東北大学　医学部 歯学部

平成26年度前期日程入学試験学力検査問題

平成26年2月25日

外　国　語(英語)

志望学部	試　験　科　目	試　験　時　間
経済学部，理学部，医学部保健学科，歯学部，薬学部，工学部，農学部	英語	10：00～11：40 (100分)
文学部，教育学部，法学部，医学部医学科	英語，ドイツ語，フランス語のうちから1科目選択	

・ドイツ語，フランス語の問題冊子は，出願時に，それぞれの科目を希望した者に配付します。

注　意　事　項

1. 試験開始の合図があるまで，この問題冊子，解答用紙を開いてはいけない。
2. この問題冊子は，16ページである。問題冊子の白紙のページや問題の余白は草案のために使用してよい。なお，ページの脱落，印刷不鮮明の箇所などがあった場合には申し出ること。
3. 解答は，必ず黒鉛筆(シャープペンシルも可)で記入し，ボールペン・万年筆などを使用してはいけない。
4. 解答用紙の受験記号番号欄(1枚につき2か所)には，忘れずに受験票と同じ受験記号番号をはっきりと判読できるように記入すること。
5. 解答は，必ず解答用紙の指定された箇所に記入すること。
6. 解答用紙を持ち帰ってはいけない。
7. 試験終了後，この問題冊子は持ち帰ること。

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Ⅰ　次の英文を読み，下の問いに答えなさい。

In *Hidden Lives*, a memoir of her family, the British novelist Margaret Forster describes herself in the first five years of her life in the third *person. From the age of five, however, she switches to the first person. She explains the switch as follows:

> It was at this time, in 1943, when I was five, that my own real memory begins, real in the sense that I can not only recall actual events but can *propel myself back into them, be there again in my Aunt Jean's room-and-kitchen, standing by the window at the back of the buildings, staring out at the outside staircase and the tops of the wash-houses, while behind me Jean asks what is the matter.... That is what I call real memory, not at all the same as "remembering" being taken to Ashley Street School to demonstrate my boasted ability to read. Though, because my mother later told me about it so often, I often claimed to remember it and could easily convince myself that I did.

Up to that point in the book, she describes the life of a rather difficult little girl called Margaret as just another member of the family, but from then on everything is viewed through the lens of personal experience. The transition(A), as biography switches to autobiography, may even herald the arrival of the concept of self. It is the beginning of memory as a recursive phenomenon, with previous experience inserted into present consciousness.

My own conscious memory also begins at around five, when I *trudged about a mile up a country road to my first school, accompanied by older boys from down the road whom my mother entrusted to look after me, but in fact they tormented me for wearing glasses. There are a few earlier episodes that I imagine I remember, but they may well be fabrications from things that were told to me. I often ask my undergraduate classes to declare their earliest

memories. There are always a few souls who claim memories going back to infancy, even to birth, but most of the memories come up from age four or five. This pattern agrees with adult surveys of remembered events before the age of eight. Virtually no memories were recorded from the first three years of life, rising steadily to all adults remembering events from the first eight years.

In the *nomenclature of modern cognitive psychology, Margaret Forster's distinction between "real memory" and (B)"remembering" is out of line. The term (C)"remembering" is usually taken to refer to memory for actual events, located in time and space. This is also known as *episodic memory*. It involves consciously projecting oneself back in time, just as Margaret Forster did. The term "knowing" refers to the other kind of memory, also known as *semantic memory*, which is the storehouse of knowledge that we possess, but that does not involve any sense of conscious recollection. I know that Paris is in France, but have no conscious memory of when I learned this. On the other hand I can vividly remember being in class as an eleven-year-old when I discovered that $(2n + 1)$, where n is any *integer, was a general expression for an odd number. My memory is tinged with triumph, because we were asked to generate this expression ourselves, and I was the only one who did so.

Episodic memory may combine with some aspects of semantic memory to make up what is known as *autobiographical memory*. As the passage from Margaret Forster illustrates, it is often difficult to distinguish which parts of autobiographical memory are based on remembered episodes, and which on knowledge. (D)In the study referred to above, the adults were not only asked to recall memories, but were also asked to describe things that they knew had happened to them, but could not actually remember. Knowing but not remembering early events depends largely on family folklore — stories, often repeatedly told, of childhood events, and often exaggerated through imagination to the point that one has the sense of re-experiencing them. Nevertheless "known" events declined steadily from birth to age eight, while "remembered"

events increased from age two to age eight.

Endel Tulving has described remembering as *autonoetic*, or self-knowing, in that one has projected one's self into the past to re-experience some earlier episode. Simply knowing something, like the boiling point of water, is *noetic*, and implies no shift of consciousness. Autonoetic awareness, then, is recursive, in that one can insert previous personal experience into present awareness. Deeper levels of insertion are also possible, as when I remember yesterday that I had remembered an event that occurred at some earlier time. Chunks of episodic awareness can thus be inserted into each other in recursive fashion. (E) Having coffee at a conference recently, I was reminded of an earlier conference where I accidentally spilled coffee on a distinguished philosopher. This is memory of a memory of an event.

(Adapted from Michael C. Corballis, *The Recursive Mind*)

注 *person 人称
*propel 向かわせる
*trudge とぼとぼ歩く
*nomenclature 用語
*integer 整数

問 1 下線部(A)の内容を本文に即して日本語で述べなさい。

問 2 下線部(B)の "remembering" と下線部(C)の "remembering" の相違がわかるように，それぞれの内容を本文に即して，解答欄の指定の場所に日本語で述べなさい。

問 3 下線部(D)を日本語に訳しなさい。

問 4 下線部(E)を日本語に訳しなさい。

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Ⅲ 次の英文は，“Why can some fish live in freshwater, some in salt water, and some in both?” と題された記事である。これを読み，下の問いに答えなさい。

The various species of fish found in oceans, lakes, rivers and streams have evolved over millions of years and have adapted to their preferred environments over long periods of time. Fish are categorized according to their salinity tolerance(A). Fish that can tolerate only very narrow ranges of salinity (such freshwater fish as goldfish and such saltwater fish as tuna) are known as stenohaline species. These fish die in waters having a salinity that differs from that in their natural environments.

Fish that can tolerate a wide range of salinity at some phase in their life-cycle are called euryhaline species. These fish, which include salmon, eels, and striped bass, can live or survive in wide ranges of salinity, varying from fresh to brackish to marine waters. A period of gradual adjustment, though, may be needed for euryhaline fish to tolerate large changes in salinity.

It is believed that when the newly formed planet Earth cooled sufficiently, rain began to fall continuously. This rainfall filled the first oceans with fresh water. It was the constant evaporation of water from the ocean that then condensed to cause rainfall on the land, which in turn, caused the ocean to become salty over several billion years(B). As rain water washed over and through the soil, it dissolved many minerals — sodium, *potassium and calcium — and carried them back to the ocean.

*Vertebrate animals (fish, birds, mammals, reptiles and amphibians) have a unique and common characteristic. The salt content of their blood is virtually identical. Vertebrate blood has a salinity of approximately 9 grams per liter (a 0.9 percent salt solution). Almost 77 percent of the salts in blood are sodium and *chloride. The remainder is made up primarily of bicarbonate, potassium and calcium. Sodium, potassium and calcium salts are critical for the normal function of heart, nerve and muscle tissue.

If the salinity of ocean water is diluted to approximately one quarter of its normal concentration, it has almost the same salinity as fish blood and contains similar proportions of sodium, potassium, calcium and chloride. The similarities between the salt content of vertebrate blood and dilute seawater suggest a strong evolutionary relationship among vertebrates and with the ancient oceans.

Indeed, it seems likely that vertebrate life evolved when the ocean was approximately one quarter as salty as it is today. As the ocean became saltier and vertebrates evolved further, several groups of vertebrates (birds, mammals, reptiles and amphibians) left the ocean to inhabit the land, carrying the seawater with them as their blood. They maintained their blood salt concentrations by drinking freshwater and absorbing salts from food.

But fish stayed in the aquatic environment. To adapt, they had to either remain in low salinity environments, such as bays and *estuaries, or they had to evolve mechanisms to replace water lost through *osmosis to the seawater and to remove salts absorbed from the increasingly saline oceans. To inhabit fresh water, fish had to replace salts lost through *diffusion to the water and eliminate excess water absorbed from the environment. Kidney function had to be altered accordingly for fish to survive in these different habitats. Eventually, the *gills developed the ability to *excrete salts in seawater and absorb salts from fresh water.

In seawater, fish must drink salt water to replace lost fluids and then eliminate the excess salts. Their kidneys produce small volumes of fluid containing high concentrations of salt. Freshwater fish produce large volumes of dilute urine, which is low in salt. High concentrations of environmental calcium help reduce salt loss through the gills and body surfaces in freshwater environments. Less demand is placed on the kidneys to maintain stable concentrations of blood salts in brackish or low salinity waters.

Ultimately, fish adapted to or inhabited marine, fresh or brackish water because each environment offered some competitive advantage to the different

species. For instance, it has been suggested that euryhaline fish are able to eliminate external parasites by moving to and from fresh and saltwaters. Habitats of wide ranges of salinity offered new or more food, escape from predators and even stable temperatures.

(Adapted from an article by William A. Wurts, *World Aquaculture*, March 1998)

注　*potassium　カリウム
　　*chloride　塩化物
　　*osmosis　浸透
　　*gill　えら
　　*vertebrate animal　脊椎動物
　　*estuary　河口
　　*diffusion　拡散
　　*excrete　排出する

問 1　下線部(A)は何を意味しているか，本文に即して日本語で説明しなさい。

問 2　下線部(B)を日本語に訳しなさい。

問 3　下線部(C)について，本文であげられているすべての具体例を，日本語で述べなさい。

問 4　本文によれば，脊椎動物には，どのような要因で，どのような進化が起こったか。英語で要約しなさい。

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Ⅲ　次の日本人とスペイン人の大学新入生の会話を読んで，下の問いに答えなさい。

Satomi: Hey, Emilia. You know, school is starting soon, and I still haven't decided what second foreign language to take. I'm a little (①) because it's a required course and I have to choose right away.

Emilia: I see. What languages have you been considering?

Satomi: Well, some of my friends have already chosen Chinese, and they want me to take it with them. My parents have strongly recommended that I do the same. So I'm tempted, but like I said, I'm still undecided. Any suggestions?

Emilia: Let's see. What other languages can you choose from?

Satomi: According to the university website, they also offer French, Italian, Spanish, German and Korean.

Emilia: Well, I suppose Chinese is the most practical because of China's (②) to Japan and because, as you know, it has the highest number of native speakers. Another benefit of studying Chinese is that you'll have a fantastic head start with the writing system. Maybe it would be a good idea to follow your parents' and friends' advice.

Satomi: Yes, I agree, but I'm not sure if I'll ever use Chinese in my career.

Emilia: How about Korean then? Cross-cultural exchanges between South Korea and Japan are increasing, and I think there might be a lot of opportunities for you to use Korean someday.

Satomi: Yeah, I considered Korean for that reason, but I'm really looking for a language that will benefit me in my profession.

Emilia: Hmm, what was your major again?

Satomi: I'm a medical student. That's why I'm seriously thinking about German.

Emilia: Wow, really? How would German be helpful to your medical career?

Satomi: Well, since Germans had a strong influence on medical education in Japan, a lot of German medical terms are now part of the Japanese language.

Emilia: That's interesting. I didn't know that about Japanese.

Satomi: Yeah, it's true, so German would help me build up a solid medical vocabulary. On the other hand, I'm concerned because I've heard that German is hard to learn due to its complicated grammar and difficult pronunciation.

Emilia: Well, some people may feel that way, but all languages have easier and more difficult components, depending on the learner. Anyway, since you seem to be eager to study a language that will assist you in your medical work, here's another thought: Have you considered one of the Romance languages?

Satomi: No, not really, mainly because I'm not sure what a Romance language is.

Emilia: Well, a Romance language is any language that is (③) from Latin. For example, French, Spanish and Italian are all Romance languages. In any case, some physiological and anatomical terms in many languages, including Japanese, are of Latin origin. So if you want to choose a language that would help you with scientific terminology and you're worried about the difficulty of German, then maybe one of the Romance languages would be your best choice.

Satomi: That sounds cool. But let me get this straight: all Romance languages originate from Latin, right? So if I study one of them, can I understand them all?

Emilia: No, not really, they're not mutually (④). There is some crossover (⑤) them, however, especially in writing. Pronunciation, though, is a whole other matter.

Satomi: Which one do you think would be best for me, then?

Emilia: Well, since I'm Spanish, I'm a bit biased, but I can tell you two things about my native language that may persuade you. First, I have a Japanese friend who is studying it, and she tells me she thinks a lot of Spanish sounds are similar to Japanese, so perhaps pronunciation would not be as big a challenge for you as it would be with German. The other thing is that Spanish has the second-most native speakers in the world.

Satomi: Second? I thought English was the second-most spoken language.

Emilia: Well, yes, there are perhaps more people who can speak English to some degree, but as for actual native speakers, Spanish has more.

Satomi: That is a lot to think about, but Spanish really (⑥) me now. Thanks!

Emilia: No problem. Good luck!

問 1　本文中の空欄①～⑥に入れるのにもっとも適切な語を，それぞれ下の(ア)～(エ)の中から選び，記号で答えなさい。

① (ア) worrisome　(イ) worried　(ウ) worryingly　(エ) worry

② (ア) proximity　(イ) relativity　(ウ) sociability　(エ) remoteness

③ (ア) deviated　(イ) dissected　(ウ) derived　(エ) displaced

④ (ア) misunderstood　(イ) incomprehensible　(ウ) unknowable　(エ) intelligible

⑤ (ア) among　(イ) around　(ウ) of　(エ) at

⑥ (ア) interestingly　(イ) is interested in　(ウ) is interesting　(エ) interests

問 2　次の(a)~(f)の文を読み，それぞれ本文の内容と合致していれば○，違っていれば×を解答欄に記入しなさい。

(a) According to Emilia, there are Latin-based scientific terms used in the Japanese language.

(b) Satomi's parents require her to take Chinese because it is a recommended course.

(c) According to Emilia, most languages originate from Latin.

(d) Emilia finally thinks that studying Spanish is Satomi's best option.

(e) According to Emilia, Romance languages are the easiest to learn.

(f) According to Emilia's friend, Spanish and Japanese pronunciations are comparable.

問 3　Emilia が下線部の発言によって伝えようとしていることは何か，英語で説明しなさい。

Ⅳ　次の文章を読み，下線部(A)，(B)を英語に訳しなさい。

(A)日本語の作家になる前に，ぼくはアメリカで日本文学を研究していた。日本語の書き手になる前に，まずは日本語の読み手だった。そして読んだ日本語で感動をおぼえると，それを英語に翻訳することもあった。

現代から始まって，そこから時代をさかのぼり，古い日本文学も，少しずつ，読めるようになった。そしていつの間にか万葉集にたどりついた。

万葉集にたどりついたとき，「古い日本語」というよりも，「とても新しい文学」に出会ったという不思議な感じがした。

〔中略〕

ある時点から，その万葉集を少しずつ，英訳するようになった。

ニュージャージーやカリフォルニアの風景の中にいながら，ぼくは奈良の京(みやこ)と，飛鳥の山々と，筑紫への海路と，駿河の国を歌ったことばを，英語の詩として書きはじめた。七世紀末の日本語を，二十世紀末の英語に，書き写してみた。北米大陸の大学の東洋図書館にとじこもり，はじめて文学に結晶した時代の島国のことばを，とりつかれたように読みふけり，まるで奈良の大寺院の写経生のような気持ちとなった。そして万葉集を英語に写しはじめた。

万葉集が，少しずつ，英語の詩となった。(B)写しながらおどろくほど，抵抗もなく英語になった歌もあった。そしていくら努力してみても，英語の詩にはなかなかならない歌もあった。

英語の万葉集は，自分で日本語を書くようになる前につづった，ぼくのはじめての「創作」だった。

（リービ英雄『英語で読む万葉集』より）