**Archaeology and History—Interesting Developments in Archaeology Summary**

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.

This program is about the interesting and controversial battles that are being waged in the wide field of archaeology in the Americas. Long held beliefs are being upended by new discoveries and non-archaeologist scientists are bringing new technologies to bear in proposing theories that are driving at least some traditional old school archaeologists to distraction.

One of the most interesting arguments is about what caused the end of the Clovis period. Clovis is named after the New Mexico town because it is near the site, Blackwater Draw, where beautiful fluted points and tools were found with mammoth, camel, horse, bison and many other extinct animals’ bones. The Clovis period lasted only about 300 years, ending 12,800 years ago. Clovis fluted points are found over a large part of North America and northern Mexico, so there was a substantial number of people to have covered such a wide area in such a short period of time and all using the same technology. So, what happened 12,800 years ago that brought the Clovis life style to an abrupt end?

Some archaeologists argue that nothing spectacular happened, that the Clovis period just transitioned into the Folsom period. That period is named after Folsom, New Mexico where somewhat different stone spear points were found in conjunction with the bones of extinct bison. However, it is clear that one thing did change drastically at the time of the transition, and that was the beginning of a sharp drop in temperatures that lasted 1000 years. This cold period followed a warm period near the end of the last ice age. The 1000 years of cold is called the Younger Dryas.

The long held belief of most archaeologists is that the Younger Dryas cold was caused by a sudden draining of huge lakes on the southern edge of the ice sheet that was retreating north as the climate warmed. These huge lakes no doubt existed, and the theory has been that they suddenly drained to the east into the North Atlantic Ocean and effectively shut down the normal ocean currents that transport heat in the ocean to the north. The gulf current does that today. Sounds pretty logical, but it leaves many questions unanswered.

One of the main questions is why did extinctions of many species of animals occur at about the same time Clovis came to an end? The glib answer has always been that mammoths and mastodons were killed off by the burgeoning population of hunters, forgetting that many other species including native horses, camels and bison went extinct at the same time. How contemporary the extinctions are with the end of Clovis is questionable. One thing is pretty certain. There were major extinctions of large animals coinciding with the arrival of humans in Australia 50,000 years ago, and in New Zealand and Madagascar, and many other places, when humans arrived. It is also true that some large animals such as the wooly mammoth survived on islands until humans arrived as late as 1700 BC. It is considered likely that, while humans played a role in the extinctions in the Americas, the drastic rapid drop in temperatures played an important part.

There are at least two alternate theories about the cause of the end of Clovis, the beginning of the Younger Dryas cold, and related to some of the major extinctions. One of the most unusual and most widely disputed theories, but one that appears to have a sound theoretical basis, as well as evidence contained in Greenland ice cores, is that a burst of gamma ray radiation from a supernova in the constellation Vela destroyed the ozone layer and caused the formation of a nitrogen oxide smog that darkened the sky and caused the earth to cool. Removing the ozone layer also then allowed ultraviolet radiation to raise havoc on the earth’s surface.

The second theory that is defended by quite a few well respected scientists is called the comet hypothesis. This belief currently is focused on proving that pieces of a comet or series of large meteorites slammed into earth, as a series of air bursts from North America to the Middle East. A small air burst from a meteorite that hit Russia recently broke windows and injured some people. The comet hypothesis is that more and bigger and more destructive airbursts occurred. It is claimed that material attributable to such a dramatic happening can be found in the boundary layer of the earth that separates Clovis from Folsom. In particular nano-diamonds are to be found. This debate will be going on for a long time and will be interesting to follow. It appears likely that something happened to trigger the cooling of the Younger Dryas, contributed to the demise of Clovis culture, and contributed to the extinctions of many species of animals.

Another area of contention in Archaeology is the timing and routes used to people the Americas. It was long held as gospel that the Clovis people were the first to arrive about 13,500 years ago and that they came through an ice free corridor on the east side of the Rocky Mountains from Asia. For years anyone who challenged the Clovis first belief was almost an outcast in the world of archaeology. But now the evidence is accumulating and the Clovis first theory is largely down the drain. Now the trend is toward trying to find out just how many years ago did people arrive in both North and South America?

It is generally agreed that Native Americans today share a high percentage of DNA with Asians. And it looks like there was more than one period of migration into the Americas. When trying to tie DNA to specific peoples it is important to remember that Asian populations have frequently mixed or migrated or been forced to move due to pressures from climate changes such as drought, by pressure from enemies, from their own growing populations, or for other reasons.

It appears the closest DNA match for Native Americans is with a population in the Altai Mountains of central Asia. This population is about equally distant from the Pacific and the Atlantic Oceans, so maybe some people arrived from Europe instead of from Asia. There have been finds on the East Coast of large stone knives known as bifaces that bear a remarkable resemblance to a similar technology in ancient Europe known as Solutrean. The stone knives have been found in Chesapeake Bay in sediments older than Clovis. This Solutrean hypothesis has some ardent supporters in the people finding the bifaces but is considered unproven by the rest of the archaeology community.

The ice free corridor as the entrance route for immigrants from Asia is still considered possible, but a route down the West Coast using boats is more and more being considered realistic. People obviously have been using boats for a long time. When Australia was settled at least 50,000 years ago it was by people who had to sail far over the horizon on the open ocean. There was no land bridge or chain of islands connecting Australia to Asia. Why couldn’t coastal peoples with boats have worked their way north along the East Asian coast and across the Bering Strait and down the West Coast of North America? Or from Europe along the edge of the ice to Iceland, Greenland and into North America?

One thing is becoming clear and that is the Americas were peopled long before the Clovis era. Future programs will deal with some of the important evidence and the disputes that result.

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, as well as more technical papers in a quarterly called **PaleoAmerica.** 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.