

【医学科】

英語問題

2021(令和3)年度

【注意事項】

1. この問題冊子は「英語」である。
2. 試験時間は90分である。
3. 試験開始の合図まで、この問題冊子を開いてはいけない。ただし、表紙はあらかじめよく読んでおくこと。
4. 試験開始後すぐに、以下の5および6に記載されていることを確認すること。
5. この問題冊子の印刷は1ページから11ページまでである。
6. 解答用紙は問題冊子中央に3枚はさみこんである。
7. 問題冊子に落丁、乱丁、印刷不鮮明な箇所等があった場合および解答用紙が不足している場合は、手をあげて監督者に申し出ること。
8. 試験開始後、3枚ある解答用紙の所定の欄に、受験番号と氏名を記入すること（1枚につき受験番号は2箇所、氏名は1箇所）。
9. 解答は必ず解答用紙の指定された箇所に記入すること。解答用紙の裏面に記入してはいけない。
10. 問題番号に対応した解答用紙に解答していない場合は、採点されない場合もあるので注意すること。
11. 問題冊子の中の白紙部分は下書き等に使用してよい。
12. 解答用紙を切り離したり、持ち帰ってはいけない。
13. 試験終了時刻まで退室を認めない。試験中の気分不快やトイレ等、やむを得ない場合には、手をあげて監督者を呼び、指示に従うこと。
14. 試験終了後は問題冊子を持ち帰ること。

〔 I 〕 次の文章を読んで、下の問いに解答欄の範囲内で答えなさい。

*が付いている語句には本文の後ろに注があります。

What is fantasy? Let's begin with this: Fantasy is *speculative fiction. Fantasy creates a world imaginative to the highest degree, full of inventive creatures, rules of magic, and places remarkably different from the real world we see around us. Fantasy is the place for *mischievous *elves, hairy-footed *hobbits, *wand-waving magicians, talking animals, and other odd creatures never seen before.

Of course, science fiction is also highly speculative fiction. The stories of science fiction push the boundaries of imagination as greatly as fantasy does. Indeed, these two *strands of speculative fiction are often *mingled on bookshelves, and sometimes in writers' organizations, although not as often in books themselves.

Science fiction, however, speculates in a very different manner. The worlds of science fiction are based on some *extrapolated aspect of actual laws of the universe we live in. Jules Verne imagined submarines and space travel to the moon. Asimov, Heinlein, and Clarke depicted space stations, Mars exploration, supercomputers, artificial intelligence, genetic engineering, robotics.

Such things were vaguely *plausible, if *far-fetched at the time, yet much of it has come true. When we saw Neil Armstrong set foot on the moon, we instantly recalled the stories of Verne and H.G. Wells. Today, the technology set forth in George Orwell's once-frightening novel, *1984*, where Big Brother used *surveillance devices to *eavesdrop on everyone, would hardly make today's teenagers at the mall think twice.

Science fiction pushes science to its limit—and sometimes twists it to the edge of reason—to create new futures or otherworlds. Yet those imaginary worlds are connected by a line of reasoning, however *tenuous, back to our known laws of science. Rational thought is employed—stretched thin as a *snare drum perhaps—to create worlds not always likely, but perhaps theoretically possible. Science-fiction authors strive to explain why these worlds exist and how they work. The more inventive the explanation, the better.

Often, science fiction^(ア) then turns to look beyond these odd twists of science at the impact on society. もし我々が別世界に生きているとしたら、個人としてあるいはグループで我々はどのように振る舞う^(イ)であろうか。 While imaginative ideas about hard science are the *catalyst for science fiction, the storyline often *dwells on social-science aspects of human (or alien) behavior or psychology.

In contrast, fantasy looks inward, not to rules of social or personal behavior but into our beliefs. In fantasy, wonder and wishes overcome knowledge and explanation. Belief rules over

science. The elves and fairies and dragons and magicians of fantasy are not plausible. We will never find Alice's rabbit were we to *peer down every dirt hole in England. Exploring with all our wishful hearts, we won't find the opening to *Narnia behind any piece of furniture.

(出典 Philip Martin, *A Guide to Fantasy Literature*, Crickhollow Books, 2009)

Notes

speculative: based on guessing, not on information or facts.

mischievous: enjoying playing tricks and annoying people in a playful way.

elves < elf: an imaginary creature like a small person with magical powers.

hobbit: an imaginary race, similar to humans, of small size.

wand: a thin stick used to perform magic.

strand: one of the parts of a story, idea, plan, etc.

mingle: to mix.

extrapolate: to estimate something.

plausible: reasonable and likely to be true.

far-fetched: very difficult to believe.

surveillance: carefully watching a person.

eavesdrop: to secretly listen to a conversation.

tenuous: very weak or slight.

snare drum: a small flat drum.

catalyst: something or someone that causes an important change.

dwell: to reside or stay.

peer: to look closely.

Narnia: an imaginary land of magical people and animals created by C. S. Lewis.

- (1) ファンタジーとSFの共通点を、本文に即して日本語で簡潔に述べなさい。
- (2) SF固有の特徴を、本文に即して日本語で簡潔に述べなさい。
- (3) SF作品で描かれた科学技術の例を、本文より3つ抜き出して日本語で記しなさい。
- (4) 下線部 (ア) を和訳しなさい。
- (5) 下線部 (イ) を英訳しなさい。

- (6) 下線部 (ウ) に関して、我々がアリスの不思議なうさぎを見つけることもなく、ナルニア国への入り口を発見することも無いのはなぜか、文章全体の論旨を踏まえ日本語で簡潔に説明しなさい。

英語の試験問題〔Ⅱ〕は次に続く。

〔 II 〕 次の文章を読んで、下の問いに解答欄の範囲内で答えなさい。

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They don't know what to do with Naomi Osaka.

In a cartoon he drew for Australia's *Herald Sun* on Sept. 10, illustrator Mark Knight depicts Serena Williams during the finals match at the U.S. Open Tennis Championships. It's a classic racist caricature: Williams appears as a hulk-like figure with unkempt hair and large lips.

Behind Williams is her competitor, Naomi Osaka. Her appearance has been *distilled down to its lowest-common-denominator characteristics: light skin, slim frame, blonde hair.

Caricatures, by their nature, are meant to *distort and *exaggerate. But they're also meant to be symbolic, representative; short-hand for a concept or idea.

Here, the *narrative is clear: Williams has been cast as the big, ugly, angry black woman. Osaka, by contrast, has been cast as the innocent white girl, even though she's not even white.



Many tennis fans have pointed out that Carlos Ramos' *petty umpiring robbed both Williams and Osaka of what should have been a far less *controversial match. But Osaka was robbed of something else: her *agency, her identity, her story, and her blackness. (1)

In interviews, Osaka has been *adamant about embracing both her Asian and black heritages, *conceding that while she represents Japan in sporting events, she doesn't identify solely as Japanese. She proudly *reps her Haitian side.

Yet Osaka's *biracial identity is inconvenient in a racist narrative that turns Williams into a stereotype. It's more *expedient to focus on all the things about her that aren't stereotypically black: her light skin, her soft-spoken nature, her tear-filled apology after winning the match. In (2)

this way. Osaka is framed if not as a white woman, then as a more acceptable and *palatable version of blackness—as the type of black person that doesn't make you *acknowledge their blackness.

But there are actually two narratives at play here. There's the one in which Osaka is reduced to a silent and silenced victim; tearful, not quite white, but not black either. Reporters ask her whether Williams' "behavior" made Osaka lose respect for her, *reinforcing coded stereotypes that have everything to do with colorism, model minority myths and the culture's implicit *hatred of black women like Serena Williams.

And then there's this other, opposing, well-meaning narrative that paints Williams as a feminist *crusader, fighting for women's rights and against double standards in a sport that most definitely has treated her unfairly on the basis of both race and gender in the past.

In the case of her match with Osaka on Saturday, Williams' actions, the way she broke that racket, the way she demanded respect from the umpire, all serve to remind people of all the times she was forced to smile and *grit her teeth at arbitrary clothing regulations, or frequent random drug tests, or racist *slurs and boos from certain tennis audiences.

I've struggled with this narrative, too, because while it is important and valid in so many respects, it's also an oversimplification of what happened during that match.

その試合中に起こったことは、単に政治的であるだけではなく、非常に個人的なことでもあった。⁽²⁷⁾ It was human drama played out for millions of people. It was bigger than any narratives we can *thrust upon it. The cartoon, the headlines—they're all in keeping with a consistent and collective inability in the culture to see black women as complex and capable of expressing *myriad emotions, from rage to joy to despair. Or to allow two black women to reach for excellence at the same time.

Knight's cartoon is what happens when we *flatten whole human beings into types, when the story and its narratives become far more important than the nuance. In the process, racist and sexist assumptions are *perpetuated and we *strip people of their right to be weak *and* strong, of the totality of their humanity.

Here is the bottom line: On Saturday, two talented tennis players—one black, one Japanese *and* black—played a deeply emotional game, and those emotions came *brimming to the surface for a whole *host of reasons.

But it wasn't a matter of *villain and victim, good and bad, black and white. Williams is an icon, a legend. ⁽²⁸⁾ *And* she's a *fallible and whole human being. Just as Osaka is more than just Japanese, more than tearful and *endearingly *apologetic. She's a fierce competitor with a distinct personal history, not a symbol of acceptable blackness to weaponize against Williams.

Indeed, she is many things, but what perhaps matters most is who *she* sees herself as,

especially on the court: "I'm just a tennis player playing another tennis player," Osaka explained after she accepted her trophy.

It would be nice if Knight, and every other person who attempts to shape the way we will perceive this match moving forward, could remember that.

(出典 Zeba Blay, "The Whitewashing of Naomi Osaka." *Huffpost*, Sept. 11, 2018, 一部改変)

Notes

distill: to take the most important parts of something and put them in a different form.

distort: to change something so that it is no longer true or accurate.

exaggerate: to describe something as larger or greater than it really is.

narrative: a story that is told or written.

petty: treating people harshly and unfairly because of things that are not very important.

controversial: causing much discussion, disagreement, or argument.

agency: the ability of acting.

adamant: not willing to change an opinion or decision.

concede: to accept or refrain from denying the truth or existence of something.

rep: to act as a representative for something.

biracial: concerning two races.

expedient: providing an easy and quick way to solve a problem or do something.

palatable: pleasing or agreeable to the mind or feelings.

acknowledge: to regard someone as deserving a particular status.

reinforce: to encourage or give support to an idea, behavior, feeling, etc.

hatred: a very strong feeling of dislike; hate.

crusader (*n.*) < crusade (*v.*): to take part in a major effort to change something.

grit: to press or rub one's teeth together.

slur: an insulting remark about someone or someone's character.

thrust: to force someone to have or accept something.

myriad: countless; many.

flatten: to make dull; to deprive of attraction, interest, or impressiveness.

perpetuate: to make something such as a bad situation, a belief, etc. continue for a long time.

strip: to take something away from someone in a forceful way.

brim: to be completely filled with something.

host: a great amount or number.

villain: a person who does bad things.

fallible: likely to make mistakes or being wrong.

endearingly (*adv.*) < endear (*v.*): to cause someone to be loved or admired by someone.
apologetic: feeling or showing regret.

- (1) 下線部 (ア) のように表現されている Williams の言動を2つ、本文に即して日本語で簡潔に説明しなさい。
- (2) 下線部 (イ) のような事態になったのは、風刺漫画で Osaka がどのように描かれたからか。本文に即して日本語で簡潔に説明しなさい。
- (3) 下線部 (ウ) は、メディアが誰をどのように捉えていることを表しているのか。本文に即して、日本語で説明しなさい。
- (4) 下線部 (エ) を英訳しなさい。
- (5) 下線部 (オ) のようにメディアが単純化して報じることで、Osaka のどのような側面を見落としていると筆者は考えているのか。本文に即して日本語で簡潔に説明しなさい。

〔Ⅲ〕 次の文章を読んで、下の問いに解答欄の範囲内で答えなさい。

*が付いている語句には本文の後ろに注があります。

"Hello! How are you doing?" Lyudmila Trut says, reaching down to *unlatch the door of a wire cage labeled "Mavrik." We're standing between two long rows of similar *crates on a farm just outside the city of Novosibirsk, in southern Siberia, and the 76-year-old biologist's greeting is addressed not to me but to the cage's furry occupant. Although I don't speak Russian, I recognize in her voice the tone of maternal *adoration that dog owners adopt when addressing their pets.

Mavrik, the object of Trut's attention, is about the size of a Shetland sheepdog, with chestnut orange fur and a white bib down his front. He plays his *designated role in turn: *wagging his tail, rolling on his back, *panting eagerly in anticipation of attention. In adjacent cages lining either side of the narrow, open-sided shed, dozens of *canids do the same, *yelping and clamoring in an explosion of fur and unbridled excitement. "As you can see," Trut says above the din, "all of them want human contact." Today, however, Mavrik is the lucky recipient. Trut reaches in and scoops him up, then hands him over to me. Cradled in my arms, gently jawing my hand in his mouth, he's as *docile as any lapdog.

Except that Mavrik, as it happens, is not a dog at all. He's a fox. Hidden away on this overgrown property, flanked by birch forests and barred by a rusty metal gate, he and several hundred of his relatives are the only population of domesticated silver foxes in the world. (Most of them are, indeed, silver or dark gray; Mavrik is rare in his chestnut fur.) And by "domesticated" I don't mean captured and *tamed, or raised by humans and conditioned by food to *tolerate the occasional petting. I mean *bred for domestication, as tame as your tabby cat or your Labrador. In fact, says Anna Kukekova, a Cornell researcher who studies the foxes, "they remind me a lot of golden retrievers, who are basically not aware that there are good people, bad people, people that they have met before, and those they haven't." These foxes treat any human as a potential companion, a behavior that is the product of arguably the most extraordinary breeding experiment ever conducted.

It started more than a half century ago, when Trut was still a graduate student. Led by a biologist named Dmitry Belyaev, researchers at the nearby Institute of Cytology and Genetics gathered up 130 foxes from fur farms. They then began breeding them with the goal of re-creating the evolution of wolves into dogs, a transformation that began more than 15,000 years ago.

With each generation of fox kits, Belyaev and his colleagues tested their reactions to human contact, selecting those most approachable to breed for the next generation. By the mid-1960s

the experiment was working beyond what he could have imagined. They were producing foxes like Mavrik, not just unafraid of humans but actively seeking to bond with them. His team even repeated the experiment in two other species, mink and rats. “One huge thing that Belyaev showed was the timescale,” says Gordon Lark, a University of Utah biologist who studies dog *genetics. “If you told me the animal would now come *sniff you at the front of the cage, I would say it’s what I expect. But that they would become that friendly toward humans that quickly ... wow.”

Miraculously, Belyaev had *compressed thousands of years of domestication into a few years. But he wasn’t just looking to prove he could create friendly foxes. He had a *hunch that he could use them to unlock domestication’s *molecular mysteries. Domesticated animals are known to share a common set of characteristics, a fact documented by Darwin in *The Variation of Animals and Plants Under Domestication*. They tend to be smaller, with floppier ears and curlier tails than their untamed *progenitors. Such traits tend to make animals appear appealingly *juvenile to humans. Their coats are sometimes spotted—piebald, in scientific terminology—while their wild ancestors’ coats are solid. These and other traits, sometimes referred to as the domestication phenotype, exist in varying degrees across a remarkably wide range of species, from dogs, pigs, and cows to some nonmammalians like chickens, and even a few fish.

Belyaev suspected that as the foxes became domesticated, they too might begin to show aspects of a domestication phenotype. He was right again: Selecting which foxes to breed based solely on how well they got along with humans seemed to alter their physical appearance along with their *dispositions. After only nine generations, the researchers recorded fox kits born with floppier ears. Piebald patterns appeared on their coats. By this time the foxes were already whining and wagging their tails in response to a human presence, behaviors never seen in wild foxes.

Driving those changes, Belyaev postulated, was a collection of genes that *conferred a *propensity to tameness—a genotype that the foxes perhaps shared with any species that could be domesticated. Here on the fox farm, Kukekova and Trut are searching for precisely those genes today.

Not all the foxes on the farm in Novosibirsk, it turns out, are as friendly as Mavrik. Across the small road from him and his fellow tame foxes is an identical-looking shed full of wire crates, each holding one of what the researchers refer to as the “aggressive foxes.” To study the biology of tameness, the scientists needed to create a group of decidedly untame animals. So in a mirror image of the friendly foxes, the kits in the aggressive population are rated according to the *hostility of their behavior. Only the most aggressive are bred for the next generation.

Here are the evil twins of the tail-wagging Mavrik, straight out of a B-grade horror film: hissing, baring their teeth, snapping at the front of their cages when any human approaches.

"I'd like to draw your attention to this fox," says Trut, pointing to one *snarling creature nearby. "You can see how aggressive she is. She was born to an aggressive mother but brought up by a tame mother." The switch,⁽⁷⁾ the result of the aggressive mother being unable to feed its kit, *serendipitously proved a point: The foxes' response to humans is more nature than it is nurture. "Here," she says, "it's the genetics that change."

(出典 Evan Ratliff, "Taming the Wild," *National Geographic*, March 2011, 一部改変)

Notes

unlatch: to open.

crate: a cage for carrying animals.

adoration: a feeling of great love.

designate: to choose someone officially to do a particular job.

wag: to move from side to side or up and down, especially quickly and repeatedly.

pant: to breathe quickly with short noisy breaths.

canid: animals such as dogs, wolves, and jackals.

yelp: to make a sudden, short, high sound.

docile: quiet and easy to control.

tame: to train a wild animal to obey you and not to attack people.

tolerate: to allow somebody to do something that you do not agree with or like.

bred < breed: to keep animals for the purpose of producing young animals in a controlled way.

genetics: the study of how the qualities of living things are passed on in their genes.

sniff: to smell something.

compress: to press something into a smaller space.

hunch: an idea that is based on feeling and for which there is no proof.

molecular (*a.*) < molecule (*n.*): the simplest unit of a chemical substance, usually a group of two or more atoms.

progenitor: the parent or direct ancestor of a person, animal, or plant.

juvenile: childish; immature.

disposition: the particular type of character that a person naturally has.

confer: to give something.

propensity: a natural tendency to behave in a particular way.

hostility: aggressive or unfriendly feelings or behavior.

snarl: to make a deep, rough sound while showing the teeth, usually in anger.

serendipitously (*adv.*) < serendipitous (*a.*): happening or found by chance.

- (1) 下線部 (ア) が指す具体的な行動を、本文中より 1 文で抜き出さない。
- (2) 下線部 (イ) が示す実験に関して、その最大の成果を、本文に即して日本語で具体的に説明しなさい。
- (3) 下線部 (ウ) と反対の意味で使われている単語を本文より 1 つ抜き出さない。
- (4) 下線部 (エ) を和訳しなさい。
- (5) 下線部 (オ) について、それが生み出された経緯とその特徴を日本語で説明しなさい。
- (6) 下線部 (カ) が示す「入れ替え」とは何を何に入れ替えたことを指すのか、またその理由は何か。本文に即して日本語で答えなさい。