

Alabama Archaeological Society

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STONES & BONES NEWSLETTER

Editor

Amos J. Wright
2602 Green Mountain Rd.
Huntsville, Alabama 35803

MEMBER OF THE EASTERN STATES ARCHEOLOGICAL FEDERATION

Volume 28

Number 5

ARCHIVES REQUEST

Gregory Perino has been generous enough to donate to our Society almost a complete set of "Arrow Points", which was published by the Alabama Anthropological Society in Montgomery from 1920 to 1937. This was an early, dedicated, small group of people in the Montgomery area that did extensive exploration, collecting and recording of data on the Indians of the lower Tallapoosa and Coosa Rivers. One of the leaders of this group was Peter A. Brannon, Director of the Alabama Department of Archives and History for many years. The material collected is largely now housed in the Department's Archives. These publications contain a large amount of data on their work, and the Society would like to have a complete set for its archives, which could be professionally bound and - along with AAS journals and newsletters - give us a complete bound set of publications.

We are asking anyone willing to donate the following missing volumes to please contact me at 205/883-0040 or write to the address above:

Volume 1 #1, 3, 4, 5, 6
Volume 2 #1, 2, 3, 4, 5, 6
Volume 3 #1, 2, 3, 4
Volume 4 # 1
Volume 5 # 2, 3
Volume 6 #5
Volume 18 #1, 2, 3, 4, 5, 6
Volume 19 #1, 2, 3, 4, 5, 6
Volume 20 #1, 2, 3, 4, 5, 6
Volume 21 #1, 2, 3, 4, 5, 6
Volume 22 #3, 4, 5, 6

The Editors

CHAPTER NEWS

Birmingham Chapter

The Birmingham Chapter met on April 10 at 7 p.m. in the Red Mountain Museum auditorium. Dr. Michael McConnell, an ethno-historian from the University of Alabama in Birmingham, gave an excellent slide presentation

May 1986

entitled "Indians of the Upper Ohio Valley". Dr. McConnell works with early documents pertaining to northeastern Indians such as the Iroquis.

Mr. A. B. Hooper will offer a presentation entitled "Pebble Tools" at our next meeting on May 8th. For additional information, call Annette Otts at 674-0920 or 323-8800.

Eloise Clark

Huntsville Chapter

The Huntsville Chapter meets the third Tuesday of each month at 7 p.m. in the conference room of the United Way office on Traylor Island. The Chapter met April 15; the speaker was chapter Program Chairman Houston Wright. Houston showed slides of glacially deposited boulders in and around Indianapolis and related that to the end of the ice age and beginning of the Paleo period in the southeast. Physiographic features in the Indianapolis area which are similar to the possibly Paleo site on the Tennessee River near the Whitesburg Bridge were discussed, particularly the relation of swamps and sinkholes to Paleo sites. Artifacts and material from Alabama and Tennessee Paleo sites were illustrated via slides. Houston also exhibited one striated glacial rock.

Bart Henson

BOOK REVIEW

IN SEARCH OF THE TROJAN WAR. By Michael Wood. 272 pages, hard-back, 150 illustrations. 1986. \$22.95. Facts on File, Inc., 460 Park Avenue South, New York, New York 10016.

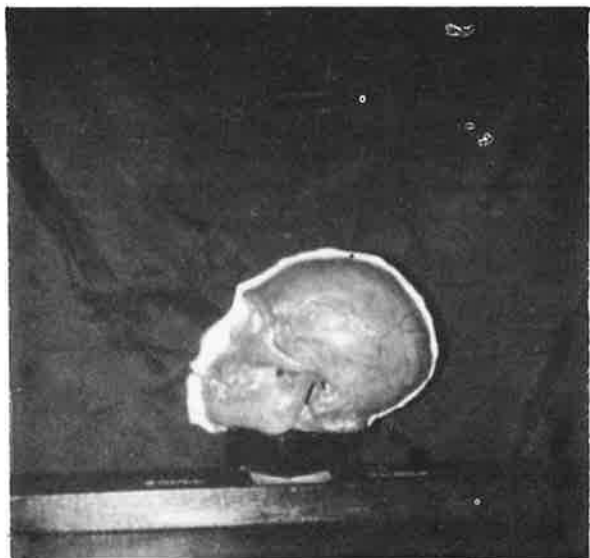
The author is a journalist, TV host on BBC, Oxford graduate and author of several other books. This book is on the best seller list in England and is being published in connection with a six-part TV series to be aired on PBS starting in May. Wood's style is that of a historical detective story, where he reviews the legends and then focuses on four men who were most prominent in the search for Troy. Wood lends his own speculations with a new conclusion about the legendary city, but he also includes conclusions by scholars and archaeologists based on the latest work. This book is for those who enjoy reading of Troy, Helen, the Trojan Horse, Homer and the Iliad. A very interesting book and history of that time.

The Editors

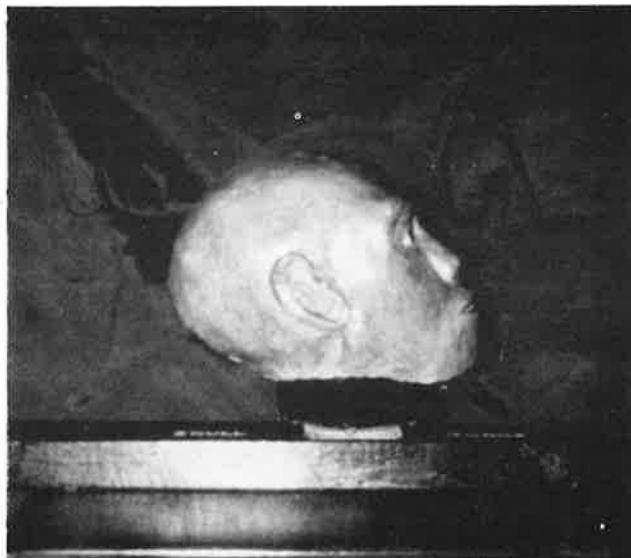
A.A.S. MEMBER WINS!

Student member Kim Tinkham of Redstone Arsenal in Huntsville recently received first place for her Science Fair project. Kim's project, a reconstructed Neanderthal skull, is shown in the photograph. Her parents are

Sharon and Jim. Congratulations, Kim!



Skull



Reconstructed Features

Kim Tinkham
Redstone Arsenal
(Huntsville)

FORT HARKER

Fort Harker, constructed by Union troops and wage-earning freed blacks in 1862, is scheduled for partial reconstruction next spring by the Stevenson Railroad Depot Museum. The Civil War military post was strategically located at the junction of two railroads near the Tennessee River. Archaeological test excavations have been conducted by the University of Alabama with assistance from Northeast Alabama Junior College and Tennessee Valley Authority. The Stevenson Museum plans to reconstruct the east wall, a cannon platform, gate and drawbridge. Trails for self-guided tours are also planned for the site. For more information, write Stevenson Railroad Depot Museum, P.O. Box 894, Stevenson, Alabama 35772.

The Editors

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Bettye T. Henson
Huntsville

RADIOCARBON DATING BY ACCELERATOR MASS SPECTROMETRY

Radiocarbon dating is the principal technique by which archaeologists and physical anthropologists construct their calendar of the past 50,000 years. The method relies on the fact that a radioactive carbon isotope, carbon 14, is assimilated into the molecular structure of living organisms. Because a population of radioactive atoms decreases at a regular rate, such atoms can serve as a clock by which to measure how long ago a plant or animal died. Yet for all its importance the tool, as conventionally applied, has severe limitations. One is that a rather large amount of material is needed for reliable measurement.

The conventional technique is also limited in its range of operation: reliable datings are possible only for articles less than about 40,000 years old. A new way to do radiocarbon dating has been developed that does not suffer from these limitations. It employs a particle accelerator in conjunction with a mass spectrometer. The method enables the investigator to count the number of carbon-14 atoms directly instead of measuring their decay rate and therefore requires a far smaller sample than conventional radiocarbon dating. Although its operative range and precision is today comparable to that of conventional dating, as much as a doubling of the range and a halving of the error margin could soon be achieved.

Currently the cost of radiocarbon dating by means of accelerator mass spectrometry is between 1.5 and 2.5 times greater than the cost of conventional radiocarbon dating. For materials older than about 10,000 years, the accuracies of both dating methods are comparable. Although the possibility of achieving better dating accuracies by means of the accelerator technique does exist, at present the method is valued primarily because it can derive dates from samples 1,000 times smaller than those required by traditional techniques. Accelerator radiocarbon dating is therefore most effective where sampling must be minimized to limit destruction of the artifact. Many ancient manuscripts, for example, are considered too valuable to sacrifice to the "ravages" of conventional radiocarbon dating. Accelerator dating can minimize the amount of material that would have to be sacrificed. Early manuscripts of the New Testament or fragments of papyrus would be ideal materials for testing in this manner.

In the past a single plant grain or animal bone could be dated only from the archaeological stratum in which it was found. Such dating by context is important in setting the time frame for the domestication of plants and animals. For instance, measurements made in our laboratory and in a similar facility at the University of Arizona showed that grain kernels and date stones found on a 17,000-year-old site in Egypt were in fact only a few hundred years old. On the other hand, grain from other sites in the Middle East has been dated as being many thousands of years old, although it is not of domesticated form.

Neither sample size nor background radiation present problems to radiocarbon accelerator dating, and so relatively minor improvements in sample chemistry can lead to sharper and more extensive chronologies. For example, accelerator dating of purified amino acids from bones more than 25,000 years old showed that their age had previously been consistently underestimated by 1,000 or more years. One controversy of long standing on which the new dating technique has already had a major impact concerns the first human migrations to the New World. An accurate time scale for the colonization of America is crucial in order to assess how quickly the first Paleo-Indian hunters and gatherers dispersed, settled and developed their ethnic and linguistic diversity. Most observers agree that the earliest human inhabitants of America came from northeastern Asia probably between 25,000 and 12,000 years ago, crossing over a land bridge that then connected Siberia with Alaska. Nevertheless, human skeletons were found in the New World at disparate locations, such as Canada and Peru, that seemed to be considerably older than expected. Accelerator mass spectrometry has refuted these claims: no skeletal remains yet found in America appear to be more than 12,000 years old. If other such finds are made in the future, accelerator mass spectrometry will quite probably be the dating technique called on to determine the skeleton's age directly. Accelerator dating may also prove to be invaluable in establishing an authoritative chronology of Neanderthal man. The archaeological evidence available indicates a rather abrupt disappearance of this human subspecies at the beginning of the Upper Paleolithic, about 35,000 years ago. Although it is too early to be sure, dating by accelerator mass spectrometry may reveal that the Upper Paleolithic and the period preceding it, the Middle Paleolithic, were unduly compressed by the limitations of conventional dating methods. If this was the case, there would have been much more time for the Neanderthal's disappearance than has commonly been supposed. (Scientific American - January 1986.)

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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<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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 1 Mound State Monument, Moundville, Alabama 35474

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