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VISUAL THINKING IN THE ICE AGE

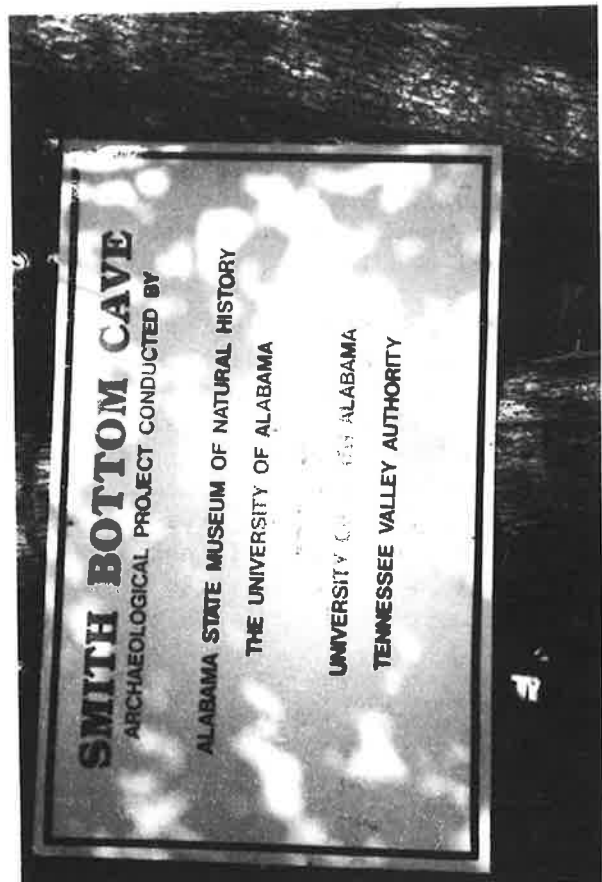
For the first 2.5 million years of the archaeological record the only artifacts of human beings and their hominid precursors are strictly utilitarian: stone tools. Then, about 35,000 years ago in Europe, a dramatic turning point was reached. Along with new kinds of stone tools and implements made of bone and antler, the first objects of a symbolic nature appear. These include both the first adornments of the body, in the form of beads and pendants, and the first known attempts at rendering nature, both in two dimensions and in three. This cultural explosion, which marks the beginning of the period known as the Aurignacian, took place at the same time over large parts of western and eastern Europe. Why?

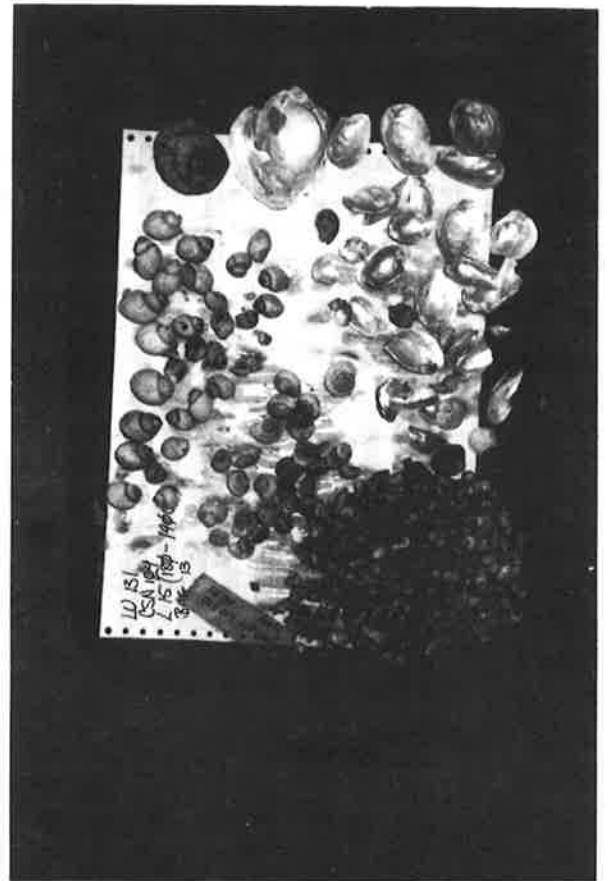
It has long been assumed that the answer lies in the realm of biology: anatomically modern human beings (*Homo sapiens sapiens*) evolved, replacing the preceding Neanderthals and bringing into play significant new neurological capacities. Recent work, however, makes that conclusion seem less than likely. It now seems that *Homo sapiens sapiens* evolved 100,000 years ago (or more) in Africa and moved into Europe several thousand years before the beginning of the Aurignacian. For most of that period our subspecies had nothing that could be called symbolic. Hence, the appearance of ornaments and representations seems to have been the result of cultural processes, not biological or neurological ones.

The expansion seems to have been completed in western Europe by about 30,000 years ago, when the more robust and powerful Neanderthals were replaced by the more gracile (slender) modern types. This replacement appears to have been completed fairly quickly - within as little as 5,000 years. By the time it was over, the practice of ornamenting the body (now characteristic of all human societies) had appeared in full force in Europe and as far afield as Australia. Yet the very earliest body ornaments, from the beginning of the Aurignacian, have not been found in association with burials. Instead, the beads and pendants are found by the hundreds in the campsites and on the living surfaces occupied by early members of *Homo sapiens sapiens* in Europe.

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The consequences for invention would have been profound. Compared with the preceding Neanderthals, who displayed virtually no technological innovation during more than 100,000 years of existence, the Aurignacian people were able to realize with increasing rapidity a wide range of social, technological and mythical possibilities. Much of this rapid evolutionary development, which continues today, is no doubt due to the forming, manipulating and sharing of images.

(From an article by Randall White in "Scientific American", July 1989)

JOINT A.A.S. AND S.G.A. MEETING IN 1990

During the spring meeting, the (Georgia) Council voted unanimously in favor of the proposed joint meeting between the Alabama Archaeological Society (A.A.S.) and the Society for Georgia Archaeology (S.G.A.). Since the A.A.S. has already approved the meeting, this was the last step in making it official. The present plans call for the meeting to be held in the fall of 1990 at the Columbus Museum in Columbus, Georgia.

BOOK REVIEW

TENNESSEE'S ABORIGINAL ART - THE MONOLITHIC AXE - by H. C. "Buddy" Brehm and Travis Smotherman. 1989. 75 pages, illustrations, photographs and maps. Available from Mini-Histories, 5311 Indiana Avenue; Nashville, Tennessee 37209. \$13.00 - includes postage.

Brehm spent considerable time and effort to study and research monolithic axes, especially in Tennessee. His information comes from museums, owners and other sources; when compiled, it brings together the most complete documentation of monolithic axes that we are aware of. Each axe is reviewed separately, giving all information Brehm was able to obtain. He supplements this with illustrations and photographs. For those interested in monolithic axes, this paperback is a must and well worth the cost.

30,000 YEARS OF HUMAN COLONIZATION IN TASMANIA: NEW PLEISTOCENE DATES

Basal dates of 30,420 years before present (BP) from a limestone cave in the Florentine River valley and 30,840 BP from a sandstone rock-shelter in the Shannon River Valley on the edge of the central Tasmanian highlands indicate colonization of Tasmania 8,000 years earlier than previously thought. These data indicate that people arrived before the Bassian Bridge was exposed about 23,000 years ago and support evidence that Tasmania and Australia may have been connected intermittently during the past 50,000 years. The dates support earlier suggestions that the Tasmanian island was an important focus for systematic occupation and exploitation by human groups and dispel a belief that the Aboriginal economy 30,000 years ago was based on littoral, lacustral, and riverine resources. The absence of

megafauna at both sites points to their extinction by 30,000 years ago in Tasmania. The people inhabiting Tasmania at this time, together with those at Monte Verde in Chile, were the most southerly humans on Earth.

(From an article by Richard Cosgrove in "Science", March 31, 1989)

OLDEST GEOLOGIC MAP IS TURIN PAPYRUS

An ancient Egyptian papyrus scroll, kept at the Egyptian Museum in Turin, Italy, is the oldest surviving geologic map in the world. References to Rameses IV on the back of the scroll indicate that the map was made during the six-year reign of this 20th Dynasty (New Kingdom) pharaoh about 1150 BC. However, the map is not the oldest known map; that distinction belongs to a Sumerian clay tablet dating from about 2300 BC. The next oldest geologic map, after the Turin Papyrus, was produced 2,900 years later in Europe, in the mid-1700's.

Although the exact circumstances of the discovery of the Turin Papyrus are unknown, it was probably found in the early 1820's as part of a collection of papyrus scrolls buried in the ruins of Deir el-Medina near Thebes and the Valley of the Kings in Egypt. The map is 16 inches high and about six feet long, although it must have been longer originally because some of the interior segments and one end of the map appear to be missing.

The map shows topographic and geologic features along a nine-mile stretch of Wadi Hammamat near Bir el-Hammamat and Bir Umm Fawakhir in the mountains of the Eastern Desert of Egypt. The map may have been drawn by Amennakht, who was the chief scribe during the reign of Rameses IV in the Village of the Craftsmen, the ruins of which are now known as Deir el-Medina.

(From an article by James A. Harrell in "Geotimes", March 1989)

CHAPTER NEWS

Huntsville Chapter

The Huntsville Chapter of the Alabama Archaeological Society meets the fourth Tuesday of each month at 7 p.m. in the Auditorium of the Public Library on St. Clair Avenue. The public is welcome.

Dr. Boyce Driskell was the guest speaker at the chapter's June meeting; his topic was Smith Bottom Cave. Dr. Driskell presented an update on the archaeological investigations at this site, which was the location of the Society summer meeting.

Eugene Futato of the Department of Archaeology, Moundville, is scheduled to speak at the July chapter meeting. Eugene will talk about his second season of archaeology in Israel.

The Huntsville Chapter regrets to announce the death, in early July, of long-time member Houston Wright. Houston was well known for his interest in archaeology and the presentations he made over the years to many organizations, including our state Society and local chapters. He conducted archaeological investigations in Florida and Tennessee as well as Alabama, and documented his finds with 35 mm photographs and 16 mm movies.

Houston served on the Board of Directors of the Alabama Archaeological Society as President of the Huntsville Chapter. His most recent archaeological activities in Huntsville were connected with the "ditch" site on Redstone Arsenal. Houston worked as an engineer with NASA for many years; he was active in the Twickenham Church of Christ, where he taught a Sunday School class.

We will miss Houston's enthusiasm and intellectual curiosity, and his interest in and concern for his friends and community.

TEETH AND PREHISTORY IN ASIA

When one thinks of evidence for the great migrations of human prehistory, what usually comes to mind is artifacts: a stone knife, a bit of house timber, a piece of pottery. Yet other, humbler, kinds of evidence can be equally informative. Teeth, for example. The precise form of human teeth results from patterns of genetic inheritance that remain stable from generation to generation within a given population. Therefore differences among groups can be used to decipher how they are related, much in the manner of a family tree. For three decades my work has focused on using dental evidence to understand the prehistoric migrations that peopled Asia, the Pacific Basin and the Americas; by now a reasonably clear picture has emerged.

This picture is based on a twofold concept I call Sundadonty and Sinodonty. Each of these represents a distinct group of dental traits, and they correspond to the two large branches of a population system. Sundadonts now people southeast Asia, Indonesia and Polynesia; Sinodonts populate China, Japan and Siberia as well as all of the New World. The center of this great web of humanity appears to have been southeast Asia. It was from there that the people who would become Sinodonts spread to China, then to Siberia and eventually across the Bering land bridge to North America. It is only because of the stability of dental patterns that we can trace this fine web all the way from the Paleo-Indians of Chile to the web's origins in southeast Asia.

These dentally defined relations among groups tell an intriguing evolutionary story. The tale begins sometime before 50,000 years ago in southeast Asia. The earliest anatomically modern human remains in that region probably came from Africa, but they may have evolved independently. Whatever their exact origins, they shared a generalized dental pattern with other early modern humans. The oldest known human skeletal remains representing this pattern in southeast Asia are the Tabon find in the Philippines, which is 20,000 years old, and the Niah Cave skull from Sarawak, 40,000 years old; both specimens are older than any known modern-human find in northeast Asia.

It seems that after its inception more than 20,000 years ago, the Sundadont dental pattern expanded rapidly into Japan, then into northeast Asia, where Sinodonty evolved, and much later into the islands of the deep Pacific. What about the later history of the other main grouping, the Sinodonts? They too were an expansive population. The dental story for the peopling of the Americas shows quite clearly that the ancestors of all living Native Americans came from northeast Asia. Of course, the general conclusion that the first inhabitants of the New World came from northeast Asia is not new, but dental anthropology has been able to supply some novel specificity within that general framework. Convincing archaeological evidence indicates that Siberian Sinodont families moved across the Bering land bridge into Alaska sometime before 12,000 years ago. Some 50 generations later - by 11,000 years ago - they had arrived at the southern tip of Chile, a rate of no more than 10 miles per year on the average.

Two colleagues and I find that an intermediate number of migrations - three - best fits our different types of data. Joseph H. Greenberg is a linguist at Stanford University; Stephen L. Zegura is a physical anthropologist at the University of Arizona. We find that a three-migration model best fits the observed variation in language, genetics and dental patterns and also accommodates a number of major archaeological considerations. The three waves were probably close together in time, but they yielded groupings that differ greatly in size and geographic extent. One group seems to have included the Paleo-Indians who were ancestral to all South American and most North American Indians. We propose that the single language of these Indians, who were hunters of game on land, evolved into most of the North American and South American Indian languages of today. Teeth indicate the same thing. All of these groups have a high frequency of incisor shoveling but a relatively low incidence of three-rooted lower first molars, among other characteristics.

A second wave of immigrants entered the New World at about the same time along the southern coast of the Bering land bridge. These people were the ancestors of the linguistically and dentally distinct Aleuts and Eskimos of today. The third wave, which may have crossed slightly later than the first two, included the ancestors of the Navaho and Apache along with the Indians who populate the interior of Alaska and parts of British Columbia. All these groups speak languages that make up a linguistic family called Na-Dene; they show dental-trait frequencies intermediate between those of the Paleo-Indian and the Aleut-Eskimo groups.

It is clear that in the future much work must be aimed at understanding how Sundadonty links up with all the populations to the west: south Asians, central Asians, Europeans and Africans. At present the pages of that story remain unwritten.

(From an article by Christy G. Turner II in "Scientific American", February 1989)

PUBLICATIONS AVAILABLE

Available issues of <i>Journal of Alabama Archaeology</i> Vol. 20-29 each issue	(\$2.50 to Members) \$5.00 pp
<i>Stanfield-Worley Bluff Shelter Excavations</i> (<i>Journal of Alabama Archaeology</i>) Vol. VIII Nos. 1 & 2 - Reprint, each issue	\$5.00 pp
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Special Publication 3 — <i>Archaeological Investigations at Horseshoe Bend</i>	\$6.50 pp
<i>Handbook of Alabama Archaeology Part 1, Point Types</i>	\$10.00 pp
Lively, Long, Josselyn - <i>Pebble Tool Paper</i>	\$3.00 pp
<i>Investigations in Russell Cave</i> , published by the National Park Service	\$7.50 pp
<i>Exploring Prehistoric Alabama through Archaeology</i> (Juvenile)	\$7.00 pp

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