limitations, and knowing Father's esteem for conciseness, I have listed here the revised round of duties he will from now on be expected to perform.'

I hesitated actually to hand to him the piece of paper I was holding, and so put it down on the end of his bed. My father glanced at it then returned his gaze to me. There was still no trace of emotion observable in his expression, and his hands on the back of the chair appeared perfectly relaxed. Hunched over or not, it was impossible not to be reminded of the sheer impact of his physical presence—the very same that had once reduced two drunken gentlemen to sobriety in the back of a car. Eventually, he said:

'I only fell that time because of those steps. They're uneven. Smith should be told to put those right before someone else does the same thing.'

'Indeed. In any case, may I be assured Father will study that sheet?'

'Smith should be told to put those steps right. Certainly before these gentlemen start arriving from Europe.'

'Indeed. Well, Father, I must go now.'

#### Notes

rickety: shaky; in poor condition

infirmity: weakness, especially from old age or illness

sobriety: the state of not being drunk

- 1. What time of the day does the scene take place?
- 2. What two things does the son bring into his father's room?
- 3. The "steeply sloped ceilings" may have caused the father to
  - (A) fall on the steps
  - (B) have a bent back
  - (C) sit in the chair
  - (D) stand upright

	4.	The f	ather works as a		The state of the state of the state of	
		(A)	carpenter	e de la companya de	and the second of the second o	200
	1 1	(B)	guard			
		(C)	priest			
		a (D)	servant	n gradina i na stepara nastrija. Postava	general and the second of the	
,				the specific of the second		
	5.	What	is the son's main purpose	for talking to his father?		
	6.	What	event is the father expect	ing to attend to in the ne	ear future?	
	7.	When	he first hears his son's p	roposal, the father	· Security of	
			accepts it reluctantly			
		(B)	glances at the lamp			
		(C)	is visibly upset			
		(D)	shows little emotion	and the first of the second		
	8.	What	does the father claim is the	he reason for his son's pr	oposal?	
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					en e	
				en e		

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There is quite a range in the number of hours we like to sleep. As Jim Horne writes in Sleepfaring, 80% of us manage between six and nine hours a night; the other 20% sleep more or less than this. But how easy is it to change your regular schedule? 毎日1, 2時間無理やり早く起きるようにしてみたら、いずれ体はそれに慣れるものだろうか? Sadly not.

But while it might not be possible to train yourself to sleep less, researchers working with the military have found that you can bank sleep beforehand. At the Walter Reed Army Institute of Research they had people go to bed a couple of hours earlier than usual every night for a week. When they were subsequently deprived of sleep they didn't suffer as much as the people who hadn't had the chance to bank sleep in advance.

This does involve a lot of effort, so in general what you need to do is work out your personal sleep requirement and then try to stick to it. In his book Counting Sheep Paul Martin describes a method of working this out. 目覚まし時計に頼るのではなく自然に起きる必要があるので、それは休暇中に行うべきかもしれない。 Every night for two weeks you go to bed at the same time and see what time you wake up by yourself next morning. For the first few nights you might well be catching up on missed sleep, but after that the time you wake up gives an indication of the length of your ideal night's sleep.

You might be disappointed to find you need more sleep than you'd hoped, but don't see it as a waste. <u>これは日中に心身を最も良く機能させる価値ある時間の使い方である</u>. It may use up a third of your life, but it makes the other two thirds so much better.

## 次の会話を読んで、各問に対する最も適切な答えを選択肢(A)~(D)より選び記号で答えなさい。

Judy: My son shocked me this morning.

Ray: What did he do?

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Judy: He was at the breakfast table and he had earphones connected to his music player, and he grabbed my husband's tablet and he was using them at the same time.

Ray: I know what you mean. My brother's kids are into technology, too. They never make conversation anymore. They're too busy playing with their computers. It's amazing.

Judy: Yeah, I know.

Ray: They hardly touch their food. Then, they're back at it again.

Judy: Yeah, games and things are a problem, but I couldn't live without my email.

Ray: I don't know. When I started using email, I thought it would be very convenient 'cause I could respond when it was convenient for me. But I find that people expect a response right away. That's not convenient at all.

Judy: I never thought of that.

Ray: And then they email again to ask me why I'm not answering their email. Then, there's social media. What do you think of that? Do you ever use it?

Judy: Well, I did for a while but I didn't like it. One thing I found was that everyone else seemed to be leading such exciting lives. One of my friends wrote about going to Italy and singing with the Vatican choir then travelling all over Europe. Another one talked about every new jazz artist and all the new things he was doing. And it seemed everyone was going somewhere. And I was just stuck here with my ordinary, everyday life, sweating in Kumamoto.

Ray: But then, if they're really having such exciting lives, why are they spending so much time on social media?

# Judy: Tell me about it.

Ray: What I really don't like about it is it's kind of like a mass mailing. You know, junk mail from some company. It's not personal at all.

Judy: Young people seem to be used to it, though.

Ray: Yeah. You know, my nephews are really close to each other and one of them is leaving for college this year, so I asked him, "Won't you really miss your brother?" But he said, "We have Skype and Facebook," as if that is some sort of replacement for being together.

Judy: Well, I don't know. My brother and I haven't been in the same country for years, but the other day we connected on a video call and it really did feel like he was there. I showed him my neighborhood as I walked around with my tablet.

Ray:		not trying to say that it's		(5)	<del></del>		
		iced that it seems to be easi					
		d of social media between yo	u. 1 mean, so	ome couples even	break up without me	eting	
т 1	_	person.	.11.1	. 1 . 11 1	1 • 1 • 1	1 1	
Judy:		ead an article just this morni			ones and social medi	a nad	
T)		re trouble reading the emotion					
Ray:		d that's not all. I heard that					
	your own life. When you compare people who record events with cameras and recorders to those who just experienced things without recording them, the people						
		_				e who	
r 1		t lived the events had richer		_	_		
Judy:	Yea	ah, maybe technology is reall	y a two-edged	l sword.			
1. T	he n	ohrase "into technology" [uno	Herline (1)] me	eans heino	technology		
1. 1	(A)	critical of	ici inic (1), inic	·	teemhology.		
	(B)						
	(C)			ing sa			
	(D)	pleased with					
2. T	he s	entence "It's amazing" [unde	erline (2)] imp	lies that it is	• (1988)		
	(A)	important					
	(B)	unbelievable		The same of the same of	The state of the s		
	(C)	uninteresting					
	(D)	wonderful					
3. T	he w	vord "it" [underline (3)] refer	s to	•			
	(A)	grabbing a tablet					
	(B)	playing with computers					
	(C)	rushing their meals					
	(D)	touching their food					
					Low Decrees the		
4. R	ay c	complains about email becaus	se				
	(A)	he cannot live without it	1 to 1	Policy Control	$\mathbb{E}(4, 3, 1) = (66, -1)^{-1}$		
	(B)	he wants to be left alone					
	(C)	people demand a quick repl	у				
	(D)	people use it for showing of	f				
			— 8 —		♦M6 (41	3—34)	

5. The	5. The sentence "Tell me about it" [underline (4)] is closest in meaning to					
(A	) I beg your pardon					
(B	). I'm at a loss					
(C	) I'm not so sure					
Œ	) I see your point					
6. Ray	does not like using social media because					
(A	) he considers it rather impersonal					
· · · (E	he doesn't like replying to email					
(C	his friends disrespect him					
Œ	his life is not especially exciting					
7. The	word "them" [underline (5)] refers to					
(A	email and social media					
(E	going away to college and staying at home					
(C	meeting in person and using social media					
Œ	Skype and Facebook					
8. Acc	ording to Ray, the problem with recording events is that people					
(A	compare their lives with others'					
Œ	do not get to experience life					
(C	have to be familiar with technology					
(D	recall their experiences less fully					
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