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## 注意

- 1. 問題は15ページである。
- 2. 解答用紙に氏名・受験番号を忘れずに記入すること。(ただし、マーク・シートにはあらかじめ受験番号がプリントされている。)
- 3. 解答はすべて解答用紙に記入すること。
- 4. 解答用紙は必ず提出のこと。この問題冊子は提出する必要はない。
- - マーク・シート記入上の注意
- 1. 解答用紙(その2)はマーク・シートになっている。**HB**の黒鉛筆または シャープペンシルを用いて記入すること。
  - 2. 解答用紙にあらかじめプリントされた受験番号を確認すること。
- 3. 解答する記号・番号の を塗りつぶしなさい。○で囲んだり×をつけたり してはいけない。
- 単一は一般ない。 一般ないでは、 一をは、 一をは
- 4. 一度記入したマークを消す場合は、消しゴムでよく消すこと。×をつけても 消したことにならない。

Feeling pain is an emotional experience. There is good evidence that this is exactly how we deal with pain. Images taken from our brains as we experience a painful event reveal a great deal of activity in the areas associated with emotion. To find out whether animals feel pain, we need to design experiments that let us glimpse inside their minds to test what the animals are mentally experiencing. This might sound far-fetched, but in fact it is what experimental psychologists ( イ ) with animals over the past halfcentury as they have probed different aspects of animal cognition. It turns out that animals often store information in different forms of representation. These representations provide us with a way of figuring out how the animal is perceiving and considering certain events or experiences. Do fish experience feelings and if so, does this give them the capacity to suffer? We have already seen that fish have a functioning nociceptive\* system that transmits signals that can put down complex behaviours completely. Next we need to find out whether fish experience the negative sensation of pain — do they really feel the pain?

Many people have argued that suffering is only possible in animals that are conscious because you need a conscious brain to generate sentience—an ability to generate feelings that permit the mental experience of discomfort. If we are to discover whether fish can suffer, we need to ask whether fish are conscious, feeling animals. It is not an easy question, not least because the interpretation of what we mean by 'consciousness', 'sentience', 'feelings', and 'experience' is open to debate, even in humans. Finding evidence of animal consciousness is a problem that researchers working on animal welfare have previously had to tackle. While never fully ( □ ) the issue of what consciousness is, they have gathered sufficient evidence to support the intuition that most of us hold that the animals we farm, such as cattle, sheep,

pigs, and chickens, and many of the animals used in research facilities, such as rats and mice, are sentient and so can experience emotions such as pain and suffering. Recognition that these animals are sentient has, in many countries, resulted in our modifying the ways in which we care for and interact with them. A good starting point to determine whether fish are also sentient might be to borrow the ideas and methodologies previously used to explore sentience in these domesticated and laboratory animals.

The mystery presented by consciousness has attracted many people from a broad range of disciplines: philosophers, psychologists, neuroscientists, cognitive scientists, and more recently researchers in cybernetics and artificial intelligence. This diverse group of minds ( /\) to explain what consciousness is. In humans we consider that consciousness underlies our thoughts and sensations. It affects our moods and emotions, provides us with an ability to integrate complex information to make informed decisions, and it gives us self-awareness and the ability to communicate through language. Pinning consciousness down isn't easy—especially when we see that it plays such divergent roles. But these multiple roles are helpful, because they provide us with specific processes or categories of consciousness. This approach to studying consciousness is sometimes referred to as a modular view—processes can be split up into different forms and categories.

The different categories or modules of consciousness can be thought of as pieces of a jigsaw puzzle. If a sufficient number of the puzzle pieces are identified, then this could provide us with evidence that animals also possess a form of consciousness. This is a somewhat speculative process—it has to be—but searching for subcategories of consciousness-like components could be a promising route forward. If we think about the processes that ( = ) our own consciousness to have evolved, then it seems likely that other animals will possess simpler forms of these processes. This line of reasoning may

apply to other mammals, and perhaps to certain species of bird — but could it also extend to fish?

It is important to recognize at this point that the types of consciousness we may discover in other animals are likely to be very different from our own. The greater degree of sophistication of the human brain compared to say a bird or a rodent\*, and certainly a fish, is incontrovertible. The human brain is unrivalled in its complexity. Our brains consist of approximately 100 billion neurons, providing enormous potential for processing information. We assume a fish brain will have fewer neurons but we don't actually know how many and given the diversity of fish brains this number could be highly variable. In searching for consciousness in animals we need to appreciate that we are probably looking for mechanisms or processes that will be more simplistic than our own. This is a critical point, because the arguments that have been raised against the capacity for fish to suffer claim that they cannot feel pain the way that we do. This interpretation seems perfectly reasonable. How could fish with their simpler brains possibly feel things in the same way that we do? But remember Nagel's\* discussion of bats: just because animals experience the world differently does not mean that they will be completely devoid of emotion, or without a capacity for some form of suffering. As we search for consciouslike states in animals, we could be searching for a relatively simple system, but nevertheless something that has a clear impact on the animal's behaviour and well-being. It will influence what decisions are made and may change how the animal perceives the situation it is in.

<注> *nociceptiv	e relating to pain	arising from the	stimulation of nerve
cells			
*rodent : a	ny small animal o	f the type that h	as long sharp front
teeth, suc	h as a rat or a rabb	it samula samuland.	s di bibbi d
*Thomas N	lagel: an American	philosopher	
(1) 下線部(A)を日本記	吾に訳しなさい。 <b>(角</b>	Y答用紙その1を使	用すること)
(2) 下線部(a)~(g)のj			
つ選び、その番号を	をマークしなさい。	(解答用紙その2を	使用すること)
(a) reveal			
1) disclose	2) include	3) provide	4) state
(b) probed			
1) approved	2) dedicated	3) grasped	4) investigated
(C) intuition			
1) anxiety	2) extension	3) instinct	4) intention
(d) integrate	<b>的是是是美国的</b>		
1) analyze	2) combine	3) guarantee	4) transmit
(e) multiple		garantina (1981) italia. Maria	
1) complicated	2) diverse	3) repulsive	4) temporal
(f) speculative			
1) changeable	2) educational	3) pitiful	4) theoretical
(g) devoid			
1) empty (1)	2) full with the	3) ignorant	4) uncertain
			建铁煤 人
	n e na elektrika kar	includes the second receipts to	Leave Jack 1986 per auch

♦M5 (305—53)

90-6	and the state of the state of the state of	The decision of the party	
( イ ) — 1)	had been done	2) have been	n doing
3)	was done	4) will be do	ing
( □ )-1)	having been resolved	2) have reso	lved
3)	resolved	4) resolving	·
( ハ )— 1)	had been tried	2) has tried	
3)	were trying	4) will be tr	ied
(=)-1	had been allowed	2) have been	n allowed
3)	were allowing	4) will have	allowed
	two transfers of the		311
(4) 下線部(B) giv	ven の意味を表わす最も通	適当な語句を下のコ	1)~4)の中から1つ
選び、その番号	号をマークしなさい。( <b>解</b> ?	答用紙その2を使用	引すること)
1) distributed	d 2) set aside	3) ignoring	4) considering
	iis interpretation が表わす その1を使用すること)	「内容を 25 字以内の	の日本語で書きなさ
(6) 次の1)~10)	)の各文の中で本文の内容	と一致するものを	4 つ選び. その番号
	さい。(解答用紙その2を		
	学者は、長年、動物が苦痛		
きた。しかし	し、そうした実験の立案自	体には無理がある	<b>o</b> 199
2) 魚類は複雑	維な行動を制御できる機能	色を備えているとい	うことが、すでに分
かっている。			
3) 意識や知り	覚などの仕組みは人類に関		
に当てはまる	るかどうかは解明されてい	ない。	
4) 魚類の苦乳	<b>畜生成能力を知るうえで</b> ,	家畜や実験動物に	対して行なう実験方
法が魚類に	芯用できるかどうかは疑問	<b>]</b> である。	
	<u> </u>	•••	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

(3) 本文中の空所( イ )~( ニ )に入る最も適当な語句をそれぞれ1)~4)

の中から1つずつ選び,その番号をマークしなさい。(解答用紙その2を使用

- 5) 人類の知覚としての意識をジグソーパズルのピースの構成と捉えると,動物の意識はこのピースの有無によって決定される。
- 6) ほとんどの人は、家畜や実験用動物が苦痛というものを感じることを直感的に受け止めている。事実、そうだと言えることを支持できる証拠はすでに 十分にある。
- 7) 人間は苦痛を体験すると、脳内の感情領域の活動が活発になることが、脳 を映し出した画像から判断できる。
- 8) 人類の知覚としての意識が進化を遂げてきたと考えると、魚類以外の動物も単純ではあるが、この過程を踏んできたと推測できる。
- 9) コウモリの生態観察からも想像できるように、不快や苦痛の感知能力は動物特有なものであると多くの人々は考えている。
- 10) 意識に似た知覚が動物に存在するかどうかを知ろうとする場合,行動判断 に影響を与えたり状況判断を変更したりするような仕組みを動物に関して調 べることは可能であろう。

t kada laitu ta, turika siiraninin tahun piran laitu taliinkiin istak 1686 perinaka kasi tu tara salidaga signiaitut (j. 1. arteregura) sa senteraja perinakitO (Diastain) salidag shine A salah synisti patu asul salitainin geringan pelitutah kelijinga tera arteregurangan A salidagarah najagarah kelijisti terbigan pelitutah kelijisti sali pelitupagan nangga stapan

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o os andrille jali "Linamingen privalge ali ippartitut sant quidatah dulit" «Estatukanny dega mat indrindri didinjelad 143 ili kralimpedi dungit garij «Canpung privalit tangkana najpartijah

(A) Proposition (IV) and the proposition of the proposition of the PATA (A) and the PATA

2 次の英文を読んで、本文の内容に合致するように、(1)~(5)の各設問に対して 最も適当なものを(a)~(d)の中からそれぞれ1つずつ選び、その記号をマークしな さい。(解答用紙その2を使用すること)

A study has revealed the surprising extent to which we rely on modern media. According to Ofcom\*, the media regulator, the average Briton spends more than seven hours a day — or almost half their waking hours — watching television, texting, sending e-mails and reading newspapers. We are sending four times as many texts a day than in 2004 and spending almost a quarter of our time on the internet on social-networking sites, the study found.

In total, an average person's digital day includes 173 minutes spent watching television, 62 minutes listening to the radio, 34 minutes reading emails, 31 minutes reading newspapers and 28 minutes making calls.

Buoyed by the success of shows such as *The X Factor* and *Britain's Got Talent\**, we are watching more TV than at any time since 1992. Another study found that the average viewer tuned in for three hours and 45 minutes a day last year.

"Live evening TV still remains the main entertainment event of the day," said James Thickett, Ofcom's director of research. "Although mobile and computer use is up, families still like coming together into the living room to watch Simon Cowell\* on big high-definition screens."

TV has also been boosted by strong growth in the use of digital video recorders — 37 per cent of households now own one — and the introduction of high definition.

"High definition has enhanced the viewing experience," Mr. Thickett said.

"Even though investment in TV has fallen, the effect has been outweighed by high definition and digital video recorders."

More than five million homes now have access to HD\* channels.

Helped by increasing numbers of mobile phone contracts that include

"unlimited texting", consumers sent record numbers of texts last year. More than 100 billion messages were sent, equal to 1,700 for every person in Britain — a figure that is more than triple the number sent six years ago.

The study also offered a glimpse into a new internet-enabled future, as it surveyed people aged 16 to 24. Unlike older generations, they spent more than half of their "media time" on computers and mobile phones, shunning television. They consumed less media output overall, at six hours and 35 minutes a day, but they multi-tasked more effectively—with two thirds of that time spent using more than one device.

If spread out, the total time spent by those aged 16 to 24 consuming media was just under ten hours. "We were really surprised at how many different types of media a teenager could use at once," Mr. Thickett said. "They'll use a computer and a mobile phone, or tweet when they're watching television."

- <注> \*Ofcom(通称オフコム)は、英国における電気通信・放送等の規律・監督を行う規制機関。
  - \*The X Factor and Britain's Got Talent は、どちらも英国の音楽オーディション番組。
  - \*Simon Cowell は、音楽オーディション番組の審査員で知られる音楽 プロデューサー。
- \*HD は、High Definition の略。テレビ等における高解像度(高精細・高画質)のこと。
  - (1) According to the article, what would the correct ranking of time allocation (from the least amount to the most) for an "average Briton" be?
    - (a) telephone; newspapers; e-mail; radio; television
    - (b) television; e-mail; newspapers; radio; telephone
    - (C) television; newspapers; e-mail; telephone; radio
    - (d) telephone; e-mail; television; radio; newspapers

(2) A	according to the article, digital video recorders have resulted in an
inci	rease in what?
(a)	multitasking
(b)	e-mail traffic.
(C) ·	television viewing profit is a second transfer of the second seco
(d)	texting the second of the seco
(3) A	according to statistics used in the article, six years ago, Britons texted
app	roximately how often per year?
(a)	560 times
(b)	760 times
(C)	960 times. And we have a larger to be a second to the seco
(d)	1, 260 times 1992 (1.14)
(4) A	according to the article, younger people engage in what kind of media-
rela	ated behaviour?
(a)	They illegally download their media content from the internet.
(p)	They text while driving — thus creating accidents.
(C)	They use TV and mobile phones far more than computers.
(d)	They use their mobile phones while watching TV.
to process	State and the second of the se
(5) A	according to the article, the future trend in media consumption seems to
poi	nt to what kind of model?
(a)	One where TV is the centre of attention.
(b)	One where various devices are employed simultaneously.
(C)	One where texting is charged on a per-message basis.
(d)	One where newspapers and radio play an ever-increasing role.
	the company of the second
	varagtra ne se i i setta i i i i veces coma di i discovere i transcriptioni di

- 次の(1)~(7)の英文の下線部の意味に最も近い単語を下の(a)~(d)の中からそれぞ れ1つずつ選び、その記号をマークしなさい。(解答用紙その2を使用すること) (1) We must try to do away with the evil practice. (C) keep (a) abolish (b) capture (2) My mother-in-law tends to find fault with everything I do. (a) abandon (b) criticize (c) praise (d) watch (3) Our team will get the better of the rivals in the tournament. (b) defeat (C) negotiate (d) yield (4) The students really seemed to look up to their professor. (b) invite (c) respect (a) despise (d) surround (5) They used to make fun of the boy for his strange accent. (a) approve (b) esteem (c) stimulate (d) ridicule (6) I cannot put up with your insolence any longer. (a) attain (b) bear (C) promote (d) receive (7) We should take advantage of every opportunity to learn English. (a) deepen (c) utilize (d) widen reform mank ald surjections one ( ) - 10 blacks are uponed).

4		D(1)~(8)の各組の英文の()の中に入る最も適当な共通の英単語を書きい。(解答用紙その1を使用すること)
	(1)	Peter is almost always ( ) of money.  In ( ), we cannot accept your proposal.
	(2)	He always makes a ( ) of being punctual.  The girl was on the ( ) of bursting into tears.
	(3)	She is very frugal, not to ( ) stingy.  He can speak German, to ( ) nothing of English.
	(4)	You may use my dictionary, ( ) as it is.  Mary is a young lady and must be treated as ( ).
	(5)	To ( ) it bluntly, your demands are unreasonable.  You ought to ( ) an end to that sort of behavior.
	(6)	They planned to escape under the ( ) of darkness.  We could ( ) 120 miles on bicycle before nightfall.
	(7)	You can usually ( ) my brother on this phone number.  The lake with a fine view is within easy ( ) of the hotel.
	(8)	William was the ( ) person to do such a mean thing.  The hot weather will ( ) until September.

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♦M5(305—60)

次の会話文の(1)~(8)に入る最も適当な文を下の(a)~(h)の中から1つずつ選び、 その記号をマークしなさい。但し、同じ文は1度しか使用してはならない。(解 Alan, Samantha and James are on a hiking trip in the Carolina Mountains. They stop at a campsite and unpack - getting ready for a night in the tent. Alan: That was sure a beautiful sunset! (1) Samantha: Yes, you have to send me those shots when we get back! James: (Searching through his backpack.) (2) have the food, but nothing to cook it in. Samantha: I assumed you were going to bring it... You're the food guy.... Alan: Don't look at me... I was in charge of carrying water, the tent and my own sleeping bag. James: Well, we're going to have to think of something — it'll be pitch black soon. Subverse playlighted by building to have signed about by Samantha: We could just put the cans on top of the fire and let them heat in I guess we could. .. Should I open them first? Alan: (3)Samantha: Is there anyplace to wash around here? I'd like to clean up a bit before we eat... Alan: Yeah, walk back to the sign and follow the path fifty feet or so. You'll see the bathroom but on the left hand side. Severesi meli dupur çim sidi yalışılırı süksüng düliyi V. Dik

(Samantha takes a small towel and leaves.)

Alan:

James, can I talk to you about something?

James:

What's up?

Alan:	It's Samantha I like her a lot, but her slow walking speed is
	going to keep us from reaching the peak tomorrow.
James:	Yeah, she does take her time. (5) (4) (4) (4) We
	stopped to swim in the lake and had so much fun jumping off
	those rocks into the water.
Alan:	I see what you mean. I did take a lot more photos than last year.
	And the swimming was awesome.
James:	The point isn't just to get to the top of the mountain.
	<u>(6) - 4 / 4                               </u>
(Samantha 1	returns.)
Samantha:	Gosh, the water was freezing! If you guys are going to wash up,
	you should do it quick!
Alan:	
James:	(8) I'm afraid something's going to kill me
	if I bathe in the woods!
(All three la	ugh and continue on with their evening)
(a) The sho	owers take coins, so be sure to bring plenty of change with you.
(b) Not me,	I want to smell manly when I get back to the dormitory!
(C) It's to e	enjoy the walk along the way.
(d) Yes, an	d peel off the paper labels, too.
(e) I'm glac	I had my good camera with me.
(f) I've pro	bably seen too many horror films.
(g) Hey, di	d anyone think to bring a pan? The transfer that the second of the secon
(h) But I'm	actually enjoying this trip more than last year's.

6 次の日本文1)~5)の意味を表わすように、[ 対象 ] 内の単語を並べ換えて正
しい英文にするとき、(4)と(7)にそれぞれ入る最も適当な単語を下のa)~j)の中
から1つずつ選び,その記号をマークしなさい。(解答用紙その2を使用するこ
med (2) the first day of the distribution of the second of the first of the first of the second of t
The Control of the Co
1) 今晩,海岸を散歩してみませんか。
=What ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 )
( 8 ) ( 9 ) ( 10 ) this evening?
[a) a b) by c) do d) say e) seaside f) taking
g) the h) to i) you j) walk]
paragraph de deire de l'archar ar la region de des de la comparagraph de
2) ヘンリーはさようならも言わずに部屋を出て行った。
=Henry ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 )
here (188 a) (190) (100) us. http://doi.org/100/100/100/100/100/100/100/100/100/10
[a) as b) good-bye c) left d) room e) much
f) saying g) so h) the i) to j) without]
3) 私たちは、食器棚が地震で倒れないように壁に固定した。
=We attached the $( -1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1$
(7)(8)(9)(10) during an earthquake.
[a) cupboard b) fall c) it d) over e) so f) that
g) the h) to i) wall j) wouldn't]
4) 春樹が文名を馳せるとは夢にも思わなかった。
=Little ( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 ) ( 7 )
(8)(9)(10) himself as an author.
[a) a b) did c) dream d) for e) Haruki f) I
g) make h) name i) that j) would]

5) 白川博士がノーベル化学賞を受賞したのは喜ばしいことである。
=It is $(1 \ 1 \ 2) \ (1 \ 2) \ (1 \ 3) \ (1 \ 4) \ (1 \ 5) \ (1 \ 6) \ (1 \ 7)$
e version (n. 8%) (n. 9%) (n. 10%) Prize in Chemistry.
[a) a b) awarded c) Dr. Shirakawa d) for e) joy
f) matter g) Nobel h) that i) the j) was]
Company of the first first to the second of
Maliyaran Artin Andrews Comment (1997)
A TO BE OF THE STATE OF THE STA
make the contemporary for each for the contemporary
and the state of t

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