托福写作讲义

Subtitle

2022/09/22

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TPO3 A painting not being the work of Rembrandt

Rembrandt is the most famous of the seventeenth-century Dutch painters. However, there are doubts whether some paintings attributed to Rembrandt were actually painted by him. One such painting is known as attributed to Rembrandt because of its style, and indeed the representation of the woman's face is very much like that of portraits known to be by Rembrandt. But there are problems with the painting that suggest it could not be a work by Rembrandt.

First, there is something inconsistent about the way the woman inthe portrait is dressed. She is wearing a white linen cap of a kind that only servants would wear-yet the coat she is wearing has a luxurious fur collar that no servant could afford. Rembrandt, who was known for his attention to the details of his subjects' clothing, would not have been guilty of such an inconsistency.

Second, Rembrandt was a master of painting light and shadow, but in this painting these elements do not fit together. The face appears to be illuminated by light reflected onto it from below. But below the face is the dark fur collar, which would absorb light rather than reflect it. So the face should appear partially in shadow-which is not how it appears. Rembrandt would never have made such an error.

Finally, examination of the back of the painting reveals that it was painted on a panel made of several pieces of wood glued together. Although Rembrandt often painted on wood panels, no painting known to be by Rembrandt uses a panel glued together in this way from several pieces of wood. For these reasons the painting was removed from the official catalog of Rembrandt's paintings in the 1930s.

听力：

Now listen to part of a lecture on the topic you just read about.

Everything you just read about "Portrait of an Elderly Woman in a White Bonnet" is true, and yet after a thorough re-examination of the painting, a panel of experts has recently concluded that it's indeed a work by Rembrandt. Here is why.

First, the fur collar. X-rays and analysis of the pigments in the paint have shown that the fur collar wasn't part of the original painting. The fur collar was painted over the top of the original painting about a hundred years after the painting was made. Why? Someone probably wanted to increase the value of the painting by making it look like a formal portrait of an aristocratic lady.

Second, the supposed error with light and shadow. Once the paint of the added fur color was removed, the original could be seen, in the original painting, the woman is wearing a simple collar of light-colored cloth. The light-colored cloth of this collar reflects light that illuminates part of the woman's face. That's why the face is not in partial shadow. So in the original painting, light and shadow are very realistic and just what we would expect from Rembrandt.

Finally, the wood panel. It turns out that when the fur collar was added, the wood panel was also enlarged with extra wood pieces glued to the sides and the top to make the painting more grand and more valuable. So the original painting is actually painted on a single piece of wood, as would be expected from a Rembrandt painting. And in fact, researchers have found that the piece of wood in the original form of "Portrait of an Elderly Woman in a White Bonnet" is from the very same tree as the wood panel used for another painting by Rembrandt, his "Self-portrait with a Hat".

TPO4 Dinosaurs are endotherms

阅读材料

Endotherms are animals such as modern birds and mammals that keep their body temperatures constant. For instance, humans are endotherms and maintain an internal temperature of 37°C, no matter whether the environment is warm or cold. Because dinosaurs were reptiles, and modern reptiles are not endotherms, it was long assumed that dinosaurs were not endotherms. However, dinosaurs differ in many ways from modem reptiles, and there is now considerable evidence that dinosaurs were, in fact, endotherms.

Polar dinosaurs

One reason for believing that dinosaurs were endotherms is that dinosaur fossils have been discovered in Polar Regions. Only animals that can maintain a temperature well above that of the surrounding environment could be active in such cold climates.

Leg position and movement

There is a connection between endotherms and the position and movement of the legs. The physiology of endotherms allows sustained physical activity, such as running. But running is efficient only if an animal's legs are positioned underneath its body, not at the body's side, as they are for crocodiles and many lizards. The legs of all modern endotherms are underneath the body, and so were the legs of dinosaurs. This strongly suggests that dinosaurs were endotherms.

Haversian canals

There is also a connection between endotherms and bone structure. The bones of endotherms usually include structures called Haversian canals. These canals house nerves and blood vessels that allow the living animal to grow quickly, and rapid body growth is in fact a characteristic of endotherms. The presence of Haversian canals in bone is a strong indicator that the animal is an endotherm, and fossilized bones of dinosaurs are usually dense with Haversian canals.

听力材料

Now listen to part of a lecture on the topic you just read about.

Many scientists have problems with the arguments you read in the passage. They don’t think those arguments prove that dinosaurs were endotherms EN-duh-therms.

Take the polar dinosaur argument. When dinosaurs lived, even the polar regions where dinosaur fossils have been found were much warmer than today—warm enough during part of the year for animals that were not endotherms to live. And during the months when the polar regions were cold, the so-called polar dinosaurs could have migrated to warmer areas or hibernated like many modern reptiles do. So the presence of dinosaur fossils in polar regions doesn’t prove the dinosaurs were endotherms.

Well, what about the fact that dinosaurs had their legs placed under their bodies, not out to the side, like a crocodile’s? That doesn’t necessarily mean dinosaurs were high-energy endotherms built for running. There’s another explanation for having legs under the body: this body structure supports

more weight. So with the legs under their bodies, dinosaurs could grow to a very large size. Being large had advantages for dinosaurs, so we don’t need the idea of endothermy and running to explain why dinosaurs evolved to have their legs under their bodies.

OK, so how about bone structure? Many dinosaur bones do have Haversian huh-VER-zhun canals, that’s true, but dinosaur bones also have growth rings. Growth rings are a thickening of the bone that indicates periods of time when the dinosaurs weren’t rapidly growing. These growth rings are evidence that dinosaurs stopped growing or grew more slowly during cooler periods. This pattern of periodic growth—ya know, rapid growth followed by no growth or slow growth and then rapid growth again—is characteristic of animals that are not endotherms. Animals that maintain a constant body temperature year round, as true endotherms do, grow rapidly even when the environment becomes cool.

TPO5 Usage of Chaco great houses

阅读材料

As early as the twelfth century A.D., the settlements of Chaco Canyon in New Mexico in the American Southwest were notable for their “great houses,” massive stone buildings that contain hundreds of rooms and often stand three or four stories high. Archaeologists have been trying to determine how the buildings were used. While there is still no universally agreed upon explanation, there are three competing theories.

One theory holds that the Chaco structures were purely residential, with each housing hundreds of people. Supporters of this theory have interpreted Chaco great houses as earlier versions of the architecture seen in more recent Southwest societies. In particular, the Chaco houses appear strikingly similar to the large, well-known “apartment buildings” at Taos, New Mexico, in which many people have been living for centuries.

A second theory contends that the Chaco structures were usedto store food supplies. One of the main crops of the Chaco people was grain maize, which could be stored for long periods of time without spoiling and could serve as a long-lasting supply of food. The supplies of maize had to be stored somewhere, and the size of the great houses would make them very suitable for the purpose.

A third theory proposes that houses were used as ceremonial centers. Close to one house, called Pueblo Alto, archaeologists identified an enormous mound formed by a pile of old material. Excavations of the mound revealed deposits containing a surprisingly large number of broken pots. This finding has been interpreted as evidence that people gathered at Pueblo Alto for special ceremonies. At the ceremonies, they ate festive meals and then discarded the pots in which the meals had been prepared or served. Such ceremonies have been documented for other Native American cultures.

听力

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Unfortunately, none of the arguments about what the Chaco great houses were used for is convincing.

First—sure, from the outside the great houses look like later Native American apartment buildings, but the inside of the great houses casts serious doubt on the idea that many people lived there. I’ll explain. If hundreds of people were living in the great houses, then there would have to be many fireplaces where each family did its daily cooking. But there’re very few fireplaces. In one of the largest great houses there were fireplaces for only around ten families. Yet there are enough rooms in the great house for more than a hundred families. So the primary function of the houses couldn’t have been residential.

Second, the idea that the great houses were used to store grain maize is unsupported by evidence. It may sound plausible that large, empty rooms were used for storage, but excavations of the great houses have not uncovered many traces of maize or maize containers. If the great houses were used for storage, why isn’t there more spilled maize on the floor? Why aren’t there more remains of big containers?

Third, the idea that the great houses were ceremonial centers isn’t well supported either. You know

that mound at Pueblo Alto? It contains lots of other materials besides broken pots, stuff you wouldn't expect from ceremonies. For example, there're large quantities of building materials—sand, stone, even construction tools. This suggests that the mound is a just a trash heap of construction material, stuff that was thrown away or not used up when the house was being built. The pots in the pile could be regular trash, too, left over from the meals of the construction workers. So the Pueblo Alto mound is not good evidence that the great houses were used for special ceremonies.

综合写作讲义

托福写作讲义

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第一章 词汇

第一章

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前言

托福写作

作为图书导出

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