**Archaeology and History—Mammoth Steppe Hypothesis**

Hello everyone, this Archaeology and History in your backyard. My name is \_\_\_\_\_\_\_\_\_\_. This program was written by Bob Berglund. KXNM 88.7 and the Torrance County Archaeological Society are pleased to bring you a series of programs designed to acquaint you our listening audience with little known people, places, history, and archaeology. Our goal is to inform, educate, and possibly enlist your help in preserving and protecting the past.

 In a recent program I summarized some of the interesting and controversial battles going on in the field of archaeology. For this segment the focus will be on one possible way the Americas were settled long before Clovis. This subject isn’t exactly in our backyard of Torrance County, but it is certainly relevant to the history of the Americas where we live.

 **Clovis First** was for many years the firmly held belief of the big majority of archaeologists. The belief was that about 13,500 years ago there was an ice free corridor between the ice age glaciers and the Rocky Mountains that people migrated down. When these people hit the unspoiled hunting grounds of the Americas they supposedly bred and spread throughout the Americas in 500 years, and in the process developed a technically very difficult stone tool technology. In the 1970s and into the 1980s anyone who disagreed with this **Clovis First** theory suffered abuse bordering on character assassination. Any evidence to the contrary was rejected out of hand. It was similar to before Galileo when if you said the sun didn’t revolve around the earth you were a heretic. It is interesting how accumulating information gradually wears down firmly held beliefs, and a new belief system gradually takes hold. The **Clovis First** belief has slowly succumbed to a steady stream of accumulating evidence, and the main question now is how long ago did the first people arrive here. There are different ideas and I want to highlight one that is possible.

 A very plausible argument is put forth by two researchers, Steven and Kathleen Holen of the Center for American Paleolithic Research. Their argument is called the Mammoth Steppe Hypothesis. A Steppe is a grassland with few trees and is generally fairly dry. This grassland is well documented as having existed before the last ice age from about 65,000 to 27,000 years ago, and it extended from central Europe across northern Asia into Alaska and down through central North America into northern Mexico. Think about that—a cold grassland rich in animal species that extended from central Europe to northern Mexico. This grassland was inhabited by many now extinct species including mammoth, mastodon, camel, horse, bison, llama, lion, saber-toothed cat, giant short-faced bear, and dire wolf, to name a few.

 For people to have traveled east and across the Bering Strait into Alaska and North America they had to be capable of living in a very cold climate. They needed warm shelter, tailored clothing, new heat sources, and a tool kit that enabled survival in harsh northern climates. It has been demonstrated by archaeologists in Asia that modern humans reached the east coast of Asia about 40,000 years ago, and that they were living north of the Arctic Circle shortly after that. Spectacular finds in the permafrost of Siberia have led to a much better understanding of the lifestyle, living conditions, and tools used to enable survival that far north. Besides stone tools, large parts of their tool kit were made of bone, mammoth ivory, and even rhinoceros horn. They had well-made needles with eyes for sewing clothes and wore personal adornment such as beads and pendants. The site on the Yana River preserved by the permafrost was occupied periodically over a 3000 year period from 28,000 to 25,000 years ago. What this shows is that people had the technical ability to move east into Alaska and then south into North America over 28,000 years ago and most likely long before, and the climate was favorable for doing so. The heavy glaciation of the last ice age began after this period and shut off the route east of the Rockies about 25,000 years ago, isolating the people already in the Americas from further migration by that route, though not other possible seacoast routes.

 Nearly all of the evidence that people were in the Americas before the ice age was deeply buried by soil deposition during the ice age and the thousands of years of shifting soil since. Evidence is hard to come by, but sites have been found. Most of the sites that have been found consist of evidence of butchering of mammoth or bison, with the mammoth remains being the most convincing.

 Recent testing of how to break fresh elephant leg bones shows it is very difficult. As you can imagine the leg bones of an elephant or mammoth have to be large hard tough bones to support a 5 ton animal. It takes a strong person with a large rock pounding on them to break them, and when they do break, the way they break is very distinctive. They were broken in the past to get at the marrow, but also to get bone to use as tool material. The key is that breaking by impact creates a distinctive pattern.

 Several mammoth remain sites have been found in Alaska and the mid-west that have leg bones broken by impact, and they date from 40,000 years to 23,000 years before present. An example of a site was one called the Miami Mastodon site in Missouri. It was in a road cut about 12 feet deep in fine soil. Excavation revealed one mastodon skeleton associated with some stone tools and limestone slabs. There is no logical explanation for the stone tools and slabs with the skeleton except that they were used for processing the mastodon. This site has been dated to about 35,000 years ago. Another site called the Villa Grove Site in Colorado was found below 36 feet of gravel and was related to human activity by the finding of limb bone fragments that were broken while the bone was fresh. This site is dated to 33,000 years ago. The Lowell Mammoth Site in Kansas included limb bone broken while fresh and other parts of the skeleton such as ribs stacked and unbroken. It dates to about 23,000 years ago.

 All together there are 7 sites dating between 23,000 and 40,000 years old that exhibit pretty firm evidence that humans were present. The identical processing techniques were also used in Siberia and Central Europe. The bone reduction techniques not only were to obtain marrow, but also to make tools from the bone including projectile points. Flakes could be hammered off the big bones and used as rough choppers. The same techniques were also used down to and including the Clovis period of 13,000 years ago.

 In summary, the Mammoth Steppe Hypothesis proposes that since humans adapted to Western Siberia 40,000 years ago there is no reason they could not have spread into North America. They had the technologies of bone needles and tailored clothing, suitable shelters, use of bone as fuel and specialized tool making techniques using stone, bone and ivory that allowed them to survive and flourish on the vast treeless grasslands of the Steppe. There is evidence that people were in central North America processing animals in the same way as in Asia and Europe.

 One thing has become clear, and that is that humans were all over North and South America before Clovis emerged. There are other very plausible ways that humans could have entered the Americas. One that is becoming more readily accepted is the coastal route down the west coast. Another is the interesting possibility of trans-Atlantic migration of Solutrean people from Southwest Europe. Discussion of the evidence for these theories will have to wait for a future program. These are interesting times in the field of ancient archaeology!

 The source for information on Paleo America starting with Clovis and going back into the distant mists of time is the “**Center for the Study of the First** **Americans**” at Texas A&M University. The Center publishes a quarterly magazine called the **Mammoth Trumpet** that contains the most recent findings and theories. Subscribing to the **Mammoth Trumpet** is highly recommended if you find ancient archaeology to be interesting.

 The Torrance County Archaeological Society meets the first Tuesday of each month except in the winter three months. We always have interesting expert speakers at our meetings and guests are welcome. You can listen to Archaeology in Your Backyard on Monday at 1 PM, Tuesday at 7 PM, Friday at 10 AM, and Saturday at 4 PM. Thank you for listening.