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(1 / 3)

(注) 解答はすべて解答欄に記入すること。

I. 次の英文を読んで、設問に答えなさい。なお、文中*印の付いた語句には注がある。

Part I

“A tidy house, a tidy mind.” Some of the more slovenly among us might bristle at this scolding old proverb, but to human evolution researchers it makes perfect sense. One of the hallmarks of modern behavior is the sophisticated way *Homo sapiens* organizes the spaces it lives in, with everything in its place. But new work at a nearly 800,000-year-old *hominin site in Israel suggests that the roots of tidiness may lie deep in our evolutionary past. Prehistoric humans did not start building permanent dwellings until about 15,000 years ago, but earlier hominins—the term now commonly used by scientists for humans and their ancestors but not other *apes—frequented caves and open-air sites as they hunted and gathered food. Whereas sites occupied by modern humans often show signs of separate “activity areas” such as *hearths, stone-tool knapping areas, food preparation areas, sleeping areas, and so forth, not so long ago there was little evidence that other hominins engaged in such organized behavior.

Part II

More recently, however, work at Neandertal sites has demonstrated that our evolutionary cousins also divided up their living spaces into activity areas. New research at *rock shelters like Abric Romaní in Spain and Tor Faraj in Jordan, where Neandertals lived between 50,000 and 70,000 years ago—before modern humans migrated into Europe and Asia—has demonstrated spatial organization at times indistinguishable from that typical of *H. sapiens*. Now, a team working at Gesher Benot Ya’aqov (GBY), a 790,000-year-old site in northern Israel’s Hula Valley, claims that a much older species also showed tendencies toward tidiness. GBY is thought to have been occupied by **H. heidelbergensis*, a species that may have given rise to *H. sapiens* in Africa and the Neandertals in Europe. It is also the site of the earliest widely accepted mastery of fire by prehistoric humans.

The researchers, led by archaeologists Nira Alperson-Afil and Naama Goren-Inbar of the Hebrew University in Jerusalem, mapped the precise locations and densities of thousands of plant and animal remains as well as stone tools found in one of GBY’s 14 archaeological levels. The excavated area, a *long strip covering about 26 square meters, had been covered rapidly by *lake sediments in ancient times, thus preserving the remains in place.

The team found that hominin activities were concentrated in two main areas at opposite ends of the strip. Knapping of stone tools made from flint was concentrated in the northwest area, while production of tools made from *basalt and limestone was concentrated around a hearth in the southeast. There was also a clear pattern of animal and plant remains. For example, remains of crabs consumed by the hominins were clustered around the hearth, as were the remains of nuts and stone tools, such as anvils and choppers, suitable for cracking them open. On the other hand, fish bones were found in two clusters, one at each end of the excavated area.

Part III

The team concludes, in its report on the findings in the 18 December issue of *Science*, that the GBY hominins’ division of their living space into designated activity areas is a sign of “sophisticated cognition” once thought to be the special preserve of modern humans. Clive Gamble, an archaeologist at Royal Holloway, University of London, says the new work confirms other research showing that *H. heidelbergensis* “was a very tidy species.” At the 500,000-year-old site of Boxgrove in southern England, Gamble points out, “across a landscape with no hearths they followed rules about where to get, make, and throw away their stone tools. There was nothing random in these activities, and GBY now extends this pattern back in time.”

But Lyn Wadley, an archaeologist at the University of the Witwatersrand in Johannesburg, South Africa, sounds a cautionary note. “The GBY site is remarkable and the use of space there is more complex than one might expect for the age of the occupation,” Wadley says. But she thinks it would be a sure sign of sophisticated cognition only if the GBY hominins had attributed symbolic meanings to the way they divided their living quarters—something the research team has yet to demonstrate.

Science Now By Michael Balter 18 December 2009

[注] hominin site 「ヒト族の遺跡」 apes 「類人猿」 hearths 「炉床」 rock shelters 「岩窟住居」

H. heidelbergensis 「ホモ・ハイデルベルゲンシス」 ヒト属の一種。通称ハイデルベルク人 long strip 「細長い区画」

lake sediments 「湖の堆積物」 basalt and limestone 「玄武岩と石灰岩」

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 $(2/3)$

(注) 解答はすべて解答欄に記入すること。

問1. 次の各文の内容が問題文の内容と一致する場合は○、一致しない場合は×を書きなさい。ただし、全部○・全部×はない。全部○を書いた場合、あるいは全部×を書いた場合はゼロ配点とする。

1. A newly discovered bone suggests that *H. sapiens* engaged in organized behavior.
2. Neandertals living in rock shelters in Spain 60,000 years ago did not have any ability to organize their living space.
3. In the site excavated by the researchers led by Nira Alperson-Afil and Naama Goren-Inbar, the remains of crabs and fish bones were placed in separate areas.
4. The GBY excavation results overturned the idea that only modern humans could divide up space according to their activities.
5. According to Lyn Wadley, the research team proved that GBY hominins attributed symbolic meaning to their space arrangement.

問2. 次のPart I・II・III中のかっこに適切な語をそれぞれの下から選び、必要があれば語形を変えて書き入れなさい。

Part I A team of human evolution (1) has found a surprising fact about our pre-human ancestors, or hominins. Until the team reported its findings, there had not been any evidence that hominins used separate areas for activities such as food (2), sleeping, making tools, or keeping a fire. It seems that they did not live in permanent dwellings, instead residing in caves and open (3). Although these hominins did not live in purposely built houses, the research team's work at a site in Israel (4) that hominins may have organized their dwelling areas in a (5) way, similar to modern humans.

[preparation, researchers, spaces, sophisticate, suggest]

Part II It is true that recent research had demonstrated that Neandertals, like humans, separated their living space into organized areas. The new research (1) that *H. heidelbergensis*, an ancestor of both humans and Neandertals, organized their living areas into functional areas. Specifically, after (2) an area that had a lot of (3) items, the research team found that tools made from flint were concentrated in the northwest area of the dwelling, while tools made from basalt and (4) were found around a hearth in the southeast part of the dwelling. Also, the shells of crabs consumed by the hominins were (5) in yet another place.

[claims, excavate, find, limestone, well-preserved]

Part III Furthermore, the team believes that the (1) of the living space into specific areas of activity is evidence of high-level thinking, a type of thinking that was previously thought only humans could achieve. According to an archaeologist at the University of London, the new research (2) other, related research that asserted that *H. heidelbergensis* was a very tidy species. He explained that there was nothing “random” in how the hominins (3) their living area. But not everyone in the world of archaeology agrees that these hominins were thinking carefully about their way of life. For example, Lyn Wadley, an archaeologist from South Africa, admits that the hominins engaged in (4) behavior, but she is not sure that the behavior rises to the level of sophisticated cognition. From her (5) of view, the presence of symbolic meaning attached to items would be the best evidence of high-level thinking.

[arrange, complex, confirm, division, point]

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 $(3 \mid 3)$

(注) 解答はすべて解答欄に記入すること。

Ⅱ. 次の会話が完成するように、(1)～(10)のかっこに補うべき適切な文を a～jの中から選び、その記号を書きなさい。
ただし、それぞれの文は1度しか使えない。

<What's for Dinner?>

Brad: Hey Sally, what's for dinner?

Sally: Gee, I've been so wound up about my job interview tomorrow that I haven't given dinner a single thought.

Brad: (1)

Sally: Spicy? I'm not into spicy food right now, and actually I don't feel much like cooking.

Brad: Well, don't look at me. I hate cooking. (2) That spaghetti you made the other night was awesome.

Sally: Flattery will get you nowhere. (3)

Brad: Good idea. I'm crazy about pizza. (4)

Sally: I can't stand pineapple on pizza.

Brad: I didn't realize you were so fussy.

Sally: (5) It's just that I prefer to eat fruit for dessert, not with the main course.

Brad: (6)

Sally: But a whole pizza is too much, and I don't care for leftover pizza.

Brad: Well, there's always Chinese food. Don't we have a menu somewhere?

Sally: The last time we ordered from that place the food was greasy and it took them forever to deliver.

(7) There's a new Greek restaurant downtown. It'll be my treat.

Brad: (8) Just the thought of garlic turns me off.

Sally: Garlic's good for you. I can't get enough of it myself.

Brad: At this rate we'll never get anything to eat. (9)

Sally: Can't you think about anything but your stomach?

Brad: (10)

- a. I'm not.
- b. I'm starving.
- c. But you know what?
- d. And besides you're an expert.
- e. In fact, my favorite is Hawaiian.
- f. What do you say to ordering a pizza?
- g. Not when it's getting close to dinnertime.
- h. But doesn't Greek food have lots of garlic?
- i. I could really go for something spicy like chili.
- j. How about if I order Hawaiian and you order something else?