

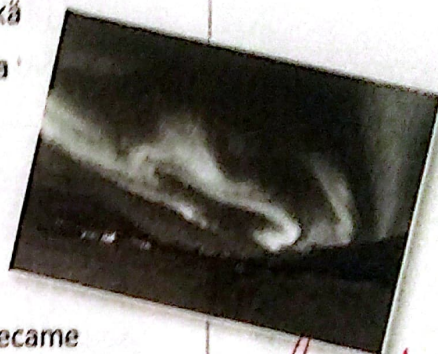
READING AND VIEWING

Notes

Section A Have you ever seen the aurora borealis, or the Northern Lights? Read the passage about a mystery surrounding the Lights. Choose the best word/phrase for each blank.

Northern Sounds

It was late one evening in the remote village of Saariselkä in northern Finland. Unto Laine and his friends were at a jazz festival and decided to go outside to watch the aurora borealis and listen to the (1) silence. They wanted to hear how quiet it could be with no traffic, no wind and everyone asleep.



But to their surprise, the silence wasn't total. The group became aware of a(n) (2) faint background sound, a sort of hissing that seemed to change with the movements of the aurora.

Laine forgot about the sound until he revisited the jazz festival years later. He once again found himself (3) puzzled by the mysterious sound.

Laine studies psychoacoustics — the science of sound and how we perceive it. He has now spent much of the past 20 years fighting to prove that the Northern Lights aren't simply a feast for the eyes; there is (4) enjoyment for the ears as well.

Most aurora watchers never hear anything. Sounds are lost in background noise, like traffic and people talking and taking pictures. Few (5) seep to watch in perfect silence as Laine's group did.

But some clearly had. Laine found a long history of (6) accounts of auroral sounds from people in northerly latitudes (纬度). A list edited in 1931 (7) quotes one listener hearing "a very curious faint whistling sound"; another compared auroral sounds to "a flock of birds flying close to one's head". However, every attempt to record or observe that sound with technical equipment had been (8) fruitless and there was no known mechanism that could explain the sound that people reported.

That led some to suggest that the sound was an illusion caused by seeing the aurora. Laine, however, believed scientists should not

a faint hope
微弱希望
faint 微弱

seeh, sought, sought
seeh, sought, sought
accounts 报道

□

(9) dismiss the observations simply because they were hard to explain. "What if those people are right?" asks Laine. "Instead of (10) blame the observers for making errors, shouldn't we scientists study the phenomenon and solve the mystery?" It took Laine ten years to (11) capture his first recording of auroral sounds. For those who had taken auroral sounds seriously, Laine's recordings contained a surprise. Many had believed that the noises came from ground objects. (12) However, Laine's findings suggested the sounds were coming from the air itself, from an altitude (海拔) of less than 100 metres.

So why do these auroral sounds arise? Laine believes their origin (13) lies in a phenomenon known as corona discharge, similar to the process responsible for the sound accompanying a static shock (静电冲击). But not everybody is (14) convinced. Most scientists still ignore auroral sound. However, Laine is delighted at the progress towards proving the truthfulness of all those reports (15) previously dismissed as illusory. "A new page has turned in this long history," he says. "Those who made valid observations of these sounds can now be proud."

- | | | | |
|-----------------------|------------------|-----------------|---------------|
| (C) 1. A. echo | B. light | C. silence | D. music |
| (A) 2. A. faint | B. typical | C. artificial | D. imaginary |
| (D) 3. A. frightened | B. disturbed | C. annoyed | D. puzzled |
| (C) 4. A. motivation | | B. appreciation | |
| | C. enjoyment | D. improvement | |
| (D) 5. A. claim | B. propose | C. offer | D. seek |
| (A) 6. A. accounts | | B. imaginations | |
| | C. illustrations | D. analyses | |
| (A) 7. A. reviews | B. quotes | C. presents | D. witnesses |
| (C) 8. A. aimless | B. worthless | C. effortless | D. fruitless |
| (C) 9. A. twist | B. dismiss | C. exclude | D. restrict |
| (C) 10. A. punishing | B. tolerating | C. blaming | D. rejecting |
| (A) 11. A. capture | B. revise | C. clarify | D. publicize |
| (A) 12. A. Instead | B. Therefore | C. Furthermore | D. However |
| (A) 13. A. comes with | B. points out | C. lies in | D. refers to |
| (B) 14. A. satisfied | B. convinced | C. influenced | D. encouraged |
| (C) 15. A. completely | | B. temporarily | |
| | C. previously | D. publicly | |

Notes

Section B Do you think robots will help us or kill us in the coming decades? Read the passage and complete the tasks.

Notes

AI: Kill Us All or Help Us Out?

With the ever-growing and developing technology of our age, we've all asked ourselves the question: will artificial intelligence (AI) end up helping or getting rid of us completely in the coming decades?

While to some the latter may seem like the product of a paranoid (类偏执狂的) person's mind, scientists aren't underestimating the possibility. In fact, many agree it could be our future. They believe it's very possible that the human race will either be extinct by 2050 or last forever.

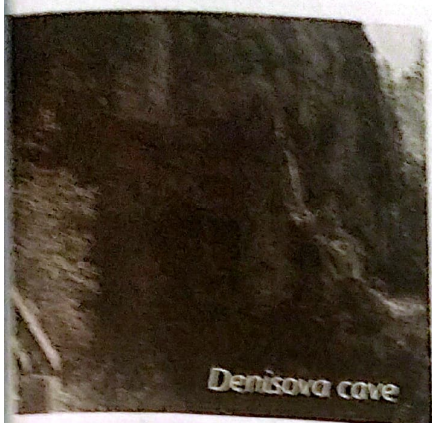


Some regard AI in a positive light. The view that it could help the disabled, (lengthen human life and even prevent death) is widely accepted. It is also (generally accepted that it may enrich and entertain human beings' life and improve their life quality.) Some emphasise a new AI tool called HEALER's ability to find (cures for infectious diseases.) HEALER is helping to (spread information by targeting health-oriented community influencers) so that public health awareness can be increased. Essentially, HEALER uses AI to start a word-of-mouth domino effect. If the influencer understands more about the spread of infectious diseases, then the influencer can tell 10 people, who can tell another 10 people, and so on. HEALER hopes to launch on a global scale, allowing this AI to keep effecting social change and promoting public health awareness worldwide.

Other researchers aren't so optimistic. Some scientists theorise that artificial super-intelligence (ASI) will become the next stage of AI, which not only recreates human intelligence, but surpasses it, solving every problem we face. Physicist Stephen Hawking said (ASI could cause the end of the human race,) and Bill Gates adds he (doesn't understand some people's indifference to ASI's growing capabilities.) When ASI is used in the form of autonomous weapons, which can search, identify and attack the target independently, it's pretty worrying knowing there's a chance that it may decide to wipe us all out, having become smarter than us.

However, if some people think robots might take over the world, or if

example



Denisova cave

Pre-reading question:

In your opinion, what might make a cave attractive to archaeologists?

There's some pretty paintings in the cave.

Inside Archaeology's Most Exciting Cave

After years of waiting, we are now getting our first glimpse of the Denisova cave. An international team of researchers published two papers that not only give us a better understanding of who lived there and when, and but also reveal some of the objects those residents made.

Denisova cave lies in the Altai mountains of southern Siberia. (The place is "almost magical", with its Alpine-like scenery, wild horses and soaring eagles.) Lying at the heart of a large river valley, the cave was attractive to Stone Age humans. The new research concludes that Denisovans and Neanderthals both lived there at various points over the past 300,000 years. Our species, *Homo sapiens*, probably occupied the cave within the past 50,000 years.

Archaeologists have been working there for about 40 years. Over the years, they have excavated^① several metres of sand and dirt from two of the cave's three chambers. In the process, they have discovered thousands of artefacts, says Richard Roberts at the University of Wollongong, Australia. He also says it is often extremely difficult to work out the age of dirt layers in caves. "You don't have nice and simple layers one after the next, with nothing happening afterwards. Things happen in caves."

Most obviously, animals including hyenas^② moved into the cave whenever it was abandoned by humans. In the process of digging their dens, (the hyenas mixed up some of the dirt layers in a few sections of the main and east chambers.) Complicating things further, there are some significant time gaps in the sequence. For instance, the researchers found

① v. to dig in the ground to look for old buildings or objects that have been buried for a long time

② n. a wild animal like a dog, that eats the meat of animals that are already dead

that a 60,000 to 70,000-year-old layer lies directly beneath a layer that is no more than 44,000 years old. That is particularly unfortunate because some of the most noteworthy finds from the cave come from layers of dirt that lie very close to this time gap, making it difficult to be sure how old they are.

Fortunately, archaeologists could still work out the age of an artefact by using optical dating on sand grains immediately around it. Sand grains are now routinely collected alongside all the finds. The archaeologists have also unearthed rings, beads and bone sewing needles. These artefacts may be the oldest of their kind in Eurasia.

But which human inhabitants of the cave made them?

It is certainly possible that the bone artefacts recovered from the Denisova cave were produced by the Denisovans, says Roberts. "The Denisovans did persist at the cave until quite recently — certainly recent enough that they could have made some of those artefacts," he says.

If so, the finds give us a first glimpse of how the Denisovans lived and behaved. Take the curious rows of dots carved into some of the needles. "It's terribly difficult to work out what they mean, but they could be marks of ownership or just purely decorative," says Thomas Higham at the University of Oxford.

The best way to establish the probable identity of the craftspeople in the cave is to find fragments of bone or human genetic material in the layers that hold the artefacts. But the chances of discovering those in just the right layers is relatively low. Instead, scientists are pinning their hopes on new techniques that extract human DNA from samples of dirt even if no fragments of bone are present.

Who were the Denisovans?

Almost a decade ago, researchers sequenced DNA from an ancient bone fragment found in the Denisova cave to reveal that it belonged to a woman from an entirely new group of humans, now known as the Denisovans. The humans lived in Stone Age Eurasia alongside our species and the Neanderthals.

Food for thought

1. Why is Denisova cave described as "archaeology's most exciting cave" in the title? Underline your clues in the passage.

2. Below is a part of the transcript of an interview between Li Ming (M), a correspondent of your school newspaper, and Richard Roberts (R), one of the scientists working at the Denisovan cave. Complete it according to the information in the passage.

M: How did you and other scientists work out the age of the artefacts found in the Denisova cave?

R: Usually we can know the age of an artefact by working out the age of the (1) artefact layers in caves. But that is no easy job. You don't have nice and simple layers one after the next, with nothing happening afterwards. Things happen in caves. To take the Denisova Cave. (2) _____

(3) 2 3. To make matters worse,

M: Does that mean we can never know the age of some of the artefacts? Was there a way around it?

R: Yes. We were able to date some of the artefacts by (4) 4. So it has become a routine to (5) 5.

M: That sounds a lot of work! But the technology is amazing. Here is another question. Have you been able to identify who made those artefacts? Did the Denisovans make them?

R: Probably. (6) 6.

M: So there's no way to know for sure?

R: Ideally, if (7) 7, then we can know for sure who were the craftspeople, but the chances of that happening is low. An alternative is to (8) 8.

③ n. a small part of sth that has broken off or comes from sth larger

④ v. to remove or obtain a substance from sth, for example by using an industrial or a chemical process