Science

A Science Service Publication Vol. 105/June 22, 1974/No. 25 Incorporating Science News Letter

Of the Week

Letters

Laser enrichment of uranium	396
Earth's clouds from space	397
Reconstructing cells in the lab	397
Birth decline among poor	397
Synthesis of clay crystals	398
Decision-making by bacteria	398
Antarctic bottom water	399
Drilling into a volcano	399
Research Notes	
Biomedicine	402
Behavior	402
Chemistry	403
Earth	403
Articles	
Light therapy	404
Plants and seawater	406
Departments	
Stars of July	394
New Products	394

COVER: One of the best photos of earth's weather ever made was taken June 3 by the new SMS-1 meteorological satellite 22,300 miles out in space and processed by a laser recorder and other special equipment at White Sands Missile Range. See p. 397. (Photo: White Sands)

E. G. Sherburne Jr. Publisher Editor Kendrick Frazier Senior Editor and

Physical Sciences Dietrick E. Thomsen Senior Editor and

Behavioral Sciences Robert J. Trotter Biological Sciences Joan Archart-Treichel Science and Society John H. Douglas Jonathan Eberhart **Space Sciences** Writer/Copy Editor Lisa J. Shawver Art Director Dale Appleman Assistant to the Editor Esther Gilgoff Margit Friedrich **Books** Advertising Scherago Associates, Inc.

11 W. 42nd St. New York, N.Y. 10036 Fred W. Dieffenbach Sales Director

Copyright © 1974 by Science Service, Inc., 1719 N St., N.W., Washington, D.C. 20036. Republication of any portion of SCIENCE NEWS is strictly prohibited.

Subscription Department 231 West Center Street Marion, Ohio 43302

Subscription rate: 1 yr., \$10; 2 yrs., \$18: 3 yrs., \$25. (Add \$2 a year for Canada and Mexico, \$3 for all other countries.) Change of address: Four to six weeks' notice is required. Please state exactly how magazine is to be addressed. Include zip code.

Printed in U.S.A. Second class postage paid at Washington, D.C. Established as Science News Letter ® in mimeograph form March 13, 1922. Title registered as trademark U.S. and Canadian Patent Offices.

Published every Saturday by SCIENCE SER-VICE, Inc., 1719 N St., N.W., Washington, D.C. 20036. (202-785-2255). Cable SCIENSERV.

June 22, 1974

To the Editor

Early man in America

Your write-up on early man in America (SN: 5/18/74, p. 316) is a good job.

There are minor differences in emphasis. The key to man's entry is more of an ice barrier than a land bridge. The Wisconsin ice would prevent man from getting to Southern California, except around 30,000 years ago when there was an ice free corridor. Since man was in Southern California long before that, he must have preceded the first Wisconsin ice, and thus we have Interglacial Man in America. That also means that we have a true Lower Paleolithic in America.

I have said all of this a number of times, most extensively in Pleistocene Man at San Diego (The Johns Hopkins University Press, Baltimore, 1957). My data was complex: geology, geomorphology, pedology, climatology, eustatic sea levels, etc., to form a time frame. I then put the archaeology into this and it read: man present in the last interglacial and throughout the Wisconsin. This led to near hysteria, so I withdrew to let the field catch up, saying: "If I'm wrong, there will be no more such lithic assemblages and sites as my earliest. If I am right we will have more." We now have the Shequiandah site in Canada, reported by Thomas Lee, the Avery Island site reported by S. Gagliano, and series of sites found in the Imperial Valley by Morlin Childers (who also has reported a skelton dated at 22,500), and a huge new site from San Diego found by Herb Minshall. It was the combination of Minshall's find and Bada's dating that brought me back into the Early Man War.

We (Carter, Minshall, with James Moriarty's class from the University of San Diego) excavated on Minshall's site and the Texas Street site last summer and demonstrated fire places, living floors and stone tools to all who came to look.

Incidentally the guess date (by all the experts) on the 48,000-year-old skull was 5,000 to 7,000 years. I insisted that it would be some multiple of this. M. J. Rogers showed me the bones and the sites, perhaps 40 years ago and I was the last man alive that knew something of their significance. Longevity and an elephantine memory are worthwhile.

George F. Carter Distinguished Professor of Geography Texas A & M University College Station, Tex.

The St. Albans site

Another important site in the East is suffering even more than the Koster site from the "King Tut" image (SN: 5/18/74, 316). This is the St. Albans site in p. 316). This is the st. Thomas West Virginia. St. Albans probably won't give the broad knowledge of aboriginal life that Koster does, but it promises to carry the story of man in America further into the past.

Soil borings at St. Albans showed that there were traces of human activitycharcoal and flint chips-to a depth of 38 feet. Using her own painfully small budget and an NSF grant, Bettye Broyles, a West Virginia State archaeologist, excavated part of the site down to water level in the adjacent Kanawha River. She found beautiful "layer cake" stratigraphy -living floors separated by sterile flood deposits—down to a depth of some 19 feet. One of the lower zones (not the lowest) gave her a radiocarbon date of 7900 B.C. for identifiable Early Archaic projectile points.

There is at least as great a depth still to be excavated at St. Albans-more, if the soil borings didn't reach bottom. Unfortunately, it is all below water level in the dammed-up Kanawha. Sophisticated and innovative engineering will be needed to keep water out of the excavation. This may be why the NSF threw in the towel and refused further grants. (It never gives reasons for such things.) St. Albans is even less romantic than the big Koster site, and little West Virginia has fewer resources than Illinois. Broyles is doing an amazing amount with the funds she does have, but there sits St. Albans with its story of early man in the East, waiting for a major flood to erode it away and destroy the record forever.

Bada's dating method may not be of much help in the Northeast, where the temperature has fluctuated like a yo-yo during and since the final stages of the Wisconsin glaciation. But for regions with more stable temperatures, it has another advantage over carbon-14. Any reasonably competent analytical chemistry laboratory can use it without the expensive, temperamental radiation detectors required for C-14 dating.

Stories like this and the famine feature are making Science News better and better. Without access to Rogers' original papers, most people would not have realized that one of the dated specimens was a complete skull. (Carter apparently hadn't heard of it when he wrote his book on the San Diego sites.) Thanks for rounding out the story.

P. Schuyler Miller Pittsburgh, Pa.

SCIENCE SERVICE

Institution for the Popularization of Science founded 1921; a nonprofit corporation

Institution for the Popularization of Science founded 1921; a nonprofit corporation

Board of Trustees—Nominated by the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF

SCIENCE: Deborah P. Wolfe, Queens College of City University of New York; Bowen C. Dees,

The Franklin Institute; Athelstan Spilhaus, National Oceanic and Atmospheric Administration.

Nominated by the NATIONAL ACADEMY OF SCIENCES: Gerald F. Tape, Associated Universities;

Allen V. Astin, National Academy of Sciences; Glenn T. Seaborg (President), University of

California, Berkeley, Nominated by the NATIONAL RESEARCH COUNCIL: Gerald Holton, Harvard

University; Joseph W. Berg Jr., National Research Council; Aaron Rosenthal, National Academy

of Sciences. Nominated by the JOURNALISTIC PROFESSION: Norman Cousins, "World"; Julius

Duscha, Washington Journalism Center; O. W. Riegel (Secretary), Washington and Lee University.

Nominated by E. W. SCRIPPS TRUST: Milton Harris (Treasurer), Washington, D.C.; Edward W.

Scripps II (Vice President and Chairman of the Executive Committee), Edward W. Scripps Trust;

John Troan, Pittsburgh Press.

Director: E. G. Sherburne Jr.; Assistant Director: Dorothy Schriver; Business Manager: Donald R.

Harless; Things of Science: Ruby Yoshioka.

395