２０２２年度

大学院文学研究科博士課程前期２年の課程入学試験

（　春期・一般選抜　）問題

外国語試験　＿＿英　語＿＿＿＿＿

試験開始の合図があるまで、この問題冊子を開いてはいけない。

受験記号番号	

２０２２年度

大学院文学研究科博士課程前期２年の課程入学試験

（春期・一般選抜） 問題

外国語試験（　英　語　）

成績	

問題【Ｉ】と問題【Ⅱ】について日本語で解答しなさい。ただし、外国人受験者にかぎり問題【Ｉ】の代わりに問題【Ⅲ】を選択できます。

【Ｉ】　次の英文を読んで設問に答えなさい。

Virtual reality — often referred to as "VR"— used to be science fiction. Today, it's everywhere. All you need is a smartphone and a headset to immerse yourself in 3-D virtual worlds or games. This booming technology may also be useful for health care and research. "In the last few years, there's been a huge expansion in the number of exciting clinical applications of virtual reality," says Dr. Andrew Huberman, a VR researcher at Stanford University. NIH-funded researchers are finding that VR may help with many areas of medicine. These include tailoring rehabilitation exercises, improving mental health, and reducing pain.

(1)Scientists have been testing VR to treat movement problems. These can be caused by a stroke, a brain injury, Parkinson's disease, or other conditions. Rehabilitation exercises can sometimes help people train their muscles to improve their movement. But these exercises can be boring — especially to kids. Dr. Amy Bastian, a movement specialist at the Kennedy Krieger Institute, is using VR to make rehabilitation exercises more engaging for kids. It also lets her team tailor the exercises to individual children's needs. "With VR, we can do things that are really hard to do in real-world therapy," Bastian says. (2)"If we want you to learn to reach and control your balance in one direction, we can make all the game components move things in that direction." VR can also help kids who have trouble following directions, she explains. "We can say something like, 'just punch the red things.' This can get them to do all kinds of complex tasks." Bastian is also developing VR exercises for adults who have damage to the cerebellum, the part of the brain that coordinates movement. This type of brain injury makes people's movements jerky and uncoordinated. (3)The team is testing whether other parts of the brain can be taught to coordinate movements instead. But this can't happen if the eyes can see the body, because the damaged cerebellum tries to take over. That's why her team is putting people into a VR scene where their bodies don't exist. They must reach for targets with now-invisible limbs. Because the people can't see their arms, other brain areas must take over to complete the task. Coins fall from the virtual sky when the person makes a smooth movement to grab an object. This instant feedback for a successful movement is vital for the brain to forge new learning pathways, Bastian explains. "In VR, we can manipulate the environment in real time to help them learn to use another brain system."

Huberman is using VR to test techniques to help people cope with fear and anxiety. VR is ideal for studying such mental states, he explains. (4)"Vision, more than any other sense, is the sense that humans use to navigate the world and survive. And, more than any other sense, it drives phobias and anxiety." What you see can be easily manipulated using a virtual environment. His team is using this aspect of VR to help people learn to manage their fears. "We can create experiences that are very realistic," Huberman explains. "We can create an experience that's a little bit threatening, or one that's very threatening." VR can show people scenes of sharks or spiders, put them high on top of a building, or have them standing in front of a crowd to speak. (5)After their participants have one of these VR experiences, the team teaches them ways to manage their stress and discomfort. These include focused breathing exercises and other techniques. The researchers then put people back into the stressful VR environment to see if the techniques can help them reduce their anxiety in the moment. A unique advantage of VR, Huberman explains, is that researchers can directly measure signs of anxiety. These include changes in eye movements and pupil size. The study is still in progress, but Huberman says the training seems to be helping people with their anxiety.

—*from* "Beyond Games: Using Virtual Reality to Improve Health" NIH News in Health, July 2019
https://newsinhealth.nih.gov/sites/nihNIH/files/2019/July/NIHNiHJul2019.pdf

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問１　下線部 ⑴ を日本語に訳しなさい。

問２　下線部 ⑵ を日本語に訳しなさい。

問３　下線部 ⑶ を日本語に訳しなさい。

問４　下線部 ⑷ を日本語に訳しなさい。

問５　下線部 ⑸ を日本語に訳しなさい。

【 II 】 次の英文を読んで設問に答えなさい。

(1)If we look at the world, on the one hand we find things like pebbles, dogs, chairs, etc.; on the other hand, we also find substances like water, air, or gold. Objects form discrete, readily countable units; substances do not. Substances tend to be scattered around, often mixed with other stuff. They do not have evident minimal parts and thus are not readily countable even though they can be measured with appropriate devices. Perhaps language simply reflects this feature of the world. If a noun is used to refer to objects, it is a count noun; if it is used to refer to a substance, it is a mass noun. The morphosyntactic properties are merely the linguistic manifestation of extralinguistic, semantic properties of the things nouns refer to. In this kind of approach to the mass-count distinction we see a concrete exemplification of the view of language as a mirror of the world (one we might apply to other grammatical distinctions). The guiding principle is that language is used to talk about reality. We attach names to things, much like we attach labels on medicines or on books in a library. Labeling is useful. If we label things systematically, we can identify, locate, and retrieve them as needed. Perhaps language is a somewhat complex, spontaneous form of labeling. Our capacity to mean really is our capacity to label. The mass-count contrast might well be good prima facie evidence in favor of such a view.

(2)This general approach explains in very simple terms how language comes to carry information about the world. As we attach names (i.e., symbols) to things, we can, in virtue of this implicitly assumed association, use arrays of symbols to express how things are arranged in the world. For example, if *A* stands for John and *B* for Bill, we might use *AB* to represent that *B* follows *A* and the reverse order *BA* for *A* follows *B*. The different symbolic arrays *AB* and *BA* represent two different ways in which John and Bill are related. This is very simplistic. But you can see how the idea might be developed further and how, in fact, it can be used to code elaborate information. Perhaps language is just a rather complex code that functions according to these principles. Versions of this view of language have been put forth very authoritatively in the history of thought, from Aristotle to Wittgenstein. As will become apparent in what follows, there is a lot that is right about this view.

There is work in cognitive and developmental psychology that may provide further support for the view of the mass-count distinction that I have sketched. In particular, Spelke (1985) and Soja, Carey, and Spelke (1991), among others, have argued that babies a few months old (well before they speak) have an articulated theory of the world. They believe that solid objects have boundaries, are cohesive (i.e., their parts stick together), and move as a whole (without, e.g., splitting or merging) along continuous paths. In contrast with this, children believe (or, we should rather say, they *know*) that non-solid substances like liquids or powders are not as cohesive. As they move and contact each other, they may not retain their boundedness; they may merge or split. How can we impute such an elaborate view of the world to babies? The experimental paradigm that has been used to demonstrate (3)these claims is of the following type. Imagine an object, say a teddy bear, on a table and a screen lying flat in front of the object. The screen then slowly rotates upward, covering the teddy bear. In one condition, the screen rises all the way vertically and occludes the teddy bear from view. This is a "normal" state of affairs (the expected condition). In the second condition, some sort of "magic" happens (from the adult's point of view). The screen keeps rotating and, as it were, goes through the space occupied by the teddy bear (the unexpected condition—in fact, as the screen rotates upward, the teddy bear is removed by the experimenter without the observer being able to see the removal). It turns out that children tend to stare longer at events of this sort than at those of the normal, expected type. That is, they show surprise at (4)"abnormal" events, which in turn suggests that they have the expectation that objects (like teddy bears or bottles) persist in their location and are solid. What is striking is that this surprise is manifest at three months of age, when the infants cannot possibly have elaborated a theory of solid objects from experience. Hauser (cf. 1996) has pushed this line of inquiry further, showing that rhesus monkeys are endowed with a similar theory of discrete objects versus substances. Going back to children, it is highly plausible that such knowledge, which children appear to be endowed with at birth, guides them as an identification criterion for novel objects versus substances they encounter; later on, such knowledge guides them in acquiring language. For example, upon encountering a class of solid objects, say bottle openers, the child identifies some key properties of the objects (say, shape and function) and then generalizes it to other objects of the same sort (forming the concept of a uniform class of objects, bottle openers in general). Upon encountering, instead, a new paste or powder, one again identifies some of its key properties (in this case it won't be shape but, say, texture and what one typically does with it) and then generalizes such properties to other portions of the same substance (see, e.g., Soja, Carey, and Spelke 1991). Knowing that things are set up in this way (i.e., that they are naturally sorted in substances and objects) makes identification and naming easier. When language comes in, common nouns will naturally fall into two categories accordingly.

The view we have developed so far can be summarized as follows: (5)The world is structured in objects and substances defined in terms of the way they behave as they move across space and interact with each other. Children seem to have inborn knowledge that the world is so structured. It might be tempting to speculate on the kind of adaptive advantages that would descend from such knowledge. But be that as it may, the presence and pervasiveness of the object-substance distinction seems to be uncontroversially true. The mass-count distinction registers this fact.

—*from* Gennaro Chierchia, "Language, Thought, and Reality After Chomsky" in *Chomsky Notebook*

問１　下線部 (1) を日本語に訳しなさい。

問２　下線部 (2) を日本語に訳しなさい。

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問３　下線部 (3) の内容を本文に即して説明しなさい。

問４　下線部 (4) の内容を本文に即して説明しなさい。

問５　下線部 (5) を日本語に訳しなさい。

【 III 】 （この問題を選択できるのは外国人受験者のみです。）

Instead of answering Question **I**, only foreign students can choose to write an essay in English on "The Pros and Cons of Remote Learning at Universities." Your essay should be more than 200 words in length.