News of Science

Where Is Peking Man? Anthropologists Are Still Speculating about the War-Lost Specimens.

The whereabouts of "Peking man," the world-famous anthropological collection that disappeared during World War II, is still the subject of hopeful speculation. Composed of specimens that are among the earliest traces of mankind, the collection was excavated from the floor of a limestone cave at Choukoutien, about 40 miles southwest of Peking, China, between 1928 and 1937.

Peking man is believed to have lived in eastern China during the Middle Pleistocene, some 300,000 years ago. By 1929, the skeletal remains recovered had definitely established him as a new type of fossil man, which was named *Sinanthropus pekinensis*. In 1937, the individuals represented in the *Sinanthropus* collection numbered approximately 38. Braincases, jaws, teeth, and some limb bones were included. Cutting and scraping implements, made chiefly of quartz, were found with the bones.

Peking Man Disappears

According to the best information available, the remains of Peking man escaped the first onrush of the Japanese forces in North China in 1937 because they were stored in an American institution, the Peking Union Medical College. An agreement had been reached with the Chinese that the *Sinanthropus* material should remain in China permanently, and there be available to scholars of all nations for study. A few weeks before the United States became involved in World War II, negotiations were completed with Chungking for shipping the specimens to the United States for the duration. Peking man and all other associated specimens were packed in three cases and turned over to the U.S. Marines, who were being evacuated from Chinwangtao on the American Dollar liner *President Harrison*. On 8 December 1941, the liner was run aground in the Yangtze Kiang River near Shanghai, and the Marines were captured, and with them the three cases of *Sinanthropus* material. From that point on there is no definite knowledge about what happened to the remains.

Frank Whitmore, chief of the Military Geology Branch, U.S. Geological Survey, has been accused many times during the past decade of knowing more than he would tell about the whereabouts of *Sinanthropus*. Recently, he reaffirmed an earlier statement that denied any secret knowledge. He believes, as do many others, that the collection is at the bottom of the Yangtze.

Postwar Search

In 1942, the Japanese anthropologist Haseba Kotohito went to Peking to study *Sinanthropus*; but when the vaults at the college were opened, only plaster casts were found. A year later, Japanese police made a thorough search, questioning everyone known to have had any connection with the collection, but all to no avail.

Among those associated with the recovery of the *Sinanthropus* material were the late Davidson Black, anatomist of Peking Union Medical College, who started the excavations that led to the discovery of Peking man; the late Franz Weidenreich, another anatomist, who succeeded Black at Peking; Ralph W. Chaney, paleobotanist of the Carnegie Institution of Washington and the University of California at Berkeley; and Pei Wen-chung, Chinese paleontologist. According to Pei, the missing packing cases went to Tokyo and some day will reappear there.

In 1945, Whitmore was detailed from Headquarters, Supreme Commander Allied Powers, to examine "certain fossils and archaeological material from Choukoutien, China" at Tokyo University. However, most of the material that he was shown was from the upper Choukoutien cave, belonging to an age much younger than that of *Sinanthropus*. In a statement about these specimens, Whitmore says in part:

"Most of the material recovered was from the Upper Cave, which is much younger than the strata in which *Sinanthropus* was found. There are a few stone implements of questionable nature from Locality 15, which is probably Paleolithic and is older than the Upper Cave material. From Locality 1, which includes the strata in which *Sinanthropus* was found, there are only three questionable stone implements and no bone remains. This material was returned to the Cenozoic Laboratory (in Peking) in early 1946. Nothing was learned of the fate of the missing *Sinanthropus* specimens."

According to Whitmore, the best hope for restoring Peking man to anthropologists at firsthand lies in a resumption of excavations at Choukoutien cave. Although excellent plaster casts of the skeletal material are available, these obviously do not have the same value for researchers as the original specimens.

International Oceanographic Congress

The AAAS, in cooperation with UNESCO and the Special Committee on Oceanic Research of the International Council of Scientific Unions, is organizing an International Oceanographic Congress to be held from 1 August to 12 September at the United Nations Building, New York.

Abstracts and Manuscripts

As many more abstracts have been received than were anticipated, a change has been made in the requirement that manuscripts be submitted on 30 April. It is now requested that a 500-word summary in English, with a 200-word abstract in another language of the congress (French, German, Russian, or Spanish), be prepared for submission on that date.

Three copies of summary and abstract must be sent to: Dr. Mary Sears, Chairman, Committee on Arrangements, International Oceanographic Congress, c/o Woods Hole Oceanographic Institution, Woods Hole, Mass. If these materials are not received by the 30 April deadline, they cannot be included in the bound, multilithed volume to be issued to registrants.

It will no longer be necessary to submit a completed paper unless the convener of the seminar specifically requests that this be done. Some seminars will be organized in the conventional way, with presentation of a series of papers followed by a discussion period. Others—those that have a relatively small number of participants—will be arranged so that the completed papers are circulated among the participants in advance. In these sessions, the proceedings will be confined to a discussion of the papers.

It is hoped that the participants within the United States may be able to arrange for any duplication needed for the "discussion-type" seminar. Because of diffi-

culties in shipment of manuscripts in bulk from abroad, arrangements will probably have to be made for duplication of such manuscripts in the United States. Details for this will be arranged by the individual conveners.

Exhibits

There will probably be no difficulty in setting up nonprofit exhibits that consist of panels and shallow display materials. It is expected that these can be placed along the approaches to the session rooms, in corners, and so forth, at the United Nations Building. The U.N. and the AAAS cannot be responsible for any equipment, instruments, and other materials associated with these exhibits. Each exhibitor will be responsible for erecting and dismantling his exhibit.

However, the association will be glad to advise on shipping arrangements, sources of labor, location of exhibits, and so forth. Anyone desiring to make such arrangements should write to: Dr. Raymond L. Taylor, American Association for the Advancement of Science, 1515 Massachusetts Ave., NW, Washington 5, D.C. A carbon copy of the request should be sent for informational purposes to Dr. Sears.

It is likely that films, either technical or semipopular, which do not illustrate a particular paper, will be shown at the Hotel Commodore in the evenings, probably during the first week.

Registration and Accommodations

Registration will start on Sunday, 30 August, at 10 A.M. at the Hotel Commodore, Lexington Avenue and 42nd Street. The Commodore will be the hotel headquarters of the AAAS. All those who wish to attend any sessions of the congress must register there on arrival, even if late.

There will be a registration fee of $10 that will entitle the registrant to receive (i) a badge that will serve as an entrance pass at the United Nations Building; (ii) a copy of a volume that will contain summaries of all papers being presented at the afternoon seminars; (iii) invitations to social events; and (iv) information on points of interest in New York City.

A block of rooms has been reserved at reduced rates at the Hotel Commodore for those wishing to attend the congress. Rates for single rooms will be $8, $9, and $10 per night; for double rooms (with two beds), $13, $14, and $15 per night. All room prices are subject to an additional 5-percent New York City room tax. The hotel will make reservations for each person on receipt of his or her request. The Hotel Commodore is the only hotel where the AAAS has arranged for special rates, and it is hoped that most participants will stay there.

The AAAS cannot be responsible for making individual hotel reservations. Anyone who wishes more modest quarters should arrange for these through a local travel agent. The association cautions that reservations should be made well in advance, no matter where one plans to stay. If no reservation has been made before the congress opens, the association will assist in locating suitable quarters. It can, however, give no assurance that any will be available.

Program

A program of morning lectures and afternoon seminars has been prepared. The morning lecture series, which are grouped around several broad topics, will be in sequence and are designed to interest all oceanographers. Originally, it was planned that the three afternoon seminars, held simultaneously, would be based on the general theme of the three lectures delivered that same morning. However, as the conveners' plans for the seminars developed, it became clear that this was impractical. The new schedule makes it possible for each participant to attend nearly all seminars in closely related fields. There may still have to be slight modification, such as the addition of extra sessions for certain seminars and, possibly, of a few general sessions for papers on topics that do not fit within the scope of the seminars.

Morning Lecture Series

31 Aug. "History of the Oceans," AAAS Committee representative, Roger Revelle (Scripps Institution of Oceanography, University of California); chairman, G. E. R. Deacon (National Institute of Oceanography, Great Britain). "Shape and structure of ocean basins," W. Maurice Ewing (Lamont Geological Observatory, Columbia University); "Forces and processes at work in ocean basins," Edward C. Bullard (Cambridge University, Great Britain); "Stratigraphy of the deep sea," Edwin L. Hamilton (U.S. Navy Electronics Laboratory, San Diego, Calif.).

1 Sept. "History of the Oceans" (continued), chairman, Haakon Mosby (Geofysisk Institut, Universitet i Bergen, Norway). "History of sea water," G. E. Hutchinson (Yale University); "Origin of life in the ocean," A. I. Oparin (A. N. Bach Institute of Biochemistry, Academy of Sciences, U.S.S.R.); "The marine climate record," Gustaf O.S. Arrhenius (Scripps Institution of Oceanography).

2 Sept. "Populations of the Sea," AAAS Committee representative, George Myers (Stanford University), and Lionel A. Walford (U.S. Fish and Wildlife Service); chairman, Enrico Tortonese (Museo Civico di Storia Naturale, Genoa, Italy). "Paleobiogeography," Preston E. Cloud (U.S. Geological Survey); "Biogeographical boundaries—the shapes of distribution," R. S. Glover (Oceanographic Laboratory, Edinburgh, Scotland); "Evolution in the deep sea," G. S. Carter (Cambridge University, Great Britain).

3 Sept. "Populations of the Sea" (continued), chairman, N. K. Panikkar (Central Marine Fisheries Research Station, India). "The role of ethology in oceanography," H. O. Bull (Dove Marine Laboratory, Great Britain); "Physiology of marine organisms in relation to their environment," H. Friedrich (Institut für Meeresforschung, Bremerhaven, Germany); "Cultivation of marine organisms as a means of understanding environmental influences on populations," Trygve Braarud (Oslo University, Norway).

4 Sept. "The Deep Sea," AAAS Committee representative, Henry M. Stommel (Woods Hole Oceanographic Institution); chairman, Georg Wüst (University of Kiel, Germany). "Geochemistry and physics of circulation," Harmon Craig (Scripps Institution of Oceanography); "Special quantitative characteristics of the ocean bathypelagic and bottom life," L. A. Zenkevich (Institute of Oceanology, Academy of Sciences, U.S.S.R.); "Turbulent transports," Willem V. R. Malkus (Woods Hole Oceanographic Institution).

7 Sept. "The Deep Sea" (continued), AAAS Committee representative, Gustaf O.S. Arrhenius (Scripps Institution of Oceanography, University of California); chairman, Carl W. Correns (Göttingen University, Germany). "Distribution of pelagic sediments (biological and inorganic components)," M. N. Bramlette (Scripps Institution of Oceanography); "Nuclear processes in pelagic sedimentation," E. Picciotto (Belgium); "Abyssal benthic organisms; nature, origin, distribution and influence on sedimentation," A. Fr. Bruun (University Zoological Museum, Copenhagen, Denmark).

8 Sept. "Boundaries of the Sea," AAAS Committee representative, Gordon G. Lill (Office of Naval Research, Washington, D.C.); chairman, J. N. Carruthers (National Institute of Oceanography, Great Britain). "Coupling of sea and air," P. Welander (Meteorological Institute, Stockholm, Sweden); "Spectrum of sea level," Walter H. Munk (Scripps Institution of Oceanography); "Problems of epicontinental sedimentation," Ph. H. Kuenen (Geological Institute, Groningen, Holland).

9 Sept. "Boundaries of the Sea" (continued), chairman, B. Kullenberg (Oceanografisk Institut, Göteborg, Sweden). "An estuarine model of the subarctic Pacific Ocean," John P. Tully (Pacific Biological Station, Nanaimo, B.C., Canada); "The length of pelagic

larval life in marine bottom invertebrates as related to larval transports and ocean currents," Gunnar Thorson (University Zoological Museum, Copenhagen, Denmark); "Surface films and their importance in exchange processes."

10 Sept. "Cycles of Organic and Inorganic Substances in the Ocean," AAAS Committee representative, Fritz F. Koczy (University of Miami); chairman, Y. Miyake (Central Meteorological Observatory, Tokyo). "Physical chemistry of sea water," Lars Gunnar Sillen (Royal Institute of Technology, Stockholm, Sweden); "Biologically active substances," C. E. Lucas (Marine Laboratory, Aberdeen, Scotland); "Primary production," J. H. Steele (Marine Laboratory, Aberdeen, Scotland); "Balance between living and dead matter in the oceans," W. D. McElroy (Johns Hopkins University).

11 Sept. "Cycles of Organic and Inorganic Substances in the Ocean" (continued), chairman, Thomas G. Thompson (University of Washington, Seattle). "Air-ocean," Erik Eriksson (Meteorological Institute, Stockholm, Sweden); "Sea-water and sediment," S. W. Brujewicz (Institute of Oceanology, Academy of Sciences, U.S.S.R.); "Vertical and horizontal transport in the ocean," L. H. N. Cooper (Marine Biological Association, Plymouth, Great Britain).

Afternoon Seminars

31 Aug. "Shape and structure of the ocean basins and the forces involved," conveners, Maurice N. Hill (Cambridge University, Great Britain) and Harry H. Hess (Princeton University); "Physical chemistry of sea water and surface films," conveners, Dayton E. Carritt (Chesapeake Bay Institute, Johns Hopkins University) and Gifford C. Ewing (Scripps Institution of Oceanography); "Biogeography and environmental influences," convener, Joel W. Hedgpeth (Pacific Marine Station, Dillon Beach, Calif.).

1 Sept. "Shape and structure of the ocean basins and the forces involved" (continued); "Physical chemistry of sea water and surface films" (continued); "Bathypelagic organisms," conveners, A. Fr. Bruun and Torben Wolff (University Zoological Museum, Copenhagen, Denmark).

2 Sept. "History of sea water and the origin of life," convener, William W. Rubey (U.S. Geological Survey); "The influence of land masses on the distribution of organisms," convener, K. O. Emery (University of Southern California); "The role of ethology in oceanography," conveners, H. O. Bull (Dove Marine Laboratory, Great Britain) and T. J. Walker (Scripps Institution of Oceanography).

3 Sept. "History of sea water and the origin of life" (continued); "Epicontinental sediments and nearshore sedimentary processes," convener, Robert S. Dietz (U.S. Navy Electronics Laboratory, San Diego, Calif.); "Primary production," convener, John H. Ryther (Woods Hole Oceanographic Institution).

4 Sept. "Stratigraphy of the deep sea and the marine climate record," conveners, Cesare Emiliani (University of Miami) and William R. Riedel (Scripps Institution of Oceanography); "Turbulent transports," convener, Willem V. R. Malkus (Woods Hole Oceanographic Institution); "Cultivation of marine organisms as a means of understanding environmental influences on populations," convener, Dixy Lee Ray (University of Washington, Seattle).

7 Sept. "Stratigraphy of the deep sea and the marine climate record" (continued); "Deep sea circulation," convener, Charles S. Cox (Scripps Institution of Oceanography); "Physiology of marine organisms in relation to their environment," convener, Otto Kinne (University of Toronto, Canada).

8 Sept. "Physical and biological processes in sedimentation," convener, E. L. Hamilton (U.S. Navy Electronics Laboratory, San Diego, Calif.); "Nutrient relationships," convener, Bostwick H. Ketchum (Woods Hole Oceanographic Institution); "Evolution and adaptation in the sea," convener, A. A. Buzzati-Traverso (Universita di Pavia, Italy).

9 Sept. "Physical and biological processes in sedimentation" (continued); "Estuarine and nearshore circulation," convener, D. W. Pritchard (Chesapeake Bay Institute, Johns Hopkins University); "Paleobiogeography," convener, Preston E. Cloud (U.S. Geological Survey).

10 Sept. "Nuclear processes in marine sedimentation," Johannes Geiss (University of Miami); "Sea-air interchange," convener, Erik Eriksson (Meteorological Institute, Stockholm, Sweden) and Bernhard Haurwitz (High Altitude Observatory, Boulder, Colo.); "Biologically active substances," convener, Luigi Provosoli (Haskins Laboratories, New York).

11 Sept. "Sea water sediment exchange: marine minerals," convener, Edward D. Goldberg (Scripps Institution of Oceanography); "Spectrum of sea level," convener, Walter H. Munk (Scripps Institution of Oceanography); "Balance between living and dead matter in the oceans," convener, Eugene Corcoran (University of Miami).

New Atomic Particle

The discovery of an atomic particle, the xi zero or neutral cascade hyperon, has been announced by a group of scientists at the University of California's Lawrence Radiation Laboratory and by the Atomic Energy Commission. The discovery is unique in that it was dependent upon observation of two interconnected invisible "tracks" between sets of visible tracks in a photograph. Analysis of single invisible tracks has been common.

The particle completes the list of predicted particles of ordinary matter. A few predicted antiparticles remain to be seen.

The report on the xi zero appears in the current issue of *Physical Review Letters,* a publication of the American Physical Society, by the following group of researchers: Luis W. Alvarez, professor of physics at the University of California; Philippe Eberhard, physicist on leave from the Centre National de la Recherche Scientifique de France; Myron L. Good, physicist at the Lawrence Laboratory; William Graziano, graduate student; Harold K. Ticho, professor of physics, University of California, Los Angeles; and Stanley G. Wojcicki, graduate student.

The particle was discovered by means of the laboratory's 15-inch liquid hydrogen bubble chamber, which was exposed to a special beam of particles produced by the Lawrence laboratory's bevatron.

The particle has a mass about 40 percent greater than the proton. It has no electrical charge. Its lifetime is fleeting —about one ten-billionth of a second.

The investigators found only one photograph with evidence of the creation of the xi zero. This photograph was taken just before Christmas. It was one of 70,000 taken during an experimental run extending over a period of several weeks.

United States-EURATOM Program

The U.S. Atomic Energy Commission and the Commission of the European Atomic Energy Community have announced that the U.S.-EURATOM Joint Research and Development Board will begin meeting early in April to consider proposals under the U.S.-EURATOM Joint Research and Development Program. Proposals are to be submitted in response to the invitation issued by the AEC and EURATOM in December 1958.

The research and development program is centered on nuclear power reactors and is an integral part of the joint program contemplated by the Agreement for Cooperation between the United States and EURATOM that came into effect on 18 February. The over-all industrial objective is "to bring into operation within the European Atomic Energy Community (EURA-