2024 - 3

医学部医学科英語入試問題

下記の注意事項をよく読んで解答してください。

◎注意事項

1. 配付された問題冊子および解答用マークシートに，それぞれ受験番号(4桁)ならびに氏名を記入し，解答用マークシートの受験番号欄に自分の番号を正しくマークしてください。
2. マークには必ずHBの鉛筆を使用し，濃く正しくマークしてください。

   記入マーク例：良い例 ●

   悪い例 ∅ ⓘ ∅ ⊙
3. マークを訂正する場合は，消しゴムで完全に消してください。
4. 解答用マークシートの所定の記入欄以外には何も記入しないでください。
5. 解答用マークシートを折り曲げたり，汚したりしないでください。
6. 「止め」の合図があったら，問題冊子の上に解答用マークシートを重ねて置いてください。

(受験番号のマークの仕方)

受験番号			
千	百	十	一
0	0	1	2

受験番号			
千	百	十	一
●	●	⓪	⓪
①	①	●	①
②	②	②	●
③	③	③	③
④	④	④	④
⑤	⑤	⑤	⑤
⑥	⑥	⑥	⑥
⑦	⑦	⑦	⑦
⑧	⑧	⑧	⑧
⑨	⑨	⑨	⑨

受験番号 [　　]　氏　名 [　　]

1 次の英文を読み，設問1．～15．に最も適した答えをa．～d．の中から一つ選べ。

1 Our memory is imperfect: We remember some moments but lose others like a problematic tape recorder. Sometimes, we even "remember" things that never happened — a phenomenon that researchers call "false memory" (and a reason why eyewitness testimonies can be misleading).

2 But where do these false memories come from? Previous studies have suggested that sleep plays a role in the formation of false memories, and in a recent small study, researchers homed in (2) on one particular aspect of sleep, called sleep spindles, as the potential culprit.

3 Sleep spindles are quick bursts of brain activity during sleep, according to the study, which was published in the journal *Neuropsychologia*. They occur in one of the lighter stages of sleep, called Stage 2, which is defined by a slowed heart rate and no eye movement.

4 To study how sleep spindles may play a role in the formation of false memories, the researchers recruited 32 well-rested, non-caffeinated university students. The participants were shown a handful of words — all related to the same topic — before being hooked up to a polysomnography device, which monitors brain activity during sleep. [a] The participants were then randomly assigned to one of two groups: a napping group or an awake group. The napping group was sent to a room with a bed and blackout blinds, while the awake group was told to watch a nature documentary or a Mr. Bean cartoon. The polysomnography device recorded brain activity to make sure the napping group was actually asleep and not just lying in bed. [b]

5 After their respective activities, all of the participants were again shown a series of words and were asked if they had seen the words before. [c] What's more, the researchers threw in some "lure" words that were related to the topic of all the words but weren't shown to the participants before. [d]

6 The researchers found that the students who napped were significantly more likely to fall victim to "lure" words and say that they had seen the words before, creating false memories. The findings were what the researchers had predicted based on previous studies.

7 But the researchers also wanted to test if one side of the brain was more gullible (7) than the other. To do so, the researchers designed the experiment so that the words flashed on the screen far to the left or far to the right in a visual field available to only one brain hemisphere at a time. If you blinked, you missed the word, said lead study author John Shaw, a psychology doctoral student at Lancaster University in England. But this wasn't to be annoying, he added; if the words stayed on the screen for longer, then participants' eyes would adjust so that both hemispheres could read the word.

8 The study found that the right hemisphere of the nappers' brains — which had a greater number of spindles during sleep, as recorded by the polysomnography device — fell more susceptible to "lure" words or false memories than the left. For example, the spindles might promote the word "sleep," telling the brain it remembers it from before, because it goes along with the general gist (10) of words it had previously seen, such as "bed," "dream," "nap" or "snooze," Shaw said.

9 Sleep spindles have been linked to memory formation before, but previous "studies of sleep spindles have only examined true memories," not false memories, Shaw told *Live Science*. Indeed, sleep spindles are thought to play a very important role in consolidating short-term memory into long-term archives in the brain, and can also aid in cortical development. But this is the first study to find that sleep "spindles are accidentally creating false memories," Shaw said.

10 But don't get too mad at your brain — it's just trying to be efficient. "I think that the sleeping brain spends a lot of time and effort trying to identify the most important aspects of what was learned during the previous day," said Robert Stickgold, director of the Center for Sleep and Cognition at Beth Israel Deaconess Medical Center, who was not part of the study.

11 Stickgold noted that the new study doesn't provide enough evidence to undoubtedly say that the right side of the brain is dominant in creating false memories during sleep. "It didn't hit (13) statistical significance, but it was close," he told *Live Science*. "But the correlation with sleep spindles is stronger, and I suspect it is real."

12 Because the study was small, Shaw said he hopes to increase the number of participants with subsequent experiments, in addition to expanding from naps to following the brain's mischief across a full night's sleep.

(出典：Naps Can Make Our Brains 'Remember' Things That Never Happened by Yasemin Saplakoglu, LiveScience, May 3, 2018: Future Publishing Ltd.)

1. According to paragraphs 1 and 2, which of the following is true?
   a. Lack of sleep results in the formation of false memories.
   b. False memory is the phenomenon of misremembering an event.
   c. Researchers view people's memory as a problematic tape recorder.
   d. False memory is often the result of misleading eyewitness testimonies.

2. The underlined phrase "homed in" in paragraph 2 is closest in meaning to _____.
   a. carried
   b. focused
   c. insisted
   d. relied

3. According to paragraph 3, which of the following is NOT true?
   a. Eyes do not move during sleep spindles.
   b. Sleep spindles occur while the heart rate is slowed.
   c. The possible cause of sleep spindles is false memory.
   d. Sleep spindles occur in a lighter stage of the sleep cycle.

4. Which of the following is true about the experiment described in paragraph 4?
   a. The napping group was blindfolded before being sent to a room.
   b. Students in the awake group watched a cartoon in a room with blackout blinds.
   c. The napping group was told to simply lie down in the bed and not to fall asleep.
   d. University students were shown a list of words before they put on a medical device.

5. Where would the following sentence best fit in paragraphs 4 and 5? Choose [a], [b], [c] or [d].

   Some of the words were repeats from the first session, but some were new.

6. According to paragraphs 5 and 6, which of the following is true?
   a. False memories were likely to occur in students who were awake.
   b. The results were consistent with what the researchers had anticipated.
   c. The students who napped were able to tell which of the words were the lure words.
   d. Participants had previously been shown the lure words that the researchers threw in.

7. The underlined word "gullible" in paragraph 7 is closest in meaning to _____.
   a. discerning
   b. hardwired
   c. sensible
   d. unsuspecting

8. The experiment was designed in such a way that _____.
   a. both sides of the brain were tested at the same time
   b. participants would not miss a word even if they blinked
   c. only one hemisphere of the brain was working at a time
   d. the words were flashed on the far side of the visual field on either side

9. According to paragraph 8, which of the following is true?
   a. Nappers' brains had more spindles during sleep.
   b. The word "sleep" was recognized more quickly than "nap" or "snooze."
   c. The brain was likely to remember the word "sleep" if it had seen words such as "dream."
   d. Nappers' left hemispheres were more prone to false memories than their right hemispheres.

10. The underlined words "general gist" in paragraph 8 is closest in meaning to _____.
   a. appropriate content
   b. basic meaning
   c. common usage
   d. subtle nuances

11. According to paragraphs 9 and 10, which of the following is true?
   a. People often resent their brain for being too inefficient.
   b. The brain spends a lot of time and effort trying to stay asleep.
   c. False memory has been linked to the formation of sleep spindles.
   d. The sleeping brain searches for key ideas from the previous day's learning.

12. According to paragraphs 9 - 11, which of the following is NOT true?
   a. Sleep spindles may assist in the development of the cortex.
   b. Previous studies of sleep spindles have examined only true memories.
   c. Sleeping spindles have not been previously associated with memory formation.
   d. Sleep spindles help the brain convert short-term memory into long-term memory.

13. The underlined word "hit" in paragraph 11 is closest in meaning to _____.
   a. bear
   b. gain
   c. reach
   d. share

14. Robert Stickgold thinks that _____.
   a. sleep spindles and false memories are strongly correlated
   b. the study supports the claim that the right side of the brain is dominant
   c. creative memories are produced in the right side of the brain during sleep
   d. the creation of false memories during sleep involves both sides of the brain

15. According to the passage, which of the following is true?
   a. Researchers recruited students who drank a lot of coffee for the experiment.
   b. Researchers hope to track sleep spindles over the course of a full night's sleep.
   c. The study showed that sleep spindles don't accidentally produce misleading memories.
   d. The subjects' eyes adjusted to the words on the screen so that only one hemifield could read the words.

2 次の英文を読み，1～10の下線部に入る最も適した語(句)をa．～d．の中から一つ選べ。

Cats are not born attached to people; they're born ready to learn how to attach themselves to people. Any kitten denied experience with people will revert toward its ancestral wild state and become feral. Something in their evolution has given domestic cats the inclination — and it's no more than that — to trust people during a brief period when they're tiny kittens. This minute advantage enabled a few wildcats to leave their origins behind and find their place in environments created by the planet's dominant species. Only one other animal has done this more successfully than the domestic cat, and that, _____(1)_____, is the domestic dog. Like puppies, kittens arrive into the world helpless, and then have just a few weeks in which to learn about the animals around them — an even shorter time for cats than for dogs — before they must make their own way in the world. By comparison with our own infants, which are dependent on us for years, this is a very _____(2)_____ period. Even in their wild ancestors, the wolf and the wildcat, this window must have been open just a crack, waiting for evolution to allow the young animals of these two species to learn to trust us, and thereby become domesticated.

Kittens and puppies alike become more closely integrated into human society than any other animal can, but the way the two species achieve this _____(3)_____. Early scientific studies of dogs from the 1950s established the notion of a primary socialization period, a few weeks in the puppy's life when it is especially sensitive to learning how to interact with people. A puppy handled every day from seven to fourteen weeks of age will be friendly toward people and virtually indistinguishable from a puppy whose handling started four weeks earlier. For the next quarter century, scientists generally assumed that kittens must be the same, _____(4)_____ it was not essential to handle kittens until they were seven weeks old. In the 1980s, when researchers finally performed corresponding tests on cats, those recommendations had to change.

These experiments confirmed that the concept of a socialization period could indeed be applied to cats, but that this period was comparatively curtailed in kittens. The researchers handled some kittens from three weeks old, some from seven weeks old, and the rest not until the testing started at fourteen weeks. The kittens started learning about people much earlier than puppies do. As expected, the kittens handled from their third week were happy to sit on a lap when they reached fourteen weeks old, but those whose contact with people had been delayed to seven weeks jumped off within half a minute — though not as quickly as those that had never been handled during their first fourteen weeks, which _____(5)_____ stayed put for less than fifteen seconds.

Could this be explained by the seven-week-handled kittens being more active than the three-week — in other words, no less happy to be on a person's lap, just more eager to explore their surroundings? It quickly became obvious that this could not be the _____(6)_____. When each kitten was

subsequently given the opportunity to cross a room toward one of their handlers, only the three-week kittens did so reliably — and were quick to do it, too, giving every impression that they were attracted to the person, who was by then very familiar to them. The seven-week and unhandled kittens did not seem unduly frightened of the person, and would occasionally get close to her. Some even apparently asked to be _____(7)_____, but these two groups were more or less indistinguishable in their behavior.

The handling that those seven-week kittens received up to the point of testing had not produced the powerful _____(8)_____ to people that was obvious from the behavior of the three-week kittens. For the scientists taking part, the tests simply formalized what was already obvious from the kittens' behavior. As the leader of the research team noted, "In observing and interacting with these cats during testing and in their home rooms, it was obvious to everyone working in the lab that the late-handled [i.e., seven-week] cats behaved more like the unhandled cats."

The scientists concluded that cats need to start learning about people much earlier than dogs must. Dog breeders ought to handle puppies before they are eight weeks old, but if puppies are not handled until that age, then with the right _____(9)_____ treatment they can still become perfectly happy pets. A kitten that encounters its first human in its ninth week is likely to be anxious when near people for the rest of its life. The paths that lead to an affectionate pet on one hand and a wild scavenger on the other _____(10)_____ early in the cat's life; indeed, if it were any earlier, few cats would be able to forge relationships with us.

(出典：From Cat Sense by John Bradshaw, copyright (c) 2013. Reprinted by permission of Basic Books, an imprint of Hachette Book Group, Inc.)

解答不要

1. a. as it were　b. for instance
   c. in the end　d. of course

2. a. brief　b. long
   c. regular　d. scarce

3. a. affords　b. differs
   c. exists　d. possesses

4. a. and that　b. as if
   c. even though　d. simply because

5. a. eventually　b. minutely
   c. oddly　d. typically

6. a. outcome　b. cause
   c. experiment　d. opposite

7. a. turned down　b. thrown away
   c. picked up　d. put off

8. a. attraction　b. contraction
   c. protraction　d. subtraction

9. a. biological　b. remedial
   c. surgical　d. chemical

10. a. compete　b. incorporate
    c. diverge　d. withdraw

3 次の英文を読み，設問1．～15. に最も適した答えをa．～d．の中から一つ選べ。

1 In my decade of teaching bioethics at Columbia University, I have always advocated for the application of five traditional guidelines to evaluate the ethics of an emerging biotechnology. These guidelines are: beneficence, maleficence, justice, autonomy, and respect for human dignity. Still, hovering in the back of my mind, there is another guideline to be considered called the "yuck factor."

2 Originally termed by Dr. Arthur Caplan, the "yuck factor" was popularized by Dr. Leon Kass in 1997 when he described his position against cloning human beings. Dr. Kass defined the bioethical "yuck factor" as an intuitive response rather than a reasoned, ethical or moral violation by a new technology. Here is an extreme example: existing stem cell technologies could be used to create laboratory-cloned human hamburgers — something that would undoubtedly trigger the yuck factor.(2) Of course there are no known research laboratories pursuing the cloning of human hamburgers, but many scientists are experimenting with cloning beef hamburgers.

3 The yuck factor also has been used to argue against other biotechnologies such as human-animal chimeras. Human stem cells could be theoretically transplanted into the fetus of an animal to reconstitute a human organ system in an animal model. Since the early studies to reconstitute a human immune system in mice, scientists have begun reconstituting human sperm and eggs or brain cells in mice. While many scientists understand the value of such animal models in studying gamete cell differentiation and neuroscience, few would actually ethically approve the use of human sperm produced in mice as a sperm source to generate a human embryo. Why? In large part, because of the yuck factor.

4 The technology that would be used to generate laboratory-cloned human meat for human consumption is similar to that used to clone beef hamburgers; it involves harmlessly obtaining a small sample of muscle tissue from a living animal and isolating individual muscle stem cells called myosatellites. Myosatellites can reproduce fairly quickly in the laboratory and, when cultured under the appropriate in vitro culture conditions, fuse to form(5) muscle fibers. Layered together, these strands of muscle cells and fibers form the essential components necessary to produce cultured edible meat.

5 Professor Mark Post of Maastricht University in the Netherlands created the world's first lab-grown cloned beef hamburger in 2013. Culinary experts tasted the hamburger and concluded that the hamburger tasted like real meat, although it was a little dry. The dryness was probably due to the lack of fat cells in the meat, since it is difficult to culture adipose cells together with muscle cells. Recent scientific innovations, such as the creation of artificial veins in synthetic organs, can improve the taste of cloned hamburger.

6 This first beef hamburger cost $350,000. Currently, the cost of the cloned beef has been reduced by 80 percent to $70,000. The commercial goal is to produce a five-ounce cloned hamburger for $10. There is even a cookbook containing 45 recipes using in vitro meat or cloned hamburgers as the main ingredient.

7 The advantages to producing cloned, animal-derived hamburgers include: a) creating a more sustainable option for meat production, b) eliminating animal waste, a significant source of land and water pollution, c) halting the livestock's production of methane gas that is a significant source of global warming and d) producing healthier meat that is low in saturated fats and high in omega 3 fatty acids. Finally, cloned beef doesn't involve the slaughter of millions of cows and is a viable alternative to potential issues of animal cruelty.

8 [a] Producing laboratory-cloned beef hamburgers triggers another interesting bioethical dilemma. Will a cloned beef hamburger be deemed Kosher or Halal certified by Jewish and Islamic scholars, respectively? Both Jewish and Islamic law requires ritual slaughtering before meat from a cow can be eaten. [b] Moreover, if the cloned meat is derived from pig muscle, will these religious scholars permit or ban its consumption? [c] The resolutions of these culturally-based ethical issues remain to be decided. [d]

9 History has taught us several bioethical lessons that are pertinent to the ethics of cloned human meat. When the report of cloning Dolly, the sheep, appeared in 1997, there was considerable moral disdain in applying the technology to cloning human beings despite the natural precedent of identical twins being human clones. (11) The tide of public opinion is now slowly changing regarding the application of cloning technology to human reproduction. A new Gallup poll released in 2016, found that 13 percent of Americans now say that it's morally okay to clone human beings. The percentage of individuals who support human cloning is at its highest level in 15 years, and probably reflects the potential clinical applications of cloning to human infertility and to mitochondrial replacement therapy.

10 In fact, any new technology that presents a defined and necessary medical benefit has a high probability of eventually being ethically accepted, even if it initially elicits the yuck factor. That was true in the case of fecal transplants, which were first proposed to cure *C. difficile* infections. However, research emerging from fecal transplants in treating other diseases such as Crohn's disease and ulcerative colitis has greatly improved our understanding of the role of microbiome in combatting a wide variety of diseases and (13) subdued the relevance of the yuck factor.

11 There is no data, as yet, describing the potential medical, environmental, or nutritional benefits that ethically justifies the production and consumption of cloned human hamburgers. If such foods will have medical benefits, then the public may be more likely to accept their consumption.

(出典：Making Human Hamburgers: Bioethics and the Yuck Factor John Loike, Scientific American, September 21, 2016. Reproduced with permission. Copyright (c) 2016 SCIENTIFIC AMERICAN, a Division of Springer Nature America, Inc. All rights reserved.)

1. According to paragraph 1, which of the following is NOT considered to be one of the traditional guidelines for evaluating the ethics of biotechnology?
   a. confidence
   b. fairness
   c. independence
   d. morality

2. The underlined phrase "trigger the yuck factor" in paragraph 2 is closest in meaning to _____.
   a. evoke happiness
   b. gain recognition
   c. prove impossible
   d. sound disgusting

3. According to paragraph 2, which of the following is true?
   a. Dr. Caplan made the term "yuck factor" popular.
   b. Dr. Kass was opposed to the cloning of human beings.
   c. A "yuck factor" is the cause of moral offense with a new technology.
   d. A number of laboratories continue to try to clone human hamburgers.

4. According to paragraph 3, which of the following is true?
   a. Stem cells from a human being have been transplanted into the fetus of an animal.
   b. Few scientists agree that developing human embryos in mice is morally acceptable.
   c. The possibility of human-animal chimeras is unlikely to give rise to the "yuck" factor.
   d. The majority of scientists dispute the value of animal models in the study of neuroscience.

5. The underlined phrase "fuse to form" in paragraph 4 is closest in meaning to _____.
   a. are turned into
   b. combine to become
   c. get confused with
   d. make room for

6. According to paragraph 4, which of the following is true?
   a. Myosatellites have a high rate of multiplication in the lab.
   b. Myosatellites cannot be cultured under in vitro conditions.
   c. Cloning technology is used to obtain harmless muscle tissue from a living animal.
   d. Human hamburgers are produced using a different technology than beef hamburgers.

7. According to paragraph 5, which of the following is NOT true?
   a. Fat cells and muscle cells are difficult to culture together.
   b. The first lab-grown cloned beef hamburger was created in 2013.
   c. Food experts couldn't distinguish the cloned beef from the real beef.
   d. Creating artificial veins in synthetic organs may help cloned hamburgers taste better.

8. According to paragraphs 6 and 7, which of the following is NOT true?
   a. Food companies hope to produce a ten-dollar five-ounce cloned hamburger.
   b. Cloned beef is a viable alternative to the potential problem of animal cruelty.
   c. The first cloned beef hamburger cost 80 times the price of today's cloned hamburger.
   d. Eliminating land and water pollution is one of the benefits of producing cloned meat.

9. Where would the following sentence best fit in paragraph 8? Choose [a], [b], [c] or [d].
   With cloned beef there is no need for animal slaughter.

10. According to paragraph 8, which of the following is true?
    a. The ritual slaughter of cows is prohibited by Islamic law.
    b. Cloned beef hamburgers will be an answer to a bioethical dilemma.
    c. Jewish scholars are likely to certify a cloned beef hamburger as kosher.
    d. Ethical issues need to be resolved before cloned meat is widely accepted.

11. The underlined phrase "The tide of public opinion" in paragraph 9 is closest in meaning to _____.
    a. the public's perception
    b. people's general orderliness
    c. the level of public satisfaction
    d. positive acceptance from people

12. According to paragraph 9, which of the following is true?
    a. Identical twins were thought to exemplify human cloning until 1997.
    b. Many doctors rely on the clinical applications of cloning to treat human infertility.
    c. In 2016, more than one-tenth of Americans believed that human cloning was morally acceptable.
    d. The cloning of Dolly did not lead to moral disapproval of using the technology to clone human beings.

13. The underlined phrase "subdued the relevance of" in paragraph 10 is closest in meaning to _____.
    a. activate again
    b. greatly intensified
    c. somewhat reduced
    d. totally suppressed

14. According to paragraph 10, which of the following is NOT true?
    a. Research on fecal transplants has helped us better understand the microbiome.
    b. Fecal transplants have been used to treat Crohn's disease and ulcerative colitis.
    c. A technology that provides a medical benefit has a high probability of ethical acceptance.
    d. Researchers suspected that *C. difficile* infection could be the result of fecal transplantation.

15. According to the passage, which of the following is true?
    a. Human stem cells have been successfully transplanted into an animal fetus.
    b. Meat that has a high content of omega 3 fatty acids is not considered to be healthy.
    c. The world's first lab-grown cloned beef hamburger was created in the 20th century.
    d. We know of no medical benefits that would ethically justify producing cloned human meat.

4 次の1．～10. はEthics of iPS cells と題する一つづきの文章の一部である。1．～10. の各英文それぞれについて，下線部分に誤りを含んでいるものを記号(a)～(d)の中から一つ選べ。誤りがない場合は(e)を選べ。なお，3．と4．は一文であり，3．がコンマで終わり4．が小文字で書き始められているのは誤りではない。

1. The new technology of iPS (a) cells has been (b) greeted enthusiastically for opponents (c) of human ES cell research. (d) No Error (e)

2. At first sight this may appear odd. (a) If two flasks of cells have (b) identical properties, how can one be 'good' and the others (c) 'bad'? The answer again lies (d) in the question of origin. No Error (e)

3. If you believe that a preimplantation human embryo is a person (a) with human rights, (b) then cells made from such (c) an embryo are badly necessary, (d) No Error (e)

4. whereas iPS cells can be prepared from (a) a small skin biopsy from (b) a willing (c) donor, or even the white blood cells from (d) a small blood sample, and are therefore good. No Error (e)

5. iPS cells are described (a) as 'adult stem cells' by the opponents of stem cell research even (b) though they are essentially (c) identical to ES cells and quite different from tissue-specific stem cells found (d) in adults. No Error (e)

6. However, iPS cells are not devoid of (a) ethical issues. We may soon see banks (b) of iPS cells made (c) from numerous alive (d) donors. No Error (e)

7. Should the donors retain (a) any rights in relation to the users (b) to which the cells are put, (c) or to any commercial income that might accrue from them? (d) No Error (e)

8. Will the donors be protected against (a) any discovery of adverse mutations in (b) the DNA that (c) might affect life prospects but (d) life insurance? No Error (e)

9. Moreover, human iPS cells could theoretically inject (a) into blastocysts to generate (b) chimaeras, which could be another route (c) to reproductive (d) cloning. No Error (e)

10. These and many other questions will not (a) doubt keep the ever (b) increasing cohorts of bioethicists employed (c) for many years to come. (d) No Error (e)

(出典：Stem Cells: A Very Short Introduction by Jonathan Slack, Oxford University Press (c) J. M. W. Slack 2012. Reproduced with permission of the Licensor through PLSclear.)

5 次の英文を読み，設問1．～15. に最も適した答えをa．～d．の中から一つ選べ。

著作権の関係により表示しません

著作権の関係により表示しません

著作権の関係により表示しません

著作権の関係により表示しません

著作権の関係により表示しません

著作権の関係により表示しません

6 次の日本文の下線部1～5を英訳した場合，それぞれ最も適切な英文をa．～e．より一つ選べ。

眼瞼裂が大きいヒトの眼では，「白眼」がいつも露出している。白眼とは眼球の結膜の部分であり，そのすぐ下の強膜の線維が光を反射するので，白色に見える[1]。多くの動物は，白眼はほとんど見えない。それは眼球に比べて眼瞼裂が小さく，しかも，「黒眼」といわれる虹彩の周りの結膜が着色されているからである[2]。つまり，わざわざ白眼を目立たなくしている。それは，視線（眼差し）の方向を隠すためだ。

野生動物にとっては，視線の方向を露わにしてどこを見ているかを敵に悟られると，困ることが多い[3]。たとえば，インパラが草を食べることに集中していることがわかれば，ライオンにとっては好都合だ。逆に，ライオンがどのインパラに狙いをつけているかが見破られれば，そのインパラにすぐに逃げられてしまうだろう。

ヒトでは，白眼の露出により視線を明らかにすることによって，相手に注目していることを示し，個体[4]どうしの社会的な関係を維持していると解釈されている。つまり，ほかの動物との間に生じるかもしれないリスクよりも，人間どうしで仲よくすることの利点[5]のほうをヒトは選んでいるのだ。

（出典：馬場 悠男「「顔」の進化」）

1．a．The white of the eye reflects light at the conjunctiva of the eye, so the fibers of the sclera just below it appear white.

b．The white of the eye is the conjunctival portion of the eye, just below which the fibers of the sclera, which appear white, reflect light.

c．The white of the eye is the conjunctival portion of the eye, which appears white because the fibers of the sclera just below it reflect light.

d．Just below the conjunctival portion of the eye, which appears white, are the fibers of the sclera, from which the white of the eye reflects light.

e．The white of the eye is the area of the eye where the conjunctiva and the fibers of the sclera just below it reflect light and appear white.

2. a. This is not only because their eyelid fissure is small in comparison to the eyeball, but also because the conjunctiva around the iris, the darker part of the eye, is colored.
   b. Because the white of the eye is smaller than the iris surrounding the eye, the conjunctiva of the darker part of the eye is colored.
   c. It is because the conjunctiva around the iris is colored, so the darker central portion is said to have a small eyelid fissure.
   d. It is because the colored eyelid fissure is smaller than the eyeball that the conjunctiva around the iris is called the darker portion.
   e. That is why the eyeball is smaller than the eyelid fissure, and moreover, the conjunctiva around the iris, or the darker part of the eye, is larger.

3. a. Wild animals often have trouble realizing where their enemies are looking unless they expose the direction of their gaze.
   b. Wild animals are exposed to the direction of their gaze, so they often have trouble realizing where they are looking.
   c. Wild animals in trouble expose the direction of their gaze so that their enemies do not realize where they are looking.
   d. The trouble with wild animals that expose the direction of their gaze is that their enemies will realize where they are looking.
   e. It is often inconvenient for wild animals to reveal the direction of their gaze, as it allows enemies to see where they are looking.

4. a. Humans are interpreted to reveal their gaze by exposing the whites of their eyes, and they maintain social relationships between individuals by paying attention to others.
   b. Humans, whose gaze is considered to be revealed by maintaining social relationships between individuals, expose the whites of their eyes in order to focus attention on the other.
   c. Humans who pay attention to their partner are regarded as exposing the whites of their eyes by revealing their gaze and maintaining social relationships between individuals.
   d. It is thought that humans show that they are paying attention to others by revealing their gaze through the exposure of the whites of their eyes, thereby maintaining social relationships between individuals.
   e. In humans, it has been understood that by maintaining social relationships between individuals, they show that they are paying attention to the other and reveal their gaze by exposing the whites of their eyes.

5. a. In short, humans who prefer advantage to risk choose to get along better with humans than with other animals.
   b. In other words, humans prefer the benefits of getting along with other humans to the risks that might arise from other animals.
   c. That is to say, humans are choosing the benefits over the risks that getting along with other animals might entail.
   d. What it means is that humans choose the advantage of not doing so, because getting along with other humans creates risks with other animals.
   e. To sum up, there is an advantage to humans getting along with each other, since there may be risks involved when humans get along with other animals.