

## 外 国 語

次の英文は *The New York Times* (2016年6月6日) に掲載された “Do Gorillas Even Belong in Zoos? Harambe’s Death Spurs Debate” (Natalie Angier) の記事を一部改変したものです。この文章をよく読んで、医学科と歯学科の受験者は問題 **3** , **4** , **5** , **6** に答えなさい。保健衛生学科と口腔保健学科の受験者は問題 **1** , **2** , **3** , **5** , **6** に答えなさい。解答は解答用紙の指定された欄に記入すること。

\*印のついている語の注は本文のあとに示されています。

Harambe, the 17-year-old Western lowland gorilla shot dead at the Cincinnati Zoo in May after a 3-year-old boy fell into his enclosure, may be physically gone, his tissues harvested for research and his sperm extracted to help diversify the captive breeding gene pool.

Yet the 440-pound silverback leaves another metaphorical gorilla in the room, raising questions that extend far beyond the particulars of the case, including whether the zoo or the boy’s mother were more to blame for Harambe’s death.

For primatologists and conservationists who devote their lives to studying the great apes and to doing what they can to help protect the rapidly *vanishing* populations of the primates in the wild, a linked set of ethical and practical dilemmas looms almost unbearably large.

As research continues to reveal the *breadth* of our genetic, emotional and cognitive kinship with the world’s four great apes — gorillas, chimpanzees, bonobos and orangutans — many primatologists admit to feeling frankly uncomfortable at the sight of a captive ape on display, no matter how luxurious or “natural” the zoo exhibit may be.

“When I visit zoos, I have to turn off my feelings and just tell myself that I am at a museum admiring nature’s masterpieces,” said the primatologist Sarah Blaffer Hrdy, professor emerita at the University of California, Davis. “Otherwise, I can’t really justify keeping great apes in cages.”

At the same time, researchers *acknowledge* that apes in today's zoos, at least in the industrialized world, were all born and raised in captivity, and could no more survive being "set free" into the forests of Africa or Indonesia than could the average tourist on safari.

Catherine Hobaiter of St. Andrews University in Scotland, who studies chimpanzees in Uganda, described the reaction of zoo gorillas that had been raised in indoor enclosures when the zoo finally added an outdoor annex to the exhibit.

"It was heartbreaking to see," she said. "The gentlest specks of rain, and the gorillas were drumming on the door to get back inside. They were afraid of getting wet."

Yet while primatologists *concur* that people have a moral obligation to care for the thousands of apes who are now in captivity and may live 60 years or longer, they differ on what that care should look like.

2)

Barbara Smuts, a *renowned* primatologist at the University of Michigan, recently distributed a petition asking that the other gorillas at the Cincinnati Zoo be relocated to a sanctuary far from the ogling, screeching crowds of their clothed relations.

Researchers also disagree on whether we should continue breeding apes in captivity, and if so, to what end. Some experts believe that well-designed zoos play an essential educational role, and that exposure to a flesh-and-blood ape can be a transformative experience, especially for children.

"I remember going to the Milwaukee zoo when I was a kid and seeing the gorilla," said Peter D. Walsh, a biological anthropologist at Cambridge University who works on gorilla conservation in Africa. "I was rapt. It's like a drug. You don't get that emotional bond from an IMAX movie."

Others deride most zoos as little more than amusement parks with educational placards that few people bother to read.

"There's no good evidence that captive apes are having any positive effect on their wild relatives," said Marc Bekoff, a behavioral ecologist and professor

emeritus at the University of Colorado. As for education, he added, “one of the most wonderful and educational lessons in biodiversity I’ve ever seen was a snail exhibit at the Detroit Zoo.”

Peter Singer, a bioethicist at Princeton University, said, “Our primary concern ought to be the well-being of gorillas, but zoos are constructed the other way around: The primary concern is that humans can see the gorillas.”

No matter their feelings about zoos, primatologists despair at the shocking statistics on wild apes.

According to the IUCN Red List of Threatened Species, all species and subspecies of wild apes rank as endangered or critically endangered, and in all cases, the trends point implacably downward. Apes are being lost to poaching\*, the bushmeat\* trade, habitat destruction and disease.

In Sumatra and Borneo, forests have been pulped to make way for palm oil plantations, with *devastating* consequences for orangutans. Since the 1990s, 80 percent of Eastern lowland gorillas in Central Africa have died of Ebola.

Even among Jane Goodall’s celebrated chimpanzees of the Gombe forest in Tanzania, human activities have lately *slashed* the population by almost 40 percent.

By the Red List reckoning, the planetwide total for all wild apes amounts to 350,000 individuals, down from premodern figures estimated in the millions.

Nor does it help, said Dr. Walsh of Cambridge University, that the public’s concern for the environment is now focused almost exclusively on climate change: “I feel like shouting, ‘Hey, guys, you could end climate change tomorrow and we’d still be facing the greatest extinction crisis we’ve ever seen.’”

\* \* \*

There’s a reason humans and the great apes are bunched together taxonomically in the family Hominidae. We split off from chimpanzees and gorillas only about six million to 10 million years ago. The DNA of a chimpanzee is about 98 percent analogous to ours.

Apes are avid tool users and tool makers. Chimpanzees fashion sticks to fish termites from a mound and to hunt monkeys hidden in tree holes. Orangutans can learn to row a boat and flip pancakes on a griddle.

In observations at the Prague Zoo, Khalil Baalbaki watched gorillas turn empty crates into a series of household objects: tables, chairs, stepping stools to extend their reach, trays to carry their food and as weapons to be thrown in a fight. One young female gorilla *extracted* wood stuffing from a crate to fashion a pair of slippers, padding her feet with the fibers before venturing onto the snow.

According to meta-analyses of intelligence studies, the average ape has the cognitive, quantitative and spatial skills of a 2½- to 4-year-old human child. Yet Tetsuro Matsuzawa's laboratory in Japan showed that an exceptionally sharp-witted chimpanzee named Ayumu was twice as good as any university student at recalling numbers flashed on a screen.

The great apes also exhibit basic temperamental differences. David Watts, a primatologist at Yale University who has studied chimpanzees and gorillas in the wild, found that while chimpanzees generally didn't like people or show much interest in their affairs, gorillas were deeply curious.

"I quickly realized that the gorillas not only wanted to touch me, but to climb all over me," he said. In one famous incident, a female gorilla stuck her hand down the shirt of a female primatologist and started feeling around.

That *innate* curiosity, researchers suggest, may explain some of Harambe's behavior seen on the video of his *fatal* encounter with the boy who fell into his enclosure — fiddling with the boy's clothing, taking a quick peek as he pulled the boy's pants upward. He tried pulling the boy into a grotto, perhaps to protect him or to claim the fascinating new playmate for himself.

But with the mounting commotion and screams from the onlookers above, researchers said, Harambe grew agitated and soon assumed the stance of a male silverback in dominance display mode.

"It's what we used to call strutting, and male gorillas do it all the time," Dr. Watts said. "A silverback will stand or walk around with arms and legs stiffly

extended, his hair piloerect, to make himself look bigger and more impressive. Harambe was definitely doing that when he was standing over the boy.”

The behavior is mostly bluster: If Harambe had been intent on killing the boy, Dr. Hrdy said, as an interloping male gorilla might kill the babies sired by the silverback he just deposed—the quicker to claim the resident females for himself — “he would have <sup>3)</sup>done it in seconds,” probably with a bite to the skull.

Nevertheless, the strut introduced risks of its own, particularly when Harambe began dragging the boy around the enclosure, as a displaying gorilla will sometimes drag around a large branch.

Dr. Watts, who said he had been “punched, knocked over and dragged” by male gorillas but never seriously injured, wishes he had been at the Cincinnati Zoo as the crisis unfolded. <sup>4)</sup>He would have volunteered to enter the enclosure and assume a submissive fetal position on the floor to try drawing the gorilla’s attention from the boy. (He admits he is engaging in a kind of Monday morning strut-display of his own.)

\* \* \*

The look and logic of zoos have changed drastically over time. When the first apes were exhibited in the West, in the late 18th century, <sup>5)</sup>they were seen as trophies, evidence of imperial victory over savagery. The unfortunate souvenirs usually died within months of their arrival from disease or malnutrition.

As zoos sought to improve the health of their resident apes, the enclosures often assumed a blandly sterile configuration, devoid of risky foliage or toys. That approach led to problems of its own, like boredom, repetitive behaviors and depression.

More recently, most zoos have worked hard to give apes the mental and emotional stimulation they need, with tires for swinging, rocks for climbing, social groups for mutual grooming or bouts of contagious laughing or yawning.

Frans de Waal of Emory University and the Yerkes National Primate Research Center said he was a “big fan” of quality zoos, although perhaps not for large,

gregarious animals like killer whales and elephants. “But for great apes, the record now is excellent,” he said.

Their health is good, they reproduce readily in captivity and they live 10 years or more longer than their wild peers. Indeed, the first gorilla born in captivity, a female named Colo, is still alive at the zoo in Columbus, Ohio, for which she was named. She will turn 60 in December, a birthday the great-great grandmother will not celebrate, zoo officials said, by wearing the adorable pinafore and straw bonnet her caretakers dressed her in as a youth.

Dr. de Waal said that it was easier than ever to keep apes enriched and entertained.

“They like to work on computers,” he said. “When you bring in a touch screen, they get excited about that, and it’s a great way to teach the public about how smart they are.”

But what the public must accept, he said, is that the pleasant notion of zoos as nurseries for restocking wild populations of endangered animals has proved a fantasy in all but a handful of cases, most notably the successful reintroduction of zoo-bred golden lion tamarins into the Atlantic Forests of Brazil.

By contrast, when the British aristocrat Damian Aspinall released 11 of his captive-bred lowland gorillas into the wilds of Gabon in 2014, five were soon violently dispatched, probably by a resident gorilla, while others disappeared.

Yet critics say that zoo life has its serious downsides, too, as Harambe’s story made plain.

The captive ape is the designated “ambassador” for its kind, an object lesson in evolutionary fraternity and shared fate for those of us who remain on the other side of the glass, proclaiming the primacy of human needs, desires and lives.

注

poaching 密猟

bushmeat 野生動物の肉

# 問題

保健衛生学科と口腔保健学科のみ

1 The following words appear in bold italics in the text. On the answer sheet, circle the letter indicating the best definition for each word (based on how the word is used in the text).

*vanishing*

- |             |                |                 |
|-------------|----------------|-----------------|
| a) aging    | b) changing    | c) disappearing |
| d) evolving | e) multiplying |                 |

*breadth*

- |           |             |                 |
|-----------|-------------|-----------------|
| a) extent | b) gap      | c) implications |
| d) link   | e) problems |                 |

*acknowledge*

- |          |             |         |
|----------|-------------|---------|
| a) admit | b) disagree | c) fear |
| d) study | e) teach    |         |

*concur*

- |           |             |           |
|-----------|-------------|-----------|
| a) agree  | b) complain | c) debate |
| d) insist | e) wish     |           |

*renowned*

- |                |            |           |
|----------------|------------|-----------|
| a) experienced | b) famous  | c) recent |
| d) retired     | e) strange |           |

*devastating*

- |              |                      |                   |
|--------------|----------------------|-------------------|
| a) effective | b) extremely limited | c) highly unusual |
| d) numerous  | e) terrible          |                   |

*slashed*

- |            |             |             |
|------------|-------------|-------------|
| a) angered | b) divided  | c) improved |
| d) reduced | e) replaced |             |

*extracted*

- |              |            |            |
|--------------|------------|------------|
| a) added     | b) built   | c) created |
| d) discarded | e) removed |            |

*innate*

- |             |              |            |
|-------------|--------------|------------|
| a) acquired | b) dangerous | c) intense |
| d) natural  | e) odd       |            |

*fatal*

- |               |                  |          |
|---------------|------------------|----------|
| a) curious    | b) deadly        | c) scary |
| d) surprising | e) unforgettable |          |

## 保健衛生学科と口腔保健学科のみ

2 What do the following words, which are underlined in the text, refer to? Answer using one to five English words that can replace the underlined text.

- 1) they                                      2) they                                      3) done it  
4) He                                         5) they

## 全学科

3 According to the text, decide whether the following statements are true (T) or false (F). For each statement circle the correct answer on the answer sheet.

- 1) The article implies that scientists are discovering more and more evidence of similarities between human beings and apes.
- 2) Many primatologists admit that they do not really like the practice of keeping apes in zoos.
- 3) To justify keeping great apes in cages, Sarah Blaffer Hrdy needs to visit a natural museum to turn off her feelings.
- 4) Based on her comments, Catherine Hobaiter likely believes that zoo gorillas should be set free.
- 5) The article claims that primatologists disagree about the moral obligation of caring for apes currently in captivity.
- 6) A primatologist named Barbara Smuts tried to ask the gorillas themselves at the Cincinnati Zoo whether they would like to be moved to a different location.
- 7) It is reasonable to conclude that Peter Walsh thinks zoos can play an important educational role.
- 8) According to the article, some researchers believe zoos should become more like amusement parks.
- 9) According to Marc Bekoff, there is no good evidence that keeping apes in zoos has any positive effect on non-captive apes.



- 10) Peter Singer implies that zoos are not designed in the best interests of gorillas.
- 11) According to the IUCN Red List of Threatened Species, wild apes are becoming more and more endangered.
- 12) It is reasonable to conclude that Ebola has been the leading cause of death for Eastern lowland gorillas in Central Africa over the past twenty-five years.
- 13) Although there are only about 350,000 today, it is estimated that there were millions of apes worldwide in the last century.
- 14) Peter Walsh claims that climate change is the biggest reason for the decline in the wild ape population.
- 15) The article points out that humans, gorillas, chimpanzees, bonobos, and orangutans all belong to the same biological family.
- 16) The Prague Zoo gave gorillas tables and chairs to use as tools.
- 17) Intelligence studies suggest that the average ape has better cognitive, quantitative and spatial skills than the average three-year-old human child.
- 18) The chimpanzee Ayumu could recall twice as many numbers as any university student could in an experiment in which numbers briefly appeared on a screen.
- 19) David Watts found that gorillas seem to be more interested in humans than chimpanzees are.
- 20) The article suggests that a female primatologist was offended when a female gorilla stuck her hand down her shirt.
- 21) Dr. Hrdy seems to believe Harambe didn't want to kill the boy who fell into his enclosure.
- 22) Dr. Watts entered the enclosure in order to distract Harambe, but unfortunately the gorilla did not pay any attention to him.
- 23) The first apes kept in zoos at the end of the 1700s usually did not live long.
- 24) Based on his comments, Frans de Waal seems to think that apes do not belong in zoos.

## 医学科と歯学科のみ

**4** Briefly (in 10 to 25 words) answer the following questions in your own words, using complete English sentences. Base your answers on the information presented in the article.

- 1) What are some reasons why wild apes are endangered?
- 2) What are some ways that chimpanzees are similar to humans?
- 3) What problems did apes have in the zoos of the past?

## 全学科

**5** 下線部(ア)と(イ)を日本語に訳しなさい。

## 全学科

**6** ゴリラやチンパンジーなどの霊長類を動物園で飼育することの是非について、この記事の著者が挙げていることを以下のキーワードをすべて用いて日本語で400字以内にまとめなさい。

知能(intelligence)

絶滅危機(extinction crisis)

健康(health)