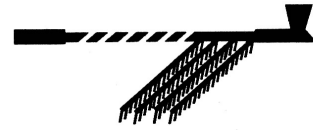


CALUMET



Newsletter of the Indian Peaks Chapter of the Colorado Archaeological Society
May, 2011

CALENDAR OF EVENTS

Presentation (lecture) meetings are held in the University of Colorado Museum, Dinosaur Room on the Second Thursday of most Months, at 7:00 PM. **The public is always welcome.**

Web Site: WWW.INDIANPEAKSARCHAEOLOGY.ORG

- May 4,11,14,18** PAAC Class - Basic Site Surveying Techniques (continued, session 5-8 end)
- May 7** **Field Trip to Estes Park** Join us for a day at the Estes Park Museum! See an exhibit on Bison hunting and hear a lecture on sacred places in Rocky Mountain National Park. Meet at 9:30AM to for carpools at 3320 28th St Diagonal Plaza, Sports Authority or meet us at 10:45 at the Estes Park Museum. Contact information: Anne Robinson 720-334-2782
- May 12** **IPCAS Presentation Meeting**, 7PM. Craig Lee, Topic: An Update on Ice Path Archaeology in the Mid-latitude Rocky Mountains and Colorado Front Range recent research summary.
- May 21** **Field Trip to Chimney Rock Archaeological Area** with possible extension to Southern Ute Cultural Center and Museum: Tour Chimney Rock Archaeological Area at Noon. Meet at Chimney Rock Archaeological Area (<http://www.chimneyrockco.org/mainnew.htm>), bring your own lunch. At 1:30PM, meet for a tour at the visitor center. Tour cost is \$15 per person. Tour will be approximately 2 1/2 hours. On Sunday, May 22: Extension trip to Southern Ute Cultural Center and Museum. The Southern Ute Cultural Center / Museum is having Circle of Life and Friends activities at the opening of the new museum - check web site (<http://www.succm.org/>). Sat 12-5, Sun 12-5. It is in Ignacio, CO. 1-970-563-0100 ext 0000. Maureen will be going Sunday will have the info at the CR tour for those who are interested <http://www.succm.org/>. Contact Maureen Arthur at maureenfrancesarthur@hotmail.com or 303-939-8342 if you are interested going on the tour or interested in carpooling or have questions.
- May 26** **Reading and Discussion Group** Join us for the May Reading and Discussion Group at 7:00 PM Meeting Location: Reynolds Library Meeting Room, 3595 Table Mesa Drive, Boulder. This month's topic: Boulder Area Archaeology. Read anything you wish on our topic and share what you learned with the group. It is OK if you just want to come and hear the discussion.
- June 9** **1st Annual IPCAS Picnic Potluck Picnic**, Thursday, June 9 at 6:00PM at Betasso Preserve, Boulder County Open Space - Bring a dish to share.
- July 14** Potluck Dinner at Betasso Preserve, 6:00PM
- July 28** Reading and Discussion Group 7:00PM. Reynolds Library Meeting Room, 3595 Table Mesa Drive, Boulder. July topic: Kachinas and the Kachina Cult. Read anything you wish on our topic and share what you learned with the group. It is OK if you just want to hear the discussion.
- September 8** **IPCAS Presentation Meeting**, 7PM.
- October 15-16** **CAS Annual Meeting, Boulder (IPCAS is host)**
See Page 11 for more information.
- November 10** **IPCAS Presentation Meeting**, 7PM.

Inside This CALUMET	
Calendar of Events	1
Jim Benedict Remembered	2
Neanderthals and Us	3
CAS Annual Meeting	11
March BOD Minutes	11
Officers/Board Members	12
Membership Application	12

Cheryl Damon's Recollections of Jim Benedict

At Devil's Thumb July 1994:

Jim's excitement at finding in the excavation the other half of a projectile point he had found on the surface – he literally ran back to his tent to get the first half to confirm.

Jim's had patience with novices. Devil's Thumb was my second excavation and he was always willing to answer questions, share his knowledge and actively solicit input from volunteers. He always showed great appreciation to volunteers for their participation.



Jim took the volunteers (aka "elk") on a route that elk would likely have taken from the valley to the game drive and answered numerous questions about geology, archaeology, and even global warming, in 1994!

At Spotted Pony August 2002:

The comical banter between Jim and Byron Olson as they shared their experiences over the years.

Jim's knack for finding sites - he did a shovel test in a random spot in the meadow and found a bell-shaped hearth in the spot he dug!

Jim recited a favorite lengthy Baxter Black poem from memory. Priceless.

Kris Holien's Recollections of Jim Benedict

Jim Benedict was a VIP - a Very Important Person to our Chapter. He always welcomed volunteers, rank amateurs, along on his archaeological excavations high in the Indian Peaks Wilderness to such beautiful locations as Devil's Thumb, Caribou Lake and Fourth of July.

He willingly, eagerly and patiently shared his vast knowledge of geology and archaeology when leading field trips and seminars to game drives on Trail Ridge and Flattop Mountain in Rocky Mountain National Park.



Jim was a gentleman, and a gentle man, soft-spoken but intense. As seen in this photo from a field trip to the Trail Ridge game drive in June 1996, he captivated his audience and they would gather around him to catch every word. As he spoke, Jim also shared his obvious love for these most special and wonderful tundra areas he chose to work in, in our Colorado Rockies. And that is how I will remember Jim, in his element - above timberline.

Neanderthals, Humans Interbred, DNA Proves

By [Jennifer Viegas](#), May 6, 2010

THE GIST

- A newly mapped Neanderthal genome provides strong evidence that humans and Neanderthals interbred.
- Between 1-4 percent of the DNA of many humans living today likely came from Neanderthals.
- People of European and Asian heritage are most likely to carry the Neanderthal genes.

It's official: Most of us are part Neanderthal. The first draft sequence of the Neanderthal genome has provided the strongest evidence yet that modern humans and Neanderthals interbred and that all non-Africans today have Neanderthal gene fragments in their genetic codes. Although the Neanderthal contribution to the DNA of these individuals is estimated at being just one to four percent of the total, the finding, published in the latest issue of the journal *Science*, helps to resolve the long-standing controversy over whether or not humans mated with Neanderthals when the two groups encountered each other outside of Africa.

It also gives new life to Neanderthals that, as a species, went extinct 30,000 years ago. "Neanderthals live on in non-Africans," co-author David Reich told Discovery News. "At least some Neanderthals were absorbed into the modern human population." Reich is an associate professor of genetics at Harvard University who also serves as a population geneticist at the Broad Institute of MIT and Harvard. He and his colleagues analyzed over one billion DNA fragments taken from Neanderthal bones -- dating to approximately 38,000 years ago -- found in Croatia, Germany, Russia and Spain.

Although 95 percent of the fragments consisted of bacteria and microorganisms that colonized the Neanderthal remains, special DNA isolation and anti-contamination measures enabled the scientists to piece together over 60 percent of the entire Neanderthal genome.

Neanderthal Genome Yields Insights Into Human Evolution and Evidence of Interbreeding With Modern Humans

ScienceDaily (May 6, 2010) — After extracting ancient DNA from the 40,000-year-old bones of Neanderthals, scientists have obtained a draft sequence of the Neanderthal genome, yielding important new insights into the evolution of modern humans. Among the findings, published in the May 7 issue of *Science*, is evidence that shortly after early modern humans migrated out of Africa, some of them interbred with Neanderthals, leaving bits of Neanderthal DNA sequences scattered through the genomes of present-day non-Africans.

"We can now say that, in all probability, there was gene flow from Neanderthals to modern humans," said the paper's first author, Richard E. (Ed) Green of the University of California, Santa Cruz. Green, now an assistant professor of biomolecular engineering in the Baskin School of Engineering at UC Santa Cruz, began working on the Neanderthal genome as a postdoctoral researcher at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany. Svante Pääbo, director of the institute's genetics department, leads the Neanderthal Genome Project, which involves an international consortium of researchers. David Reich, a population geneticist at the Broad Institute of MIT and Harvard, also played a leading role in the new study and the ongoing investigation of the Neanderthal genome.

"The Neanderthal genome sequence allows us to begin to define all those features in our genome where we differ from all other organisms on the planet, including our closest evolutionary relative, the Neanderthals," Pääbo said. The researchers identified a catalog of genetic features unique to modern humans by comparing the Neanderthal, human, and chimpanzee genomes. Genes involved in cognitive development, skull structure, energy metabolism, and skin morphology and physiology are among those highlighted in the study as likely to have undergone important changes in recent human evolution. "With this paper, we are just scratching the surface," Green said. "The Neanderthal genome is a goldmine of information about recent human evolution, and it will be put to use for years to come."

Neanderthals lived in much of Europe and western Asia before dying out 30,000 years ago. They coexisted with humans in Europe for thousands of years, and fossil evidence led some scientists to speculate that interbreeding may have occurred there. But the Neanderthal DNA signal shows up not only in the genomes of Europeans, but also in people from East Asia and Papua New Guinea, where Neanderthals never lived.

"The scenario is not what most people had envisioned," Green said. "We found the genetic signal of Neanderthals in all the non-African genomes, meaning that the admixture occurred early on, probably in the Middle East, and is shared with all descendants of the early humans who migrated out of Africa." The study did not address the functional significance of the finding that between 1 and 4 percent of the genomes of non-Africans is derived from Neanderthals. But Green said there is no evidence that anything genetically important came over from Neanderthals. "The signal is sparsely distributed across the genome, just a 'bread crumbs' clue of what happened in the past," he said. "If there was something that conferred a fitness advantage, we probably would have found it already by comparing human genomes."

The draft sequence of the Neanderthal genome is composed of more than 3 billion nucleotides--the "letters" of the genetic code (A, C, T, and G) that are strung together in DNA. The sequence was derived from DNA extracted from three Neanderthal bones found in the Vindija Cave in Croatia; smaller amounts of sequence data were also obtained from three bones from other sites. Two of the Vindija bones could be dated by carbon-dating of collagen and were found to be about 38,000 and 44,000 years old. Deriving a genome sequence--representing the genetic code on all of an organism's chromosomes--from such ancient DNA is a remarkable technological feat. The Neanderthal bones were not well preserved, and more than 95 percent of the DNA extracted from them came from bacteria and other organisms that had colonized the bone. The DNA itself was degraded into small fragments and had been chemically modified in many places.

The researchers had to develop special methods to extract the Neanderthal DNA and ensure that it was not contaminated with human DNA. They used new sequencing technology to obtain sequence data directly from the extracted DNA without amplifying it first. Although genome scientists like to sequence a genome at least four or five times to ensure accuracy, most of the Neanderthal genome has been covered only one to two times so far. The draft Neanderthal sequence is probably riddled with errors, Green said, but having the human and chimpanzee genomes for comparison makes it extremely useful despite its limitations. Places where humans differ from chimps, while Neanderthals still have the ancestral chimp sequence, may represent uniquely human genetic traits. Such comparisons enabled the researchers to catalog the genetic changes that have become fixed or have risen to high frequency in modern humans during the past few hundred thousand years.

"It sheds light on a critical time in human evolution since we diverged from Neanderthals," Green said. "What adaptive changes occurred in the past 300,000 years as we were becoming fully modern humans? That's what I find most exciting. Right now we are still in the realm of identifying candidates for further study." The ancestral lineages of humans and chimpanzees are thought to have diverged about 5 or 6 million years ago. By analyzing the Neanderthal genome and genomes of present-day humans, Green and his colleagues estimated that the ancestral populations of Neanderthals and modern humans separated between 270,000 and 440,000 years ago.

The evidence for more recent gene flow between Neanderthals and humans came from an analysis showing that Neanderthals are more closely related to some present-day humans than to others. The researchers looked at places where the DNA sequence is known to vary among individuals by a single "letter." Comparing different individuals with Neanderthals, they asked how frequently the Neanderthal sequence matches that of different humans. The frequency of Neanderthal matches would be the same for all human populations if gene flow between Neanderthals and humans stopped before human populations began to develop genetic differences. But that's not what the study found. Looking at a diverse set of modern humans--including individuals from Southern Africa, West Africa, Papua New Guinea, China, and Western Europe--the researchers found that the frequency of Neanderthal matches is higher for non-Africans than for Africans.

According to Green, even a very small number of instances of interbreeding could account for these results. The researchers estimated that the gene flow from Neanderthals to humans occurred between 50,000 and 80,000 years ago. The best explanation is that the admixture occurred when early humans left Africa and encountered Neanderthals for the first time.

"How these peoples would have interacted culturally is not something we can speculate on in any meaningful way. But knowing there was gene flow is important, and it is fascinating to think about how that may have happened," Green said. The researchers were not able to rule out one possible alternative explanation for their findings. In that scenario, the signal they detected could represent an ancient genetic substructure that existed within Africa, such that the ancestral population of present-day non-Africans was more closely related to Neanderthals than was the ancestral population of present-day Africans. "We think that's not the case, but we can't rule it out," Green said.

The researchers expect many new findings to emerge from ongoing investigations of the Neanderthal genome and other ancient genetic sequences. Pääbo's group recently found evidence of a previously unknown type of hominid after analyzing DNA extracted from what they had thought was a Neanderthal finger bone found in Siberia. Green is also taking part in that continuing investigation.

Neanderthals Walked Into Frozen Britain 40,000 Years Earlier Than First Thought

ScienceDaily (June 1, 2010) — A University of Southampton archaeologist and Oxford Archaeology have found evidence that Neanderthals were living in Britain at the start of the last ice age, 40,000 years earlier than previously thought.

Commissioned by Oxford Archaeology, the University of Southampton's Dr Francis Wenban-Smith discovered two ancient flint hand tools at the M25 / A2 road junction at Dartford in Kent, during an excavation funded by the Highways Agency. The flints are waste flakes from the manufacture of unknown tools, which would almost certainly have mostly been used for cutting up dead animals. Tests on sediment burying the flints show they date from around 100,000 years ago, proving Neanderthals were living in Britain at this time. The country was previously assumed to have been uninhabited during this period.

"I couldn't believe my eyes when I received the test results. We know that Neanderthals inhabited Northern France at this time, but this new evidence suggests that as soon as sea levels dropped, and a 'land bridge' appeared across the English Channel, they made the journey by foot to Kent," says Francis. Early pre-Neanderthals inhabited Britain before the last ice age, but were forced south by a previous glaciation about 200,000 year ago. When the climate warmed up again between 130,000 and 110,000 years ago, they couldn't get back because, similar to today, the Channel sea-level was raised, blocking their path. This discovery shows they returned to our shores much earlier than 60,000 years ago, as previous evidence suggested.

"The fieldwork uncovered a significant amount of activity at the Dartford site in the Bronze Age and Roman periods, but it is deeper trenches excavated through much older sediments which have yielded the most interesting results -- shedding light on a long period when there was assumed to have been an absence of early man from Britain," comments Oxford Archaeology Project Manager David Score.

One theory is that Neanderthals may have been attracted back to Kent by the flint-rich chalk downs visible from France. These supported herds of mammoth, rhino, horse and deer -- an important source of food in sub-arctic conditions. "These are people who had no real shelter -- no houses, not even caves, so we can only speculate that by the time they returned, they had developed physiologically to cope with the cold, as well as developing behavioural strategies such as planning winter stores and making good use of fire," says Dr Francis Wenban-Smith.

The last glacial period (or ice age) occurred between around 110,000 to 10,000 years ago, but this was interspersed with fluctuations when the climate temporarily warmed. It is unclear whether Neanderthal colonization across North Western Europe and Britain was related to these minor fluctuations.. Dr Wenban-Smith believes more evidence is needed to date their occupations more accurately, to show how many were living in Kent at this time, how far they roamed into Britain and how long they stayed for. The Channel is also a critical area for further research, with the buried landscape between Boulogne and Newhaven -- provisionally christened "Boulognia" -- possibly containing the crucial evidence.

Neanderthals Cozy Bedroom Unearthed

By Jennifer Viegas, August 6, 2010

THE GIST

- An apparent Neanderthal sleeping chamber has just been unearthed within Esquilleu Cave in Cantabria, Spain.
- The room likely contained grass beds, which served double duty as seats, near a hearth.
- Other research supports that Neanderthals constructed such functional living spaces within caves and rock shelters.

Anthropologists have unearthed the remains of an apparent Neanderthal cave sleeping chamber, complete with a hearth and nearby grass beds that might have once been covered with animal fur. Neanderthals inhabited the cozy Late Pleistocene room, located within Esquilleu Cave in Cantabria, Spain, anywhere between 53,000 to 39,000 years ago, according to a *Journal of Archaeological Science* paper concerning the discovery. Living the ultimate clean and literally green lifestyle, the Neanderthals appear to have constructed new beds out of grass every so often, using the old bedding material to help fuel the hearth. "It is possible that the Neanderthals renewed the bedding each time they visited the cave," lead author Dan Cabanes told *Discovery News*.

Cabanes, a researcher at the Weizmann Institute of Science's Kimmel Center for Archaeological Research, added that these hearth-side beds also likely served as sitting areas during waking hours for the Neanderthals. "In some way, they were used to make the area near the hearths more comfortable," he said, mentioning that artifacts collected from various other Neanderthal sites suggest the inhabitants prepared stone tools, cooked, ate and snoozed near warming fires. For this study, Cabanes and his team collected sediment samples from the Spanish cave. Detailed analysis of the samples allowed the scientists to reconstruct what materials were once present in certain parts of the cave at particular times.

The bedding material was identified based on the presence and arrangement of multiple phytoliths from grasses near the hearth area. Phytoliths are tiny fossilized particles formed of mineral matter by a once-living plant. There was no evidence of plants growing, soil developing or animal transport of phytoliths via dung, so the scientists believe the only plausible explanation is that Neanderthals gathered the grass and placed it in this room of the cave.

While the hearth contained some grass phytoliths, most belonged to wood and bark, "indicating that this material was the main type of fuel used," according to the researchers. Some animal bones were also tossed into the hearth, perhaps to dispose of them after dinner and/or for use as extra fire fuel.

Evidence is building that Neanderthals in other locations constructed such functional living spaces within caves and rock shelters. Earlier this year, Josep Vallverdu of the Catalan Institute of Human Paleoecology and Social Evolution and his team identified a "sleeping activity area" at Spain's Abric Romani rock shelter. Similar to the Esquilleu Cave finds, Vallverdu and his colleagues discovered the remains of hearths spaced enough for seating and sleeping areas. "This set of combustion activity areas suggests analogy with sleeping and resting activity areas of modern foragers," Vallverdu and his team wrote. They added that such information can allow anthropologists to estimate the size of Neanderthal populations, in addition to learning more about how they lived.

The big question, according to Cabanes, is how such a resourceful species went extinct. "In my opinion, Neanderthal extinction may have been caused by several factors working at the same time," he said. "Environmental changes, a slightly different social organization, a different rate of reproduction, spread of diseases, direct competition for resources and many other factors may have played an important role in the fate of Neanderthals."

He and other researchers have also not ruled out that Neanderthals were simply absorbed into the modern human population. Cabanes is hopeful that future analysis of phytoliths, as well as other less obvious clues that have often been overlooked by scientists in the past, may shed additional light on the still-mysterious Neanderthals.

Did Neanderthals Believe in an Afterlife?

By [Jennifer Viegas](#), April 20, 2011

A possible Neanderthal burial ground suggests that they practiced funeral rituals and possessed symbolic thought before modern humans.

THE GIST

- Neanderthal skeletons found in apparent burial poses have been unearthed at a site in Spain.
- The site, Sima de las Palomas, may be the first known Neanderthal burial ground of Mediterranean Europe.
- Remains for six to seven other Neanderthals, including an infant and two juveniles, as well as associated tools and food, have also been excavated.

Evidence for a likely 50,000-year-old Neanderthal burial ground that includes the remains of at least three individuals has been unearthed in Spain, according to a *Quaternary International paper*. The deceased appear to have been intentionally buried, with each Neanderthal's arms folded such that the hands were close to the head. Remains of other Neanderthals have been found in this position, suggesting that it held meaning.

Neanderthals therefore may have conducted burials and possessed symbolic thought before modern humans had these abilities. The site, Sima de las Palomas in Murcia, Southeast Spain, may also be the first known Neanderthal burial ground of Mediterranean Europe. "We cannot say much (about the skeletons) except that we surmise the site was regarded as somehow relevant in regard to the remains of deceased Neanderthals," lead author Michael Walker told Discovery News. "Their tools and food remains, not to mention signs of fires having been lit, which we have excavated indicate they visited the site more than once." Walker, a professor in the Department of Zoology and Physical Anthropology at the University of Murcia, and his colleagues have been working at the site for some time. So far they have found buried articulated skeletons for a young adult female, a juvenile or child, and an adult -- possibly male -- Neanderthal.

"We cannot say whether these three individuals were related, though it is likely," he said, explaining that DNA has been denatured due to high ambient temperatures. "Surely the child was related to one of the others, though." The three skeletons represent some of the best-preserved, and most methodically excavated remains of Neanderthals. "Such discoveries are extraordinarily uncommon," Walker said.

The Neanderthals were found covered together with rocks burying their remains. The researchers believe it's likely that other Neanderthals intentionally placed the rocks over the bodies from a height. While it cannot be ruled out that an accident killed the three individuals, the scientists believe that wasn't the case. "I think there is just enough evidence at Sima de las Palomas to think that three articulated skeletons are unlikely to have been the result of a single random accident to three cadavers that somehow escaped the ravages of hyenas and leopards, which were present at the site," Walker said.

Unburnt bones of two articulated panther paws were embedded in rock "in an area where the rest of the animal's skeleton was conspicuous by its absence notwithstanding its proximity to the human skeletons," the authors write. The researchers speculate that a Neanderthal cut off the panther paws and kept them. It is also possible that the paws were added to the bodies before burial, perhaps holding some ritual significance.

The remains of six to seven other Neanderthals, including one baby and two juveniles, have also been excavated at the site. The tallest individual appears to have been an adult who stood around 5'1". Erik Trinkaus, a professor of physical anthropology at Washington University in St. Louis, is one of the world's leading experts on Neanderthals. He told Discovery News that "it is certainly possible that they (the Neanderthals at Sima de las Palomas) were buried." He said a few dozen documented Neanderthal burials from Western Europe, Eastern Europe and Southwest Asia have already been documented.

Trinkaus added that the Neanderthal remains from Spain will "provide us with our first glimpse of overall Neanderthal body form in Southern Europe, as well as additional specimens for a number of aspects of Neanderthal biology."

Neanderthals Lived Fast, Died Young

By Jennifer Viegas, November 15, 2010

THE GIST

- Analysis of Neanderthal teeth suggests these archaic humans matured quickly but died at an early age.
- By contrast, our species has a lengthy childhood and longer period of development than all other primates.
- Our slow maturation may permit greater learning, better conservation of energy and other benefits.

Neanderthals reached full maturity faster than humans do today, suggests a new examination of teeth from 11 Neanderthal and early human fossils. The findings, detailed in the latest *Proceedings of the National Academy of Sciences*, portray Neanderthals as a live-fast and die-young species. Our characteristically slow development and long childhood therefore appear to be recent and unique to *Homo sapiens*. These traits may have given our early modern human ancestors an evolutionary advantage over Neanderthals.

"I think Neanderthals retain a more primitive developmental condition that seems to be shared with earlier fossil humans," lead author Tanya Smith told Discovery News. "We know from other studies of dental and cranial development that australopithecenes (early hominids from Africa) and *Homo erectus* did not show long or slow developmental periods like our own."

Smith, an assistant professor in the Department of Human Evolutionary Biology at Harvard University, and her colleagues made the determination after using a high-tech method called synchrotron micro-computed tomography to virtually count growth lines in teeth. These lines, like rings in trees, reveal yearly growth progress.

"Even more impressive is the fact that our first molars contain a tiny 'birth certificate,' and finding this birth line allows scientists to calculate exactly how old a juvenile was when it died," she said. In one instance, a juvenile Neanderthal was determined to be only three years old when it died, as opposed to age four or five as had previously been suspected.

She and her team also discovered that anatomically modern human groups that left Africa some 100,000 years ago experienced an elongation of their childhood, which has been with our species ever since. All other primates have shorter gestation, faster childhood maturation, younger age at first reproduction, and a shorter overall lifespan.

While delaying reproduction poses a risk that individuals may not live long enough to reproduce, it could facilitate learning, social development and complex cognition. Neanderthals are known to have large brains, as well as large bodies. Without much time for learning, however, those big brains might not have been much of a match for our own impressively large-brained species.

Smith said some researchers also suggest that slowing down childhood "may have allowed for conservation of energy, and this may have accompanied decreased mortality rates and/or more favorable environmental conditions."

Even today, traditional human populations show variation in rates of growth and development, likely due to selective pressures and environmental constraints. These probably affected the different hominid groups as they evolved in either Africa or, in the case of Neanderthals, in Europe and other northern regions.

"There are more than 100 known Neanderthal fossil juveniles," Smith noted, "a relatively large number when compared with all known Neanderthal individuals, which may imply that childhood mortality was high."

The findings, part of a five-year project exploring the development of Neanderthals, add to the debate on what differences existed between these archaic humans and our own species, as well as what happened to the Neanderthals.

Debbie Guatelli-Steinberg, an associate professor of anthropology at Ohio State, and her team previously concluded that Neanderthal teeth grew no faster than those of modern humans. But she and her colleagues left open whether a Neanderthal childhood was equal, at least in length, to that of our species.

Erik Trinkaus, a Neanderthal expert who is a professor of physical anthropology at Washington University in St. Louis, believes that the modern humans who came from Africa had no real edge over Neanderthals when they first spread across Eurasia.

At this time in our history, "archaic humans remained across the more northern areas, and even displaced the modern humans in Southwest Asia for an additional 50,000 to 70,000 years," Trinkaus told Discovery News. "It argues for very little adaptive advantage on the part of these modern humans."

He and some other anthropologists think Neanderthals and modern humans mated, so the Neanderthals may have simply been absorbed into our own species over time.

Smith and her team, however, hint that forthcoming new studies reveal genetic and brain differences that existed between Neanderthals and members of our species, further heating up the scientific debate.

When Did the First 'Modern' Human Beings Appear in the Iberian Peninsula?

ScienceDaily (Mar. 15, 2010) — Research carried out by a group of archaeologists from the Centre for Prehistoric Archaeological Heritage Studies of the Universitat Autònoma de Barcelona (CEPAP_UAB) at the Cova Gran site (Lleida) has contributed to stirring up scientific debate about the appearance of the first "modern" human beings on the Iberian Peninsula* and their possible bearing on the extinction of the Neanderthals.

The samples obtained at Cova Gran using Carbon 14 dating refer to a period of between 34,000 and 32,000 years in which this biological replacement in the Western Mediterranean can be located in time, although the study regards as relative the use of Carbon 14 for dating materials from the period of transition of the Middle to Upper Palaeolithic period(40,000 and 30,000). The results also support the hypothesis that there was neither interaction nor coexistence between the two species.

The work, published in the *Journal of Human Evolution*, was coordinated by Rafael Mora, Professor of Prehistory and Director of the CEPAP-UAB. Jorge Martínez-Moreno, a researcher at the CEPAP-UAB and Ignacio de la Torre, Lecturer Institute of Archaeology of University College, London also took part in the project.

Cova Gran is a large shelter discovered in 2002, located in the area of Les Avellanes-Santa Linya -La Noguera- and is one of the rare European archaeological sites to enable the study of what is known in Paleoanthropology as "transitions" or critical phases in which transformations and remodeling that are essential for reconstructing the history of our species can be detected.

The investigators from the UAB have worked on an area of 180 feet squared, excavating a large area which has enabled them to reconstruct the way in which the people who inhabited the shelter lived. This system of working is not usual in archaeology since excavations are generally restricted to smaller earth movements. They have been able to recover archaeological materials from the Middle Paleolithic attributable to *Homo neanderthalensis*, and from the Upper Paleolithic, which corresponds to *Homo sapiens*, separated by sterile strata of sediment which allows their differentiation.

The exceptional conditions of conservation of these archaeological remains, which have remained unaffected by biological and geological changes, have meant that the materials used by each of these species has been conserved without the need for significant earth movements, contrary to that which has been indicated in other archaeological sites. This detailed analysis of the tool remains recovered allows major differences to be observed in the way in which they were made, implying that they were made by different species.

This is something that has also been recognized in other sites in Western Europe, and it goes to strengthen the hypothesis that the two species neither lived together nor interacted with each other, although they may have lived in the same geographical area during the period from 40,000 to 30,000 years, which is generally referred to as the Middle/Upper Paleolithic "transition."

Cova Gran was occupied successively by Neanderthals and "modern" humans in small groups of 15 to 20 people with a similar lifestyle: hunting, gathering, making tools for their daily activities and obtaining and processing food for which the use of fire was essential. In spite of this, each species used very different techniques and primary materials.

Among the remains found that are attributable to *Homo sapiens* are several perforated sea snail shells, generally considered to be an indicator of the distribution of the species throughout Africa, the Middle East and Western Europe. They also denote the existence of a symbolic language and cognitive capacities for which there is no evidence during the Middle Paleolithic

These objects indicate that *Homo sapiens* traveled widely across lands from the Mediterranean coast to the Pyrenean foothills, a distance of over 93 miles, although the researchers do not rule out the existence of social networks which would connect groups separated by large distances and through which these objects would circulate. If this were the case, the ornaments would be a key symbolic element in the social structure of this people and a clue to their identity.

The work also offers new data about the period in which the first representatives of the so-called "modern humans" appeared in the Iberian Peninsula and the extinction of the Neanderthals, a question that has generated some heated debate within the area of Paleoanthropology. The Carbon 14 dated samples in Cova Gran make references to a period of between 34,000 and 32,000 years in which this biological replacement in the Western Mediterranean can be located in time.

Notwithstanding, the study also discusses the validity of C14, the method habitually used to date archaeological remains from that period. Although C14 is a vital tool for dating archaeological sites, one conclusion to emerge from the study is that the period between 40 and 30 thousand years cannot be considered as "historic" years. This observation has rekindled the controversy that has existed for some time in archaeology about whether C14 is a totally reliable timepiece. The radioactive isotope regularly disintegrates but from 30,000 years its presence in samples is residual and, in many cases, the samples have been exposed to processes of change that are difficult to identify. The researchers argue that much of the data that is usually obtained in studies of this period may correspond to samples that have been contaminated or have been treated in laboratories using methods that have failed to detect this type of problem. Currently improvements are being developed which it is hoped will eliminate this uncertainty.

The Cova Gran site covers a total surface area of 7,500 feet squared and contains an important archaeological heritage. Future excavations will enable more profound investigations into how modern humans settled in the Iberian Peninsular and their evolution over the last 40,000 years.

*The Iberian Peninsula, or Iberia, is located in the extreme southwest of Europe and includes modern-day states Portugal, Spain, Andorra and Gibraltar and a small area of France.

Colorado Archaeological Society Annual Meeting

This year the Indian Peaks Chapter is hosting the Annual Meeting for the Colorado Archaeological Society on Saturday & Sunday, October 15 & 16th. What will this meeting mean for members? We invite all Indian Peaks (IPCAS) members to join us for the event. The Saturday daytime agenda includes short talks on a wide variety of archaeological topics, a silent auction, and posters. The evening will include a banquet, happy hour and a noted banquet speaker. The entire day is a great way to learn about archaeology, meet other people who are interested in archaeology and pass an enjoyable day. Sunday will include field trips to local places of interest to archaeologists. Please put the dates on your calendar. This is a great way to enjoy a weekend learning about and enjoying archaeology. We are also requesting IPCAS members volunteer to assist both before the event and during the event. We need help getting sponsorships, planning field trips, assisting with publicity, creating and processing registrations, as well as day of tasks like registering attendees. Please contact us at indianpeaksarchaeology@gmail.com with questions and your interest in volunteering.

Executive Board Meeting March 3, 2011

Meeting called to order at 7:00 PM

Attendees: Anne Robinson, Kris Holien, Karen Kinnear, Joanne Turner, Carolyn Camell-Coppin, Tom Cree, Cheryl Damon

Secretary's Report: Approved minutes from February 2011 Board Meeting.

Treasurer's Report (Camell-Coppin): \$3,265.88

Old Business:

- Speaker Scorecard: April 2011 – Bob Brunswig, May 2011 – Craig Lee
- PAAC Classes – Spring class is Basic Site Survey; capacity for 40 students
- Annual Dues- Status – Current paid memberships – 47
- Winter Field Trip – Anne Robinson reported that the behind the scenes tour of CU Museum is set for March 12, 17 people have signed up, cost is \$2.00
- June Picnic: Set for Thursday, June 9 at 5:30 PM at Betasso Preserve; site is reserved; discussion about postponing it for one month because some members are going on CAS rafting trip set for June 9-11
- Archaeology Discussion Group: next meeting is March 24; topic is “Peopling of Americas”
- Annual Meeting: continued discussions on venue, costs, etc;
 - Venue – contract with A Spice of Life is signed
 - Venue for Friday evening dinner – search continuing
 - Working Committees established –
 1. Banquet Speaker – Kris Holien, chairperson, Pete Gleichman, Cheryl Damon, Tom Cree
 2. Corporate Sponsors – Karen Kinnear, Pete Gleichman
 - Other committees needed and potential members
 3. Field Trips – Pete Gleichman
 4. Registration – Carolyn Camell-Coppin
 5. Publicity – Kris Holien, Anne Robinson
 6. Vendors
- Site Stewardship – some people have signed up with Paul Alford
- Audit – will be done this month by Anne and Carolyn
- Chimney Rock field trip was discussed and decision made to postpone
- Web site transfer of responsibility: Anne to contact Cyndi
- Mini-grants – Kris completed and submitted the application for the mini-grant
- CAS Quarterly meeting – Karen will attend and report that venue is set, other details to follow

Open Floor: none

Karen Kinnear, IPCAS Board Member
Secretary. Pro Tem

2011 IPCAS Officers, Board Members, and major functions

President	Anne Robinson	(720) 890-3944	annerco@yahoo.com
Vice-President	Karen Kinnear	(303) 516-9260	kinnearkaren@hotmail.com
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Board Member	Kris Holien	(970) 586-8982	kjholien@aol.com
Board Member	Joanne Turner	(303) 494-7638	joanne.turner@colorado.edu

MEMBERSHIP APPLICATION - INDIAN PEAKS CHAPTER

Quarterly new member enrollment	Individual	Family	Student
January-March	\$28.50	\$33.00	\$14.25
April-June	\$21.50	\$24.75	\$10.75
July-September	\$14.25	\$16.50	\$7.25
October-December	\$7.25	\$8.25	\$3.75

New Renewal Tax-Exempt Donation \$10, \$25, \$50, Other _____
 NAME _____ TELEPHONE (____) _____
 ADDRESS _____ E-MAIL _____
 CITY _____ STATE _____ ZIP _____

Please make check payable to: Indian Peaks Chapter, CAS. Mail to: PO Box 18301, Boulder, Colorado 80308-1301

I(We) give CAS permission to :

- Yes ___ No ___ disclose phone numbers to other CAS members
 Yes ___ No ___ publish name/contact information in chapter directory
 Yes ___ No ___ publish name in newsletter (which may be sent to other chapters, published on the internet, etc.)

CODE OF ETHICS

As a member of the Colorado Archaeological Society, I pledge: To uphold state and federal antiquities laws. To support policies and educational programs designed to protect our cultural heritage and our state's antiquities. To encourage protection and discourage exploitation of archaeological resources. To encourage the study and recording of Colorado's archaeology and cultural history. To take an active part by participating in field and laboratory work for the purpose of developing new and significant information about the past. To respect the property rights of landowners. To assist whenever possible in locating, mapping and recording archaeological sites within Colorado, using State Site Survey forms. To respect the dignity of peoples whose cultural histories and spiritual practices are the subject of any investigation. To support only scientifically conducted activities and never participate in conduct involving dishonesty, deceit or misrepresentation about archaeological matters. To report vandalism. To remember that cultural resources are non-renewable and do not belong to you or me, but are ours to respect, to study and to enjoy.

Signature: _____ Signature: _____

CALUMET

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 Boulder, CO 80308-1301