New Tools for Archaeology

Scientists who study past human cultures are called archaeologists. They learn about the past by studying ruins and other objects.

However, much of the past is buried beneath the ground. In earlier times, archaeologists’ main tools were picks and shovels. They would find a site and carefully dig into it. Today, archaeologists have high-tech tools to help them.

During a flight of the space shuttle Columbia in 1981, several devices were tested. One test had surprising results. The device was called Shuttle Imaging Radar (SIR). From 161 miles (259 km) up, SIR beamed radio signals at Earth. The signals bounced off the bedrock of the planet. SIR recorded these echoes. This data was used to make pictures of Earth’s surface.

What SIR did is called remote sensing. This technology lets archaeologists see what is in a site without any digging. Remote sensing has a long history. Photos of Stonehenge in England were taken from a balloon in 1906. During World War I, photographers in planes made many discoveries. In 1929, Charles Lindbergh flew over Mexico in search of Mayan ruins.

Photos taken from the air are useful. However, they are limited to what the human eye can see. The latest sensors “see” outside the range of visible light. Some, like SIR, can see what lies deep under the ground.

Ground Penetrating Radar (GPR) is another new tool. The GPR is dragged over a site. Radar signals are beamed into the soil. They bounce back off buried objects.