Alabama Archaeological Society

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STONES & BONES NEWSLETTER

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THE HUNT FOR PROCONSUL

The prehistoric ape Proconsul is now the best-known of our ancestors, yet its route from the obscurity of an excavation pit to fame in the scientific spotlight is as full of twists and surprises as any soap opera. It is a story of implausibilities, in which various pieces of important specimens, once unearthed, became separated and sent to distant lands until fortune brought them together again decades later. It is also a tale with a happy ending: recent expeditions to the excavation sites have revealed nearly 800 new specimens of hominoid primates - the superfamily of primates that includes the great apes, the lesser apes and human beings. These have vastly increased the sample of Proconsul fossils, and the new finds show that Proconsul is a useful model of the last common ancestor of the great apes and man.

The story began in 1927 when H.L. Gordon, a settler in western Kenya, found some fossils while digging limestone from a quarry. Thinking they might be important, Gordon had them sent to the paleontologist A. Tindell Hopwood of the British Museum. One of the fossils was apparently nothing more than a single tooth that protuded from a palm-size nodule of rock. When the stony matrix was removed, however, the specimen proved to be the left maxilla, or left upper jawbone, of a hominoid primate. The remaining fossils from the quarry indicated that the deposit was about 18 million years old, from the Lower Miocene epoch.

Two years later Hopwood published his findings and stated his conviction that the Gordon jawbone was that of a new genus ancestral to the chimpanzee. At the time, London's vaudeville patrons were being entertained by a chimpanzee that wore a suit and cap, rode a bicycle and smoked a pipe. The chimp's name was Consul, and in a bit of scientific whimsy Hopwood named the new anthropoid ape after him: Proconsul africanus.

The next chapter of the story was written by Louis and Mary Leakey, who made a series of expeditions to western Kenya in the 1940's and early 1950's. On Lake Victoria's Rusinga Island, Mary Leakey discovered in 1948 what would become the most famous Proconsul specimen - a skull. The next important specimen was found in 1951 by geologist Tom Whitworth, who was surveying the Kiakanga area of Rusinga Island.

The 1948 and 1951 finds have recently "resurfaced" to take on new roles in the story of Proconsul. The status of Proconsul has changed considerably in the 60 years since Gordon found the first jaw fragment. Hopwood thought Proconsul was ancestral to the chimpanzee, and this idea was extended even further in the 1960's and 1970's by some anthropologists who saw the different species of Proconsul as ancestral to the different species of modern great apes.

Over the past decade, however, a wealth of new material has been discovered, and not just on Rusinga Island. Richard and Maeve Leakey of the National Museums of Kenya, for example, have found at least three new genera of 17-million-year-old apes at a site in northern Kenya. The new fossils have some similarities with Proconsul and also some differences. The diversity of apes in the Lower Miocene period, in only a small part of East Africa, was clearly much greater than has been thought.

These discoveries have shown that the traditional interpretations of early hominoid evolution were gross oversimplifications based on samples that were limited in space as well as in time. This understanding, together with the realization that many characteristics thought to be special to hominoids may actually be primitive characteristics of anthropoids as a whole, has left investigators with a very different picture of Proconsul.

Proconsul was not a specialized ancestor of the modern chimpanzee or the gorilla. In fact, it has few special features that link it to these modern primates. Instead, Proconsul appears to be a generalized ancestor of all the great apes and humans.

(From an article by Alan Walker and Mark Teaford in "Scientific American". January 1989.)

THE DESOTO EXPEDITION AT APALACHEE

In 1492 Christopher Columbus discovered a New World and claimed it for Spain. Spain wasted little time exploiting this claim. Her conquistadors, driven by a lust for gold and glory, explored and conquered the new land and its people. Hernando de Soto played no small role in this process himself, first in Panama and then in Peru. Not content with his past accomplishments, de Soto mounted an expedition to La Florida and landed at Tampa Bay in May 1539.

By early October, de Soto's army had advanced to the panhandle and captured Anhaica, the principal village of the Apalachee Indians. Seizing the Indian's houses and food, the Spaniards established their first winter camp of an expedition that would span four years and cross most of the Southeastern U.S. The five months passed at Anhaica were spent under siege conditions. Twice the Indians succeeded in burning part of the encampment and no one ventured far from the camp alone or unarmed. It was a wary and watchful group that celebrated the first Christmas Mass in the U.S. that December.

On March 4, 1540, the expedition broke camp and continued on its ill-fated quest for honor and riches. The campaign would claim the lives of half of the army and its leader, Hernando de Soto. Three years later the battered army limped into a Spanish outpost in northern Mexico. The Indians, however, were the real victims. Diseases brought by the Spanish invaders ravaged the local chiefdoms, forever changing their way of life.

The exact location of de Soto's first winter encampment has long been the subject of debate among historians and archaeologists. The discovery of 16th century Spanish artifacts less than a mile from the state capitol building appears to have settled this argument. The Martin site (named after former Florida governor John Martin, whose mansion is located on the property) was discovered in March of 1987 by an archaeologist with the Florida Bureau of Archaeological Research. An office complex had been planned for the site, but a cooperative effort by the developers, the Florida Department of State, and the Trust for Public Land allowed a portion of the property to be purchased for use as an historic park and the rest to be scientifically excavated by archaeologists.

Over 40,000 artifacts were recovered during eight months of excavation at the site. These finds have confirmed the identification of the site as that of de Soto's winter encampment. The artifacts include:

- Spanish and Indian pottery dating to the 16th century
- glass trade beads
- links of chain mail armor
- a crossbow bolt tip
- five copper coins dating to the early 16th century

A pig jaw excavated from an area near an Indian hut was especially exciting. Diaries from the expedition mention that de Soto brought a herd of swine with him. Pigs were unknown to the New World prior to the arrival of the Spaniards. Along with the artifacts, archaeologists found evidence of two houses and several trashpits and hearths.

The excavations at the Martin site raised as many questions as they answered. There were reputed to be 250 structures in the village of Anhaica when de Soto assumed occupation. The 1987 excavations uncovered only two of them. Where is the rest of the village? How is the village arranged? Where did the bulk of de Soto's army stay?

With the help of grants from the National Endowment for the Humanities and the Institute for Early Contact Period Studies, archaeologists are attempting to answer these questions. An auger survey is presently under way on properties surrounding the Martin site to locate the rest of de Soto's winter encampment. Future excavations are planned for the Martin site as well as areas which the survey indicates as having a good potential for yielding information on the Spanish-Apalachee occupation.

The de Soto-Apalachee Project is a joint undertaking of the Florida Bureau of Archaeological Research and the Institute for Early Contact Period Studies. The archaeology lab is located at:

1022 de Soto Park Drive
Tallahassee, Florida 32301

BOOK REVIEW

ARCHAEOMETRY - by Urich Leute. 176 pp.; $25. Publisher: VCH Publishers, Inc.; 220 E. 23rd St, Suite 909; New York, New York 10010.

The word "Archaeometry" will not be found in most dictionaries, as it is a recent term, believed to have first been adopted by the British journal Archaeometry, published by Oxford University. Leute in his introduction describes archaeometry as a "synthetic" term indicating that ancient things or phenomena related to them are to be measured or quantified.

Physics and chemistry play the major roles in archaeometry, and the narrow methods and techniques are discussed "with as much theory as necessary, but without dwelling on the beauty of equations". For example, we learn that chemical analyses were first used on glass, metals and paints around 1800 for the analysis of weapons and coins. X-rays were used in 1896 for the analysis of lead paint pigments. Stonehenge was photographed from the air in 1907 for documentation. Aerial photography has been used for decades in prospecting for location of unusual crop marks, which could indicate areas of archaeological interest.

World War II-vintage mine detectors were found to be of little value, but soil resistivity measurements have been particularly successful. Radiocarbon dating is treated in detail, while potassium-argon dating and thermoluminescence dating and other dating techniques are adequately addressed.

The proton magnetometer, which has been so phenomenally successful in locating submerged archaeological sites, is discussed from a theoretical and practical basis. Its value to land surveys is not minimized either. Soil types and site conditions conducive to magnetic prospecting are explained in a manner particularly useful for those new to the technique.

Electromagnetic surveying methods for archaeological sites described include small object detection (metal detectors), large object or feature location (geophysical systems and a radar system). Radar, only recently applied to archaeological surveying, can make the detection between rocks or soils with different water content, and of course metals. In application the radar technique is called "ground-penetrating radar", and produces a record which can only be interpreted by experienced operators.

For physical, chemical and optical examination and evaluation, the reader will find much useful information for dating, authentication, and material analysis. In fact, more than half the book is devoted to these

topics, including the various methods of spectrometry, radiography, acoustical inspection, and thermal analysis.

The bibliography provides a substantial reference for further reading or study on practically every topic discussed in the text. Members of the A.A.S. with interests leaning to the technical aspects of archaeological prospecting, dating, and analysis will find this book to be a useful addition to their libraries.

BOOKS - BOOKS - BOOKS

Following are some guidelines from the Indiana Historical Society Library on how to protect your books, files and important papers:

Acidic boxes, folders and wrappings, and poor quality plastics, will in time contaminate the items that they were meant to protect, through the transfer of acids.

Metal staples and paper clips will rust, stain and often tear fragile and brittle paper.

Pressure-sensitive tapes, rubber cements and patent "glue-alls" contain chemicals that will stain and damage paper. They are often dangerous, and sometimes impossible, for even a trained conservator to remove.

The use of dangerous, irreversible lamination methods will slowly destroy the items that were to be protected, as the laminate decays - often in just a few years.

Acidic matting and backing boards cause ugly stains and damage to framed art work and documents.

The list could go on and on....

A well-cared-for collection is stored off the floor in an air-conditioned, or at least dehumidified, room. All windows are shaded, and where fluorescent lights are used, they are screened with ultraviolet-filtering tubes.

Non-acid boxes, folders and wrapping papers are used to store collections, and very acidic items (like newspaper clippings) are wrapped separately to prevent acid transfer.

Framed items are checked to make certain that only safe framing and mounting materials and techniques have been used.

Any repairs are made with stable, non-acid mending papers and adhesives. Major damage is left as is until a trained conservator can be consulted.

Finally, whenever possible, new materials are acquired which are printed on permanent-durable paper. In addition, items known to be "self-destructive" - modern newspapers, books and the like - are treated before they begin to deteriorate.

CHAPTER NEWS

Birmingham Chapter

Dr. Boyce Driskell and his able field assistant, eight-year-old Nathan Driskell, brought a 1988 update on Smith Bottom Cave to the Birmingham Chapter December meeting.

This year, with support from TVA, University of North Alabama and The University of Alabama, the summer crew dug into the talus slope below the cave, then moved inside toward the back of the cave, reaching bedrock for the first time. What they found seemed to be an unconsolidated midden with animal bones and some points. This material was not waterborne; was it brought in to seal the cave? If so, why seal up the cave?

On seeing the excellent slides, the Birmingham Chapter learned that Smith Bottom Cave is not an easy site to investigate. The cave is at the base of a high bluff, so people and supplies must go in by boat or down the cliff face. Base camp is atop the steep slope from the cave, so transport depends on ropes and pulleys. Excavation is now deep enough into the sloping cave to leave little headroom. Good luck to the 1989 crew!

Dr. Driskell and Tom Hunter of The University of Alabama Physics Department built a special research microscope this year which can be lighted from the top and whose lens can be lifted to allow a large artifact to be examined. Driskell uses this scope for analysis of wear traces on chipped stone tools.

Helen Mabry

Cullman Chapter

Our program for the January meeting was given by Mr. Charles Moore of Florence, Alabama. Charles has given several outstanding programs to us in the past; in addition, he has brought along many outstanding museum-quality artifacts for us to view. This month's talk promises to be just as interesting; it is entitled "Spiro Mound Ceremonial Center of Oklahoma". Charles and his wife visited this place not long ago, and he has some beautiful slides and descriptions of it. He will also have some fantastic artifacts recently displayed in Florence, found in the Northern Alabama area.

Howard King

Huntsville Chapter

The Huntsville Chapter 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.

Charles and Mary-Eliza Moore were guest speakers at the January Chapter meeting. Their topic was the Spiro mound complex in Oklahoma (see writeup on Cullman Chapter). The Moores' slides and talk brought this complex - new to most Chapter members - to life. Charles and Mary-Eliza have presented many programs over the years; the Huntsville Chapter always turns out in force to hear their most interesting presentations.

Dorothy Luke

SYMPOSIUM ON OHIO VALLEY URBAN AND HISTORIC ARCHAEOLOGY

The 7th Annual Synposium on Ohio Valley Urban and Historic Archaeology will convene at the Faculty Club on the University of Cincinnati campus in Cincinnati, Ohio, on March 17-18, 1989. For more information, contact:

Philip J. DiBlasi
ARCHAEOLOGY
University of Louisville
Louisville, Kentucky 40292

Telephone: 502/588-6724

PUBLICATION AVAILABLE

THE AMERICAN INDIAN INDEX - A Directory of Indian Country, USA - by Gregory W. Frazier.

This 325-page reference work is the key to accessing American Indians and Alaska Natives and the large volume of data concerning their cultures and traditions. Over 6,000 listings, addresses, dates and contacts are contained in the book. It is presented in a format that is useful to the librarian, historian, anthropologist, archaeologist, teacher or student.

THE AMERICAN INDIAN INDEX contains: census information; dates of powwows and other Indian events; locations of Indian museums and cultural centers; all Indian tribes and Alaska Native entities; national Indian organizations; Federal and local offices of the Bureau of Indian Affairs, Indian health services, Indian housing authorities; local service programs for alcoholism treatment, employment, etc.; state Indian commissions; Indian publications; Indian arts and crafts outlets. Available from: Arrowstar Publishing; 10134 University Park Station; Denver, Colorado 80210; at $21.45.

PUBLICATIONS AVAILABLE

Available issues of *Journal of Alabama Archaeology* Vol. 20-29 each issue ..... ($2.50 to Members)	$5.00 pp
Stanfield-Worley Bluff Shelter Excavations (Journal of Alabama Archaeology) Vol. VIII Nos. 1 & 2 - Reprint, each issue	$5.00 pp
Special Publication 1 — Fort Mitchell	$2.00 pp
Special Publication 2 — *The Archaeological Sequence at Durant Bend, Dallas County Alabama*	$4.50 pp
Special Publication 3 — *Archaeological Investigations at Horseshoe Bend*	$6.50 pp
Handbook of Alabama Archaeology Part 1, Point Types	$10.00 pp
Lively, Long, Josselyn - *Pebble Tool Paper*	$3.00 pp
Investigations in Russell Cave, published by the National Park Service	$7.50 pp
Exploring Prehistoric Alabama through Archaeology (Juvenile)	$7.00 pp

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