



Maya in the 21st Century

Article

PETÉN, Guatemala (Achieve3000, February 7, 2020). Over 1,500 years ago, when their empire was at its pinnacle, the Maya people built vast stone cities. Thousands of homes were arranged around plazas and courtyards, as were intricately decorated palaces, tombs, and temple-pyramids. It was the kind of urban planning that bespeaks a sophisticated culture steeped in art, mathematics, and science. But then, in the late 8th and 9th centuries, the Maya abandoned their cities, leaving behind a civilization that had flourished for almost six centuries—and a host of unanswered questions.

Although scholars still aren't exactly sure why the Maya left, the Mesoamerican empire has long intrigued scientists, who are continuing to uncover pieces of the past. The most recent discoveries have been particularly wondrous because of their sheer number, the high-tech tools used to locate them, and the revelations they provide about this lost civilization.

In areas of southern Mexico, Guatemala, Belize, Honduras, and El Salvador, which are home to millions of Maya descendants, many ancient Maya architectural wonders still exist. For example, stepped, flat-topped pyramids rise throughout the region. However, although regular archaeological explorations and excavations of Maya sites began in the 1830s, many ruins have remained hidden.

New technology is changing that, though. In fact, modern-day archaeologists don't even have to leave home to spot a buried Maya city. All they need is LIDAR (Light Detection and Ranging), a game-changing tool that's revolutionized the world of archaeology. LIDAR is light in the form of laser pulses. It's used along with a specialized scanner and GPS receiver to generate precise, 3D topographical information about natural and humanmade environments. And when it's placed on an airplane or helicopter, it can scan broad expanses of land.

In 2018, archaeologists announced that LIDAR technology had helped them uncover an entire Maya megalopolis in northern Guatemala. Analysis of the scans revealed 61,480 previously unidentified Maya structures over a span of 810 square miles (2,098 square kilometers). Archaeologists then determined that an astounding 7 to 11 million people lived in the area. Many resided in densely packed cities, some in suburban towns, and others in sparsely populated rural zones. (As a point of reference, the Chicago metropolitan area has about 10 million residents.)

The LIDAR scans also brought to laser-light two other startling discoveries. First, the Maya built about 66 miles (106 kilometers) of causeways within and between their cities and towns. This suggests a remarkable degree of connectivity between the various sections of their sprawling megalopolis. And second, they developed a complex agricultural mechanism that was capable of feeding many millions of people regularly through field irrigation systems in the low-lying wetlands and terraces in the upland areas.

In October 2019, LIDAR technology struck archaeological gold once again, this time in Mexico, with the discovery of 27 ceremonial sites dating back 3,000 years. Their construction was of a kind that archaeologists had never seen before, with low-to-the-ground platforms as long as two-thirds of a mile (1.1 kilometers). Scientists believe these findings will



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.

shed some light on the mysterious origins of the Maya civilization and its connection to the Olmec civilization that preceded it.

But high-tech lasers aren't responsible for *all* 21st-century Maya archaeological discoveries. Some have been happenstance, like the Cave of the Jaguar God underneath the Maya city of Chichén Itzá in Mexico. It was opened by an archaeologist 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 artifacts used in Maya rituals, including incense holders. Indeed, caves and sinkholes were important places for the ancient Maya, who viewed them as portals to the underworld. Archaeologists hope that these artifacts will provide as much information about Maya life as the aboveground sites.

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

Video credit: Gustavo Huerta / AFPTV+INAH / AFP

Dictionary

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

Mesoamerica (*noun*) region of southern North America

topography (*noun*) the features (such as mountains and rivers) in an area of land

Activity

PART 1

Question 1

What is this Article mainly about?

- Ⓐ The Maya empire has long intrigued scientists, who continue to uncover pieces of the past, including a number of recent discoveries that have been particularly noteworthy because of the high-tech tools used to locate them and the revelations they provide about the lost civilization.
- Ⓑ Judging from the arrangement of the 61,480 recently discovered structures in northern Guatemala, archaeologists determined that 7 to 11 million people resided in the area in densely packed cities, suburban towns, and sparsely populated rural areas.
- Ⓒ LIDAR, short for Light Detection and Ranging, is a game-changing mapping tool in which laser pulses are used with a specialized scanner and GPS receiver to generate precise 3D topographical information about natural and humanmade environments.
- Ⓓ Lying beneath the Maya city of Chichén Itzá in Mexico, the recently rediscovered Cave of the Jaguar God included very well-preserved artifacts, including incense holders, which were commonly used in different Maya rituals.

Question 2

What is one inference the reader can make from the Article?

- Ⓐ Most of the people who inhabited the recently uncovered Guatemalan megalopolis lived in rural areas.
- Ⓑ The Cave of the Jaguar God was first discovered by LIDAR and then explored by an archaeologist in his 60s.
- Ⓒ Archaeologists must be careful when using LIDAR because it is capable of harming ancient sites and relics.
- Ⓓ The recently discovered megalopolis found in northern Guatemala is not easy to detect from the ground.

Question 3

The Article states:

Some have been happenstance, like the Cave of the Jaguar God underneath the Maya city of Chichén Itzá in Mexico. It was opened by an archaeologist 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 artifacts used in Maya rituals, including incense holders. Indeed, caves and sinkholes were important places for the ancient Maya, who viewed them as portals to the underworld. Archaeologists hope that these artifacts will provide as much information about Maya life as the aboveground sites.

The author's purpose for writing this passage was to _____.

- Ⓐ point out why caves are sometimes ignored as possible archaeological sites even though they often contain ancient treasures
- Ⓑ explain how the hundreds of Maya artifacts found in the Cave of the Jaguar God, including incense holders, were able to stay so well-preserved
- Ⓒ show that not all of the recent discoveries involving the ancient Maya were the result of the use of advanced technology like LIDAR
- Ⓓ suggest that happenstance is responsible for the discovery of the greatest of all Maya sites in Mexico

Question 4

Which two words are the closest **synonyms**?

Only some of these words are used in the Article.

- (A) bespeaks and broaches
- (B) intricately and invariably
- (C) rituals and rites
- (D) happenstance and hoax

Question 5

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

- (A) on a video titled "In Search of the Cave of the Jaguar God"
- (B) on a TV program about how the first Maya ruins were discovered
- (C) on a topographical map showing Chichén Itzá in Mexico
- (D) on a webpage describing the very latest mapping tools

Question 6

Read this passage from the Article:

Over 1,500 years ago, when their empire was at its *pinnacle*, the Maya people built vast stone cities. Thousands of homes were arranged around plazas and courtyards, as were intricately decorated palaces, tombs, and temple-pyramids. It was the kind of urban planning that bespeaks a sophisticated culture steeped in art, mathematics, and science.

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

- (A) the point of greatest success
- (B) a desire that goes unfulfilled
- (C) a time set aside for reflection
- (D) the end of a dynasty or an era

Question 7

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

- (A) the Cave of the Jaguar God will be sealed off permanently so that the treasures found inside will not be damaged or stolen
- (B) the archaeologist who discovered the Cave of the Jaguar God will search for ancient Maya sites in the United States
- (C) archaeologists will come to an agreement that most of the best Maya sites in Mexico have already been found
- (D) more Maya sites will be discovered as the use of LIDAR is expanded to more areas in the region

Question 8

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

- Ⓐ Why the Maya abandoned the huge megalopolis that was recently discovered
- Ⓑ How LIDAR works with other tools to create an accurate topographical map
- Ⓒ How archaeologists discovered a vast Maya community that lay hidden from view
- Ⓓ Where a recently discovered megalopolis that includes 61,480 structures is located