

Mammoth

Great woolly discovery causing science excitement and controversy

Just when you think scientists know everything they can know about the world's past, something new is discovered. This time, the discovery was made in a frozen area of Russia called Siberia.

An enormous woolly mammoth buried for 20,000 years in the ice was recovered whole and flown to a sub-freezing laboratory for study.

And that is just the beginning of this amazing story.

Scientists say the body is so well preserved that they might use cloning to bring the woolly mammoth species back to life. An ancestor of elephants, the woolly mammoth has been extinct for 10,000 years!

'Half-mammoths'

Scientists also might try to recover genetic material from this frozen male mammoth to breed new "half-mammoths" with modern-day

female elephants as the mothers.

These very ideas—unthinkable just a few years ago—are causing a great deal of debate in the scientific community.

But this is real life, not the movies!

The animal now being studied in an ice-cave laboratory is called the Jarkov Mammoth. It got its name from the Siberian family who stumbled across it while herding reindeer.

It is 11 feet high and weighs about 8 tons. Its features and flesh were so well preserved that scientists were able to pat its fur. When they scraped off the last pieces of ice, they could even smell what it smelled like.

"It was like walking into the stall at the zoo where the elephants sleep," said one of the scientists on the expedition, which was funded by the Discovery TV Channel and the French magazine Paris Match.

Cloning candidate?

The presence of actual flesh means scientists will be able to recover the genetic material called DNA. DNA contains nature's codes that determine how a living thing will look, grow, or act.

If used for cloning it can create an exact copy of a living thing. Only in the last few years has cloning been used successfully to create twins of adult animals like sheep and cows.

Using cloning to re-create an extinct animal has some risks. For one thing, the world's climate is far different than it was when woolly mammoths lived. They may not be able to resist modern diseases. Most of all, while scientists now know exactly what the mammoths looked like, they have no idea how they would act.

Reuters Photo



Scientist Bernard Buigues is dwarfed by the great curved tusks of the woolly mammoth that was recovered in Siberia.

Diggin' the newspaper

Genetics may be used to attempt to clone the woolly mammoth found in Siberia. Genetics is the scientific study of what makes living things the way they are. Look through the newspaper for photos or names of animals (don't forget the sports page). Pick one and

write out five features of the animal that interest you. Why do you think the animal developed these features? If you could change features through genetics, would you do it? Write reasons why or why not. Finish by repeating the activity for a human in the news.

Vapors

Modern science solves ancient mystery of Oracle at Delphi

In all of ancient times, one of the great mysteries was the behavior of the Oracle at Delphi.

The oracle was said to have the power to see the future, and for more than 12 centuries leading citizens of Greece visited the oracle to get guidance.

The power to predict, according to the ancients, came from magical gases breathed by the oracle in the Temple of Apollo, who was the Greek god of prophecy.

For years historians doubted that gases—or “vapors” as they were called—could have affected the behavior of the oracle. It was just a myth, they said, like so many other tales of ancient life.

‘X’ file

Today, however, modern science has turned that thinking upside down.

A team representing four fields of science has found that there probably were vapors in the Temple of Apollo, and they probably did affect how the oracle behaved.

A geologist, an archaeologist, a chemist and a toxicologist from the United States have produced detailed evidence that shows an unusual feature of the land beneath the temple could have released gases that could have made the oracle act “magically.”

They found, when it came to Delphi, that “X” marked the spot.”

The breakthrough discovery came as a result of a traffic improvement more than 20 years ago. But conclusive results were published only in 2001 and 2002.

It all started when geologist Jelle Zeilinga de Boer was hired by the Greek government to find out whether land around Delphi would be all

right for building nuclear power plants.

At a spot where the road had been widened for tourist buses, he saw a break in the rock—what geologists call a “fault.”

He started tracing the fault and found it led right under the Temple of Apollo.

In 1998 he and archaeologist John Hale revisited Delphi and discovered another fault. When they traced it, they were astounded. The faults crossed in an X pattern—right under the temple!

The oracle at Delphi was not just one person, but a series of women who served over the years. Before they gave their advice, they would go down into a room in the basement of the temple to breathe sweet-smelling vapors. The vapors were said to make them talk magically, or deliriously, while offering predictions.

But what were those vapors?

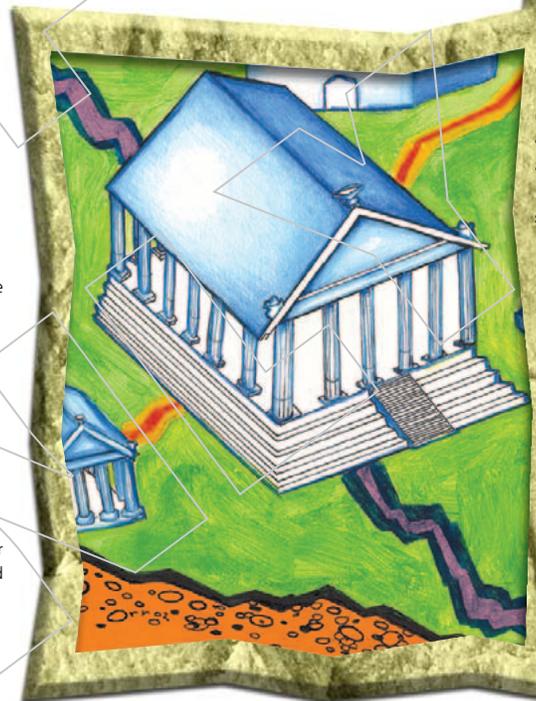
Chemist Jeffrey Chandler joined de Boer and Hale and found traces of methane and ethane chemicals in dry springs near Delphi. Then he hit the jackpot. He tested water in an active spring and found the chemical ethylene.

Powerful gas

Breathing ethylene would have an effect not unlike “huffing” spray paint today, toxicologist Henry Spiller said. If ethylene was in the ground, it could easily have seeped to the surface through the faults under the temple.

The gas, which is also used as anesthesia, would certainly have affected the oracle’s behavior.

Which means the ancient mystery of Delphi was not a myth at all.



Modern science has proved that two geological faults crossed under the Temple of Apollo where the oracle spoke at Delphi.

Diggin' the newspaper

Ancient Greeks visited the Oracle at Delphi to hear predictions about the future. What the oracle told them would influence everything from the crops they would plant to whether they would travel. Where do people

today get predictions about future events? As a class, use the newspaper and other resources to find examples of modern predictions. List them on the chalkboard and discuss which are likely to be the most accurate.