Maya in the 21st Century

Article

PETÉN, Guatemala (Achieve3000, February 7, 2020). Over 1,500 years ago, the Maya people built large stone cities. Thousands of homes were arranged around public squares and courtyards. So were palaces, tombs, and temple-pyramids. It was the kind of planning that suggests an advanced culture steeped in art, mathematics, and science. But then, in the late 8th and 9th centuries, the Maya abandoned their cities. They left behind a civilization that had been booming for almost six centuries—and many unanswered questions.

The Maya empire has long captured scientists' interest. And they're continuing to uncover pieces of the Maya's past.

Many ancient Maya architectural wonders are still around. They're in southern Mexico, Guatemala, Belize, Honduras, and El Salvador. For example, stepped, flat-topped pyramids rise throughout this region. But many ruins are still hidden.

Photo credit: AP/Karla Ortega/Mexico's National Institute of Anthropology and History

Archeologists found Maya artifacts in the Cave of the Jaguar God, including bowls, ceramic incense holders, decorated plates, and other items.

New technology is changing that, though. In fact, modern-day scientists don't even have to leave home to spot a buried Maya city. All they need is LIDAR (Light Detection and Ranging). It's a game-changing tool. LIDAR is light in the form of laser pulses. It's used along with a special scanner and GPS receiver. It generates detailed, 3D topographical information about natural and humanmade environments.

In 2018, LIDAR technology helped scientists uncover a Maya megalopolis in Guatemala. Many Maya structures were seen for the first time. There were 61,480 of them. They span over 810 square miles (2,098 square kilometers). Scientists have determined that an astounding 7 to 11 million people once lived in the area. Many lived in densely packed cities. Some lived in smaller towns. And others lived in rural zones.

The LIDAR scans also brought to laser-light two other startling discoveries. First, the Maya built about 66 miles (106 kilometers) of causeways. These were within and between cities and towns. This suggests a remarkable degree of connection between different sections of their spread-out megalopolis. And second, they developed an agricultural system. It was able to feed many millions of people regularly through field irrigation systems.

In October 2019, LIDAR technology struck architectural gold once again. A total of 27 ceremonial sites dating back 3,000 years were discovered in Mexico. Their construction was one that scientists had never seen before. It included low-to-the-ground platforms. They were as long as two-thirds of a mile (1.1 kilometers).

But high-tech lasers aren't responsible for *all* 21st-century Maya discoveries. Take the Cave of the Jaguar God underneath the Maya city of Chichén Itzá, for instance. It was opened by a scientist in December 2019. He remembered being inside the cave as a boy in 1966, but it was later sealed. As a man in his 60s, he decided to seek it out. Inside the cave were hundreds of well-preserved Maya objects.

So what will the future bring as scientists work to solve the mysteries of the Maya? No one can know for sure. But based on recent discoveries, it's possible that the greatest findings have yet to be made.

Video credit: Gustavo Huerta / AFPTV+INAH / AFP

Dictionary

architecture *(noun)*   the art or science of designing and creating buildings

causeway *(noun)*   a raised road or path that goes across wet ground or water

megalopolis *(noun)*   an area that includes a large city or several large cities

rural *(adjective)*   of or relating to the country and the people who live there instead of the city
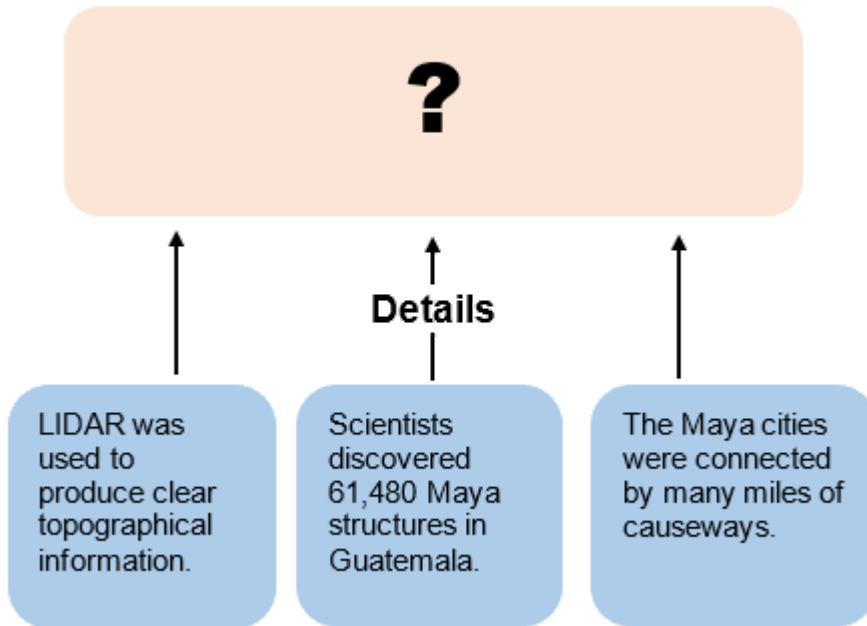
topography *(noun)*   the features (such as mountains and rivers) in an area of land

Activity

<u>**PART 1**</u>

Question 1

Main Idea of the Article

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Details

| LIDAR was used to produce clear topographical information. | Scientists discovered 61,480 Maya structures in Guatemala. | The Maya cities were connected by many miles of causeways. |

Based on the Article, which best replaces the question mark in the diagram above?

(A) Studying the arrangement of the 61,480 recently discovered structures in Guatemala, scientists have learned that 7 to 11 million people once lived in the area.

(B) Scientists are working to uncover ruins of the Maya empire using laser tools that locate them and also provide new information about the lost civilization.

(C) Over 1,500 years ago, the Maya people built large stone cities in which thousands of homes were arranged around public squares and courtyards.

(D) LIDAR technology was not responsible for the recent discovery of the Cave of the Jaguar God, which lay sealed up beneath the Maya city of Chichén Itzá in Mexico.

Question 2

Based on the Article, the reader can tell that _____.

(A) scientists must be careful when using LIDAR because it can harm ancient architecture

(B) the megalopolis discovered in Guatemala is not easy to see without the help of technology

(C) most of the inhabitants of the recently uncovered Guatemalan megalopolis lived in rural areas

(D) the Cave of the Jaguar God was first discovered by LIDAR and explored by a man in his 60s

Question 3

The Article states:

> But high-tech lasers aren't responsible for *all* 21st-century Maya discoveries. Take the Cave of the Jaguar God underneath the Maya city of Chichén Itzá, for instance. It was opened by a scientist in December 2019. He remembered being inside the cave as a boy in 1966, but it was later sealed. As a man in his 60s, he decided to seek it out. Inside the cave were hundreds of well-preserved Maya objects.

Why did the author include this passage?

(A) To explain how hundreds of Maya artifacts found in the cave were able to stay so well-preserved

(B) To point out why caves are sometimes left alone for years even though they may be valuable

(C) To suggest that most of the recent discoveries of ancient Maya ruins have happened by accident

(D) To show that not all of the recent Maya discoveries were found using lasers like LIDAR

Question 4

Which is the closest **antonym** for the word *megalopolis*?

(A) hotel

(B) wilderness

(C) cafeteria

(D) business

Question 5

Suppose Yu Yan wants to find out about LIDAR. She would find **most** of her information _____.

(A) on a TV program about how the first Maya ruins were found

(B) on a 3D map showing Chichén Itzá in Mexico

(C) on a website describing the latest mapping tools

(D) on a video titled "In Search of the Cave of the Jaguar God"

Question 6

Read this passage from the Article:

> First, the Maya built about 66 miles (106 kilometers) of causeways. These were within and between cities and towns. This suggests a remarkable degree of *connection* between different sections of their spread-out megalopolis.

In this passage, the word *connection* means _____.

(A) the quality of having little value

(B) the state of two or more things being joined together

(C) the quality of being important

(D) the state of being alone and hidden from others

Question 7

Based on the Article, the reader can predict that _____.

(A) scientists will decide that most of the best Maya spots in Mexico have already been found

(B) more Maya ruins will be discovered as scientists use LIDAR in more areas in the region

(C) the Cave of the Jaguar God will be sealed off forever so that the treasures will not be stolen

(D) the scientist who discovered the Cave of the Jaguar God will search for ruins in the United States

Question 8

Which information is **not** in the Article?

(A) How LIDAR works with other tools to create a detailed topographical map

(B) How scientists found a vast Maya community that was hidden from view

(C) Where a recently discovered megalopolis that includes 61,480 structures is located

(D) Why the Maya abandoned the huge megalopolis that was recently discovered