

SAS

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NEWSLETTER

SOCIETY FOR ARCHAEOLOGICAL SCIENCES

NEWS OF THE PROFESSION

ANCIENT MAYAN CALENDAR DECLARED AUTHENTIC

One of only four surviving Mayan manuscripts—stored for the past decade in a basement vault of Mexico's National Anthropological Museum and condemned by many experts as a clever forgery—has been newly vindicated as a priceless treasure.

University of Maryland at College Park archaeoastronomer John Carlson has pieced together fresh evidence that the controversial Grolier codex is indeed the counterpart of three ancient religious calendars now displayed in Dresden, Madrid, and Paris. A 104-year illustrated Venus calendar, it is also one of only 17 pre-Columbian manuscripts to survive the Spanish conquest of Central America.

Carlson is the director of the University's Center for Archaeoastronomy, the only worldwide clearinghouse for information on ancient astronomical practices, skylore, and world-views.

Although radiocarbon dating of the manuscript's bark paper traces it back to 1230 A.D., several influential researchers have contended that the codex is merely a well-executed forgery printed on 13th-century paper. The controversy surrounding the manuscript stems from a fairly atypical pictorial style and a shadowy past, including its 1966 discovery by Mexican looters.

For Carlson, however, such doubts were dispelled when he combined two fragmented pieces of the manuscript and discovered a macabre skeletal figure of Venus only recently documented by scholars. Explains Carlson, "No faker in the mid '60's, no matter how enterprising, could have known of the existence of that symbol."

ARTICLES ON MICROCOMPUTER USE

The Archeological Society of South Carolina, Inc., is soliciting short articles on the use of the microcomputer (such as Apple II Plus or Radio Shack Model I or III) in archeology. They will consider publishing the computer program (code) as an appendix for specific application if of broader interest. Topics such as dating techniques, statistical analyses, or data management are invited as well as other topics. Publishing programs for mainframe computers are beyond the scope of the journal, but discussions of mainframe computer use in general or specific applications will be given careful attention. Send proposed topics, type of computer used, and whether program (code) is available to: Wayne Neighbors, Editor, South Carolina Antiquities, Archeological Society of South Carolina, Inc., P.O. Drawer 2009, Florence, SC 29503.

APPOINTMENT AT HARVARD

Following his retirement as University Professor of Metallurgy at the University of Pennsylvania in December 1983, Dr. Robert Maddin has accepted a position as Professor of Anthropology at Harvard University and Director of CARD (Center for Archaeological Research and Development) at the Peabody Museum of Archaeology and Ethnology, Harvard. During the Fall Term 1983, his last term at Pennsylvania, he will spend one day a week at Harvard until he takes up his regular appointment at Harvard with the beginning of the Spring Term 1984.

POSITION AVAILABLE

The Department of Archaeometry of the Conservation-Analytical Laboratory, Smithsonian Institution, has a position available for a Research Scientist to begin 1 October 1983.

The Department of Archaeometry is beginning the development of the Smithsonian's Archaeometric Research Collections and Records (SARCAR) and the holder of the appointment will have research and development responsibilities dealing with information in the data bank and management responsibilities for the SARCAR research collections.

Applicants must have extensive experience in the use of computers and the preparation of computer programs. The applicant must have publications based on research as an archaeologist/archaeometrist and have worked with the computer storage and handling of archaeometric data and/or data management of archaeological samples.

For vacancy announcement and Personnel Qualifications Statement (SF-171) Forms, contact Vernetta Williams, CAL-AHB-AB070, Smithsonian Institution, Washington, D.C. 20560, Tel (202) 357-2444. Send completed SF-171 application to: Attention A&I-1480-CPH, Office of Personnel Administration, Smithsonian Institution, Washington, D.C. 20560. Closing date for SF-171 is 15 July 1983. The Smithsonian Institution is an equal opportunity employer.

NEWS OF ARCHAEOMETALLURGY

Visitors to Japan have brought back news of a 1700-year-old sword recently excavated there. Flakes detached from this sword are being studied by the metallurgists at Nippon Steel. Studies so far tend to indicate direct influence of the Chinese on Japanese iron technology rather than an indirect route through Korea as has been thought. Miss Raj-pitak Warangkhan of the conservation laboratory of the National Museum in Thailand (Narpratard Road, Bangkok 2) has completed her studies with Dr. Nigel Seeley at the Institute of Archaeology, London, and is returning to Thailand. Her special interest is in high-tin bronzes. Interest in damascus steel continues. Wallace M. Yater has published the first in a series of three articles on this subject in the Spring 1982 issue of *The Anvil's Ring*. He wishes to correspond with others interested in damascus steel and the production of wootz. His address is: Route 3, Mousetown Road, P.O. Box 51, Boonsboro, MD 21713. Pamela S. Zener, in a special report on archaeological chemistry in the 21 February issue of *Chemical and Engineering News*, pp. 26-44, included several pages on metals and metallurgy. A.S. Bisht, the Head of the Conservation Laboratory of the National Museum in Delhi, was on an exchange visit to the United States this spring. The technical studies section of his laboratory is specializing at present in the

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Suzanne De Atley, Anthropology/Archaeology Program, Room 20D-105, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.

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study of stone and metal artifacts. Bisht has the position long held by O.P. Agrawal, who is now in Lucknow. The TV-magazine show "Discover" presented an exercise in fakery and detection: a bronze in the style of 3000-3500 B.C. invested at the Fogg in Cambridge, cast in Providence, RI, patinated in Chicago, and sent to the Freer in Washington, D.C. for "authentication." Result? Stay tuned.

There have been several interesting publications in archaeometallurgy recently. MASCA (The University Museum, University of Pennsylvania, Philadelphia, PA 19104) published an Archaeometallurgy Supplement, Volume 2, Number 2, of the *MASCA Journal*, which contains nine papers; and *Expedition*, the quarterly of the University Museum, devoted an issue (Volume 25, Number 1, Fall 1982) to a further six. The exhibition catalogue, "Discovery of a Lost Bronze Age: Ban Chiang," edited by Joyce C. White (1982, University of Pennsylvania Press, 3933 Walnut Street, Philadelphia, PA 19104) is well illustrated and includes a sandstone axe mold from Non Nok Tha, several micrographs, and three crucibles which are shown in color. The Council for British Archaeology (112 Kennington Road, London SE11 6RE) has published *CBA Research Report 40*, "Medieval Industry," edited by D.W. Crossley (1981, £16.00 plus 90p overseas postage), which contains a dozen papers on medieval industries in Britain, half of them on metallurgy and mining. The Institute of Archaeometallurgical Studies (The Institute of Archaeology, University of London, 31-34 Gordon Square, London WC1H 0PY) in 1981 published the first volume in its projected series on Metal in History, "Studies in Ancient Mining and Metallurgy in South-West Spain, Explorations and Excavations in the Province of Huelva," by Beno Rothenberg and Antonio Blanco-Freiheiro. The book surveys mining and smelting sites from prehistoric to Roman times, including the great industrial complex at Rio Tinto. Nicole Echard has edited a volume of seventeen papers, all but one in French, on the traditional iron and copper metallurgy of Africa, which is to be published at the end of June. "Métallurgies Africaines, Nouvelles Contributions" will be a *Mémoire* of the Société des Africanistes. The prepublication price is 145 francs (about \$20), with 8 francs (about \$1.10) postage, to the Société des Africanistes, Musée de l'Homme, Place du Trocadéro, 75116 Paris.

The Symposium on Chinese Archaeometallurgy held by MASCA at The University Museum on 26 February featured those four old

China hands, Vincent Pigott (MASCA), W. Thomas Chase (Freer, Washington, D.C.), William Rostoker (University of Illinois, Chicago), and Ursula Franklin (University of Toronto), who gave a neatly dove-tailed presentation. Vince Pigott reported on mining and smelting, especially at the great copper mine of Tonglūshan. There are very good illustrations of this site and objects from it in the pamphlet "Tonglūshan--A Pearl Among Ancient Mines," edited by Huangshi Museum, Hubei; the Publication Committee of the Chinese Society of Metals; and the Archaeometallurgy Group of the Beijing University of Iron and Steel Technology; and published in both English and Chinese, in 1980, by the Cultural Relics Publishing House, Beijing. At Tonglūshan the mine sets were heavily timbered because of the friable ore. By the Warring States period a system of dropping box-like reinforcements down the adits was adopted. Stone hammers similar to those at Timna and Rio Tinto have been recovered from old open pits. Parts of smelting stacks 1 1/2 meters high have been found. Bill Rostoker pointed out that since the Chinese furnace was never taller than 6 feet, they could make use of coal; tars do not condense in short furnaces. Rostoker discussed the iron metallurgy and the Chinese development of the mass production of iron objects using such means as stack molds, described recently in the *Scientific American* (January 1983). Tom Chase focused on details of Chinese bronze casting such as their fettling and finishing practices and demonstrated how Chinese designs evolved with their technology. According to Ursula Franklin, these objects represent "frozen choices," a particularly curious one being the fact that for 5000 years the Chinese did not choose to use metal for personal ornament.

More recent meetings included the 1983 Symposium on Archaeometry in Naples, 18-22 April, and the Second International Symposium on the History of Precious Metal Technology, 25-29 April, at Schloss Meersburg on Lake Constance, organized by the Institut für Museumskunde and several other German organizations and the Society for Jewelry Historians, London.

If you know of meetings being planned, or have other news to contribute, please call Martha Goodway, at 202-357-2444, or write to her at the Smithsonian Institution, Washington, D.C. 20560.

Martha Goodway, Smithsonian Institution

RECENT PUBLICATIONS

COASTAL STUDIES VOLUME

The *Encyclopedia of Beaches and Coastal Environments*, edited by Maurice L. Schwartz of Western Washington University, features approximately 500 alphabetically arranged entries written by 182 contributors, each a trained specialist in his or her particular field. The volume is interdisciplinary in nature, covering the geomorphic, biologic, engineering, and human aspects of the world's coasts. Entries include: "Paleogeography of Coasts," by P.A. Kaplin; "Archaeology, Geological Considerations," by J.C. Kraft; "Archaeology, Methods," by J.W. Shaw; and "Midden," by R.W.G. Carter.

The *Encyclopedia* is the newest volume in the Hutchinson Ross *Encyclopedia of Earth Science Series* (Rhodes W. Fairbridge, Columbia University, Series Editor), published by the Scientific and Academic Editions Division of Van Nostrand Reinhold Company, Inc., 135 West 50th Street, New York, NY 10020. Published in 1982, the volume is available in a hardbound edition (960 pages) for \$95.00.

ARCHAEOASTRONOMY

Newman, Mark, Vivian, 1982. Anasazi solar marker: the use of a natural rockfall. *Science* 217:1036-1038.

ARCHAEOMETALLURGY

Schenck, H., 1982. Evidence for a nineteenth century forge at Catoctin, Maryland. *MASCA Journal* 2 (2).

-----, 1982. The iron industry underground: the archaeology of historic American iron technology. *Expedition* 24 (2).

Waldbaum, Jane C., 1983. *Archaeological Exploration of Sardis Monograph 8: Metalwork from Sardis: The Finds Through 1974*. Cambridge: Harvard University Press. (Chapter 5, Chemical and Metallurgical Analyses of Metal Objects from Sardis, contains the results of analyses of gold, silver, copper alloy, and iron objects performed by Reed Knox, Jr., Robert Maddin, Pieter Meyers, James D. Muhly, George Rapp, Jr., and Leon Stodulski, and includes emission spectrography, neutron activation, and metallographic analyses, with comparative discussions by Waldbaum.)

ARTIFACT ANALYSIS

Attas, M., J.M. Fossey, and L. Yaffe, 1982. Variations of ceramic composition with time: a test case using Lakonian pottery. *Archaeometry* 24(2):181-190 (August 1982).

Campana, Douglas V., 1981. *A Study of Use-Wear Patterns on Natufian and Protoneolithic Bone Implements*. Ph.D. Dissertation. Columbia University.

Holliday, Vance T. and Curtis M. Welty. Lithic tool resources of the eastern Llano Estacado. *Bulletin of the Texas Archaeological Society* 52:201-214.

Ripinsky, Michael, 1982. X-ray diffraction analysis of ancient glass. *Seventh Symposium on Archaeological Chemistry*. American Chemical Society, Kansas City, Missouri, 14-15 September 1982.

DATING RESEARCH

Browman, David L., 1981. Isotopic discrimination and correction factors in radiocarbon dating. In *Advances in Archaeological Method and Theory*, Schiffer, ed., Vol. 4: 241-295.

Harmon, R.S., J. Glazek, and K. Nowak, 1980. Th-230/U-234 dating of travertine from the Bilzingsleben archaeological site. *Nature* 284:132-135.

Michels, Joseph W., Ignatius S.T. Tsong, and Charles M. Nelson, 1983. Obsidian dating and East African archaeology. *Science* 219: 361-366 (28 January 1983).

PALEOETHNOBOTANY

Crabtree, Pam Jean, 1981. Paleoethnobotany of the Van Voorhiss Farm site, West Virginia. *MASCA Journal* 1(8):232-235.

-----, with A. Langendorfer, 1981. Paleoethnobotany of the Delaware Park site. *MASCA Journal* 1(7):195-201.

Rovner, Irwin, 1983. Plant opal phytolith analysis: major advances in archaeobotanical research. In *Advances in Archaeological Method and Theory*, Vol. 6, M. Schiffer, ed. New York: Academic Press.

NEWS OF THE SOCIETY

RESEARCH NOTES

Michael J. Andrejko (Los Alamos National Laboratory, Los Alamos, NM) is conducting research in the areas of paleoecology and biogeochemistry of peatlands and wetlands, along with phytolith research in peat and other wetlands. He is also exploring the use of SEM for phytolith taxonomy and identification of biogerosinal activities on biogenic siliceous particles.

The dissertation of Michael Attas (White-shell Nuclear Research Est., Pinawa, Manitoba) has been approved. The title of his work was "Regional Ceramic Trade in Early Bronze Age Greece: Evidence from Neutron Activation Analysis of Early Helladic Pottery from Argolis and Korinthia." His current research interests include pottery production and exchange, technical analysis of pottery, and the applications of nuclear techniques to archaeometry.

James I. Ebert (Remote Sensing Branch, National Park Service, Albuquerque, NM) is continuing his work on remote sensing applications to cultural resources management, study and treatment. He is conducting a three-dimensional analysis of artifactual distributions on a regional scale, and is interested in pre- and post-depositional processes affecting the character, visibility, and interpretation of the archaeological record. He remote sensing-assisted Class I and II archaeological survey in Bridger Basin, Wyoming, and he is also working in forensic remote sensing and photogrammetry.

Foss Leach, of the Research Laboratory for Archaeology at Oxford University, is developing a transportable instrument for heavy ion induced luminescence analysis of obsidian artifacts, primarily for dating purposes.

Ernest Lundelius, Jr. (Department of Geological Science, University of Texas, Austin) is conducting research in the areas of Pleistocene mammalian faunas of North America and Australia, paleoenvironmental reconstructions, and Pleistocene extinctions.

Dr. Michael Ripinsky (Los Angeles, CA) is currently working in the area of ancient metallurgy and ancient metallurgical technology. He is investigating the characterization of metals, ore origins, and techniques of manufacture, with possible implications for scientific analysis. He is also working on the detection of archaeological forgeries.

Dr. Ripinsky also reports that fossil remains of the wild dromedary, *Camelus thomasi*, were found in northwestern Africa, attesting to its existence there from the middle Pleistocene down to the early Postglacial (about 10,000 B.P.). Curiously, the archaeological record depicting the camel in Egypt and the Sahara before 2000 B.C. is rather scarce. South Arabia, not later than the fourth millennium B.C., is offered here as a general place and a relative date for the dromedary to have undergone the transformation from a wild into a domestic state. This transition took place after the domestication of the Bactrian camel had occurred either in the Indo-Iranian plateau or in Central Asia. The domesticated dromedary had diffused from southern Arabia, via the East Horn of Africa, to Nubia and Upper Egypt in predynastic times, then spread across the Sahara and, eventually, to the lower regions of the Nile Valley. It is possible that during its initial stages there, the camel's distribution and use were regulated by shifts in the climatic regime.

Irwin Rovner (Department of Sociology and Anthropology, North Carolina State University, Raleigh) is exploring the uses of plant opal phytolith analysis in archaeology. He is currently conducting an assessment of phytolith assemblages at sites in Kentucky, Nevada, and Mexico to determine the potential for future research in prehistoric ethnobotany and ecology.

Helen Schenck (University Museum, University of Pennsylvania, Philadelphia) is currently engaged in research on residues of historic period iron production, including particularly slags and iron from blast furnaces, forges and other iron-working furnaces of the northeastern United States.

MEETING NOTES

ETHNOASTRONOMY CONFERENCE

"Ethnoastronomy: Indigenous Astronomical and Cosmological Traditions of the World" is an international conference to be held at the Smithsonian Institution, Washington, D.C., 5-9 September 1983. Hosted by the National Air and Space Museum of the Smithsonian Institution and the Center for Archaeoastronomy of the University of Maryland, the conference is sponsored by these institutions and the Historical Astronomy Division of the American Astronomical Society.

For the purposes of this meeting, ethnoastronomy is defined as the study of folk or indigenous astronomies, calendars, celestial lore, sky mythology and related ritual, and cosmological concepts and traditions. People interested in participating or attending as observers should write for further information to: ETHNOASTRONOMY CONFERENCE, Center for Archaeoastronomy, University of Maryland, College Park, MD 20742.

UPCOMING MEETINGS

14-17, 20-25 August 1983. 11th International Congress of Anthropological and Ethnological Sciences, Phase I (14-17 August, Quebec) and II (20-25 August, Vancouver). Session on Stable Isotopic and Metals Composition, Nutrition, and Human Adaptation to be given by Pamela Bumsted of Arizona.

15-19 May 1984. 24th Archaeometry Symposium. Smithsonian Institution, Washington DC. A call for papers will appear in the summer of 1983. Contact: Jacqueline S. Olin, Conservation-Analytical Laboratory, AHB AB070, Smithsonian Institution, Washington DC 20560.

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