

Paleoanthropologist assembles past from artifacts

November 12 2013, by Susan Griffith

In the Case Western Reserve University School of Dental Medicine's search to understand early human tooth development, renowned paleoanthropologist Bruce Latimer has begun to reconstruct what life was like more than 20,000 years ago for individuals living in a Middle Eastern cave.

How people lived and what they survived on helps reveal how human teeth evolved and developed over time, said Latimer, a visiting professor in the Department of Orthodontics.

Latimer has been involved in an ongoing excavation of Manot Cave in Western Galilee, Israel. He was among 21 researchers, who contributed to an article in the quarterly journal *Antiquity* that details recent finds. Case Western Reserve, the Dan David Foundation, the Shafran Foundation, the Leakey Foundation, and the Irene Levi-Sala CARE Foundation provided funding for the exploration.

Latimer, who teaches evolutionary biology and anatomy at the dental school, has made several field trips with dental faculty and 12 students to the Manot site and plans to take another 12 students next summer. The [cave](#) was opened for excavation four years ago after a construction crew accidentally cut through the cave's roof, exposing the site for the first time in 20,000 years.

Since fieldwork began by Tel Aviv University (and joined two years ago by the dental school as part of its involvement with Case Western

Reserve's Institute of the Study of Origins), excavation is underway at five interior locations and one outdoor area suspected to be the terrace.

Latimer said the cave has become one of the most important sites in Israel for learning about early humans and provides the Case Western Reserve dental school with the distinction of having its own excavation site to research human dental evolution.

Although the article focuses on relics from 45,000 and 20,000 years ago, archeological evidence from the cave indicates that Neanderthals might also have lived there.

The artifacts paint a picture of cave life as cold, damp and dark beyond the fire circle close to the entrance. Cave dwellers survived almost exclusively on gazelle-like red deer, based on the thousands of discarded bones discovered inside. Researchers also uncovered the bones of birds, snakes, turtles and lizards. Many of the deer bones were crushed to expose the marrow.

"Marrow fat contains twice the calories of other food sources" Latimer said, "and thus was a very important dietary component."

Latimer concluded that the living conditions in the cave must have been less than comfortable. It would have been wet, muddy and likely smelled of smoke and decaying food—conditions that drove the inhabitants outdoors in drier weather for daily activities on a terrace area near the cave's opening.

"It's hard to imagine living there," he said. "But it was a place for these people to shelter from rain or a cold night."

Last year's expeditions found evidence that, based on excavated tools, two groups inhabited the cave: the Ahmarians, who used a characteristic

single-edged stone blade, and the Levantine Aurignacians, who made some of the first antler and bone tools.

Based on the remains that the dwellers left behind, Latimer concluded that the inhabitants lived there periodically between moves throughout the region perhaps on their way north to Europe.

Teeth marks on the bones also revealed that animals, such as hyenas, intermittently occupied the cave when the human inhabitants were not there.

Provided by Case Western Reserve University

Citation: Paleoanthropologist assembles past from artifacts (2013, November 12) retrieved 20 April 2024 from <https://phys.org/news/2013-11-paleoanthropologist-artifacts.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.