Since the 1950s, the University of Missouri-Columbia has collected several dozen prehistoric shoes unearthed from Callaway County's Arnold Research Cave. The shoes include leather moccasins as well as sandals and slip-ons made from fibers of a yucca-like plant called rattlesnake master.
suggesting that its wearer got too close to a fire. Several are padded with wads of grass, the contemporary equivalent of foot pads. Because of the jumbled deposits in the cave, archaeologists were not sure how old the shoes are, and O’Brien wasn’t willing to sacrifice large chunks of the ancient footwear for carbon dating. The researchers determined the ages of seven of the shoes by using an alternative to radiocarbon dating called accelerator mass spectrometry (AMS). The technique was used to date the Shroud of Turin, the cloth that some believe Jesus Christ was wrapped in after the Crucifixion. AMS analyzes a small sample of the material being studied to estimate the number of atoms of naturally radioactive carbon in the material. That number can be used to extrapolate the material’s age.

O’Brien was surprised by the public interest in the footwear. “Archaeologists dig up spear points, arrowheads, pottery and people say, ‘Well, that’s nice—yawn.’ But these shoes—the interest has been phenomenal. They even made two nights running on Jay Leno. It’s just something all people can identify with.”

Preservation of Clothing

Clothing materials, such as fiber, leather, feathers and fur, degrade quickly. Climate changes cause the materials to swell and contract over and over until they crumble. MU’s collection of prehistoric shoes survived because it was in a dry environment with a constant temperature and humidity level. In addition to the shoes, pottery and stone tools were also recovered from the cave. Some of the tools are even older than the shoes. The artifacts are evidence that hunters and gatherers inhabited the cave about 11,000 years ago.

Publications that featured the shoes

Chronicle of Higher Education
Columbia Daily Tribune
Dallas Morning News
Discover
Halifax Chronicle-Herald (Canada)
Houston Chronicle
Illustreret Videnkskab (Denmark)
La Vanguardia (Spain)
Kansas City Star
Mizzou Magic
National Geographic
New Scientist
New York Times
Newsday
Rocky Mountain News
Science News
St. Louis Post-Dispatch
The Times (England)