the village disclosed a charred fragment of human bone—the first bone of any kind to be found at the site. This and other unidentifiable bone fragments, found in an extensive ash bed, constitute possible evidence of cremation.

In light of his discoveries and the dates assigned by radioactivity measurements to several specific articles, Ford believes that the Poverty Point culture may represent the earliest southward movement of people of the Hopewell culture.

Artifacts recovered by Ford's group show that the prehistoric inhabitants of the village had begun to make clay pottery as well as utensils of copper and soapstone. They used hematite bolas and fashioned jewelry out of quartz and jasper. Because many of the raw materials used in these artifacts do not occur naturally in Louisiana, their presence is considered to be evidence that the villagers traded with people of other regions.

The use of bird effigies, both in earth mounds and on vessels and ornaments, is not uncommon in "American Neolithic" cultures, Ford said. Bird effigies seem to have had religious significance and to have figured in ceremonies and cures. However, the giant bird represented in the large mound at Poverty Point appears to be flying due north, while the bird of the smaller mound is headed due west. The directions, in each case, are within a single degree of the true direction. The knowledge of astronomy implied, together with the geometric design of the villages, indicates a greater familiarity with the rudiments of science than has been heretofore attributed to aboriginal Americans.

News Briefs

■ The following research projects were reported in the 6 Aug. issue of *Nature*.

The chromosomes of palms have been almost impossible to study because of their habit of clumping. A. K. Sharma and S. K. Sarkar of the University of Calcutta have now found that excellent fixation and spreading of these refractory chromosomes may be obtained by treating the root-tip cells with aesculine, an alkaloid obtained from the horsechestnut. None of the chemical agents satisfactory with other plants has served to do this.

J. Langridge of the University of Adelaide reports that he has obtained a biochemical mutation in one of the flowering plants, the cruciferous *Arabidopsis thaliana*. By developing a method for growing it in aseptic culture, he obtained after x-ray treatment a mutant type that is unable to synthesize thiamine (vitamin B_1).

A recent study of the polyhedral virus, which causes a blood disease in the cranefly, *Tipula paludosa*, reveals that the multiplication of the virus takes place inside the nuclei of the blood cells. Kenneth M. Smith, of the Virus Research Unit, Cambridge, England, has published electron micrographs which show that the rod-shaped virus particles form in the nucleus, that each becomes surrounded by a vesicle, and that these vesicles collect into an aggregate inside the nuclear membrane. Then the vesicles appear to contract, and eventually a polyhedral crystal of the virus is extruded into the cytoplasm.

B. P. Wiesner and J. Yudkin of the University of London have tested the effects of a variety of antimitotic agents upon the fertility of mice. One of these agents, podophyllin, regularly interrupts pregnancy when administered 3 days or more after the time of mating. No resistance to the drug seems to be built up, and full fertility returns when the drug is no longer administered, at least after 3 interrupted pregnancies had occurred. The drug was not effective when administered immediately after mating. It produced no noticeable side-effects. —B.G.

■ An expedition of the Academy of Natural Sciences of Philadelphia left for Peru on 10 Sept. to make a study of the aquatic life of the Amazon. The two sites to be studied are Iquitos and Tingo Maria. Ruth Patrick, curator of limnology, heads the expedition group, which consists of Matthew H. Hohn, algologist; Selwyn S. Roback, entomologist; Frederick A. Aldrich, invertebrate zoologist; Yvonne Swabey, chemist; John Cairns, Jr., protozoologist; Charles C. G. Chaplin, associate in the academy's fish department; and Josephine deN. Henry, associate in the photography department.

The expedition is supported by the Catherwood Foundation of Bryn Mawr, Pa., of which Cummins Catherwood is president. This foundation sponsored a preliminary visit to the Amazon headwaters in June, when Patrick, Hohn, and H. Radclyffe Roberts, director of the academy, selected the survey sites.

The purpose of the expedition is to determine whether or not there is a greater diversity and a greater abundance of aquatic life in tropical streams than in similar ones in the temperate zone.

Two methods of study will be used. In one a group of scientists will collect the various groups of aquatic life in selected sections of the river; identify their species, and correlate them as to numbers and kinds with findings in similar temperate-zone rivers. The second method will employ the Catherwood diatometer, an instrument containing laboratory slides that is floated in streams to collect diatoms. The structure of the population of diatoms will be compared with populations in similar temperate-zone rivers.

■ The Army is cutting back on its privately contracted bacteriological and chemical warefare research at Camp Detrick, near Frederick, Md. A $2,750,000 annual contract with the Ralph M. Parsons Co. of Los Angeles was terminated in August. The firm is said to have employed 450 persons at Detrick.

■ The Tennessee Valley Authority has announced a 5-year extension of its fertilizer research and testing contracts with agricultural experiment stations in eight states. Included are the seven Tennessee Valley states of Alabama, Georgia, Mississippi, Tennessee, Virginia, North Carolina and Kentucky, and the State of Washington.

■ The Norwegian Meteorological Institute is expanding its radio meteorographic station on Bear Island and establishing a new station at Isfjord in Spitzbergen as part of a plan to improve weather forecasting in the arctic regions. Norway also operates meteorological stations at Jan Mayen and Hopen in the Arctic.

Scientists in the News

E. DAHL-IVERSEN, professor of surgery at the University of Copenhagen, Denmark, will deliver this year's Charles H. Mayo memorial lectures at Northwestern University medical school. On 26 Oct. he will discuss the functions of the endocrine organs during the postoperative period.

Dahl-Iversen, well-known for his surgical work in the field of endocrine glands, is also chief of surgical services of the University Surgical Clinic at Rigshospitalet, Copenhagen. He is to be awarded an honorary fellowship in the American College of Surgeons at its annual clinical congress which meets in Chicago, 31 Oct.–4 Nov.

HENRY H. BABCOCK, former superintendent of the Butler Hospital in Providence, R.I., has been appointed to the staff of the department of hygiene at Harvard University. Butler Hospital, a 111-year-old institution for the mentally ill, was forced to close because of mounting operating deficits.

EDWARD F. HAMMEL of the University of California's Los Alamos Scientific Laboratory has been selected as the recipient of the American Chemical Society's California Section award for

1955. The award, a gold medal, will be presented during a section meeting that will take place on 10 Oct. at the University of California, Berkeley. Following the presentation Hammel will talk on "Helium 3 and its relationship to the problem of liquid helium." The award was established in 1950 for the purpose of recognizing outstanding achievement in the field of chemistry or chemistry technology by a young scientist from one of the 11 western states.

FRANCISCO GRANDE, associate professor of physiological hygiene at the University of Minnesota, left on 18 Sept. to make a 6-week lecture tour of 12 major Central and South American medical centers. At Minnesota he is concerned with the study of the relationship of diet and activity habits to degeneration of the heart and blood vessel system. During his Latin American trip he will lecture on human nutrition, a subject on which he has written three books and 130 scientific papers.

A graduate of the University of Madrid medical school, Grande had conducted research in several European countries before he came to the United States; he joined the Minnesota staff in 1953. Charles Pfizer and Co., Inc., New York, is sponsoring his current trip.

LUCIEN A. BAVETTA, professor of biochemistry and nutrition in the School of Dentistry, University of Southern California, has been appointed to serve for 1 year as visiting scientist in the National Institute of Dental Research, Bethesda, Md. He will work in the Laboratory of Oral and Biological Chemistry, where he will expand his research on the relation of certain dietary deficiencies to the development of diseases of the teeth.

NATHANIEL B. NICHOLS, an authority on servomechanisms and other intricate electronics apparatus, has been named manager of Raytheon Manufacturing Co.'s commercial equipment engineering activities. He was formerly manager of the firm's research division. The appointment is part of the Waltham, Mass., firm's reorganization of its equipment operations, a reorganization designed to establish separate facilities for Government and commercial products.

WILLIAM RANDOLPH TAYLOR, professor of botany at the University of Michigan, has been elected foreign member of the Linnean Society of London.

MARTIN G. GALE has been named director of technical service for the monomer department of the Borden Co.'s chemical division. Gale, who has more than 10 years of experience in the formulation of adhesives, coatings, and impregnants, will head the technical service laboratory in Leominster, Mass. The laboratory offers free technical advice and assistance to industrial users of polyvinyl alcohol, polyvinyl acetate, and a wide variety of other natural and synthetic resins manufactured by Borden's.

LEO M. TARAN has announced his resignation as medical and research director at St. Francis Hospital and Sanatorium for Cardiac Children, Roslyn, N.Y. He has been connected with the hospital since its founding in 1938. During its 18-year existence the institution has grown from a convalescent home for children recovering from rheumatic fever to a hospital for the treatment of all forms of heart disease in children and young adults. It has become a center for cardiologic research and teaching in pediatric cardiology. Taran has opened offices at the Garden City Medical Center, Garden City, N.Y.

JOHN J. GILMAN, metallurgist at the General Electric Research Laboratory, has been named winner of the 1956 Rossiter W. Raymond memorial award, which is presented by the American Institute of Mining and Metallurgical Engineers. The award is given each year to the AIME member under 33 years of age who has written the technical paper judged to be most outstanding on the basis of technological content, proficiency of organization, and literary style. Gilman was honored for his article, "Study of a new mode of plastic deformation in zinc crystals" that was published in the *Journal of Metals*.

SAMUEL A. GOLDBLITH, associate professor of food technology at Massachusetts Institute of Technology, has been appointed executive officer of the institute's department of food technology. He has been a member of the staff since 1949.

HARRY L. OWENS, former chief of the solid-state devices branch at the U.S. Army Signal Corps Engineering Laboratories, Fort Monmouth, N.J., has joined Texas Instruments, Inc., Dallas, as chief engineer of the semiconductor products division. He will be responsible for the development and engineering of germanium and silicon semiconductor products. The company is a producer of high-temperature silicon transistors as well as of general-purpose germanium transistors and silicon junction diodes.

ISAO IMAI, professor of physics at the University of Tokyo, Tokyo, Japan, will serve as a visiting professor at the University of Maryland during the fall term. He will be attached to the Institute of Fluid Dynamics and Applied Mathematics, where his activities will include the conduct of a weekly seminar on approximation methods in fluid dynamics.

AUSTIN B. WILLIAMS, acting director for the University of North Carolina Institute of Fisheries Research at Morehead City, has accepted appointment to the regular faculty of the University of Illinois, Chicago, in the department of biology. Williams has been in charge of shrimp investigations at the Institute of Fisheries Research for the past 4 years.

PAUL WEBER, professor of chemical engineering and director of the School of Engineering at Georgia Institute of Technology, has been named dean of faculties.

CHERRY L. EMERSON, vice president of Georgia Institute of Technology, retired from that post on 30 June. Emerson, who is a graduate of the institute, joined the staff in 1945 as dean of engineering, and has served as vice president since 1948. He plans to enter practice in Atlanta as a consulting engineer.

G. H. BENHAM, for the past 5 years supervisor in charge of biochemistry research at the Armour Research Foundation, Chicago, Ill., has been appointed director of research and process development for the American Agricultural Chemical Co.

GERALD H. LOVINS, for 15 years research director for the American Instrument Co., Inc., Silver Spring, Md., has joined the research staff of the Photovolt Corp., New York, where he will devote most of his time to the development of new products.

ALAN C. BURTON, professor of biophysics at the University of Western Ontario, will deliver the Montreal Clinical Society's Louis Gross memorial lecture on 1 Nov. during the annual fall convention of the Montreal Medico-Chirurgical Society. He will discuss the "Clinical importance of the physiology of temperature regulation."

R. GRANT ATHAY, member of the senior scientific staff of the High Altitude Observatory of the University of Colorado, Boulder, has accepted a 1-year appointment at the Harvard College Observatory, Cambridge, Mass., effective this month. Athay's recent work has been concerned with the reduction and analysis of the data obtained by the Khartoum eclipse expedition that was conducted by the High Altitude Observatory in 1952.

WALTER J. BURDETTE, former professor of surgery at Louisiana State University, has been appointed chairman of the department of surgery in the new School of Medicine at the University of Missouri. He has published more than 75 scientific papers on the biology of cancer, cardiac surgery, and experimental surgery.

FRANK FALKNER, research assistant and lecturer in child health in the Institute of Child Health, Hospital for Sick Children, London, has been appointed assistant professor of child health at the University of Louisville, effective in Jan. 1956. Falkner is also coordination officer to the Centre International de l'Enfance, Paris, for its program of growth studies. These studies are taking place in various countries, but to date there are no North American participants. Falkner, who will retain his appointment in Paris, plans to establish a cooperating study in Kentucky.

STEWART T. GINSBERG, manager of the new Veterans Administration neuropsychiatric hospital in Pittsburgh, Pa., will shortly be transferred to VA's central office in Washington, D.C., to head the psychiatry division of the psychiatry and neurology service. Succeeding Ginsberg at Pittsburgh will be LEE G. SEWALL, manager of the VA neuropsychiatric hospital at Downey, Ill.

The following appointments to assistant professor have been announced. West Virginia University: JAMES FRANCIS HAMILTON, mechanical engineering. Michigan State University: JOHN CLARK BALLARD, research, horticulture; JOHN DIXON DOWNES, research, horticulture; HUGH NELSON MOZINGO, natural science; HAROLD BERTRAM STONEHOUSE, geology; ROBERT LOUIS BLAIR, mathematics; WILLIAM HAROLD KELLY, physics and astronomy; OLIVER W. KAUFMAN, microbiology and public health.

Necrology

JAMES T. BLACK, Vineland, N.J., 62, research director of the New Jersey Poultry Laboratory of Rutgers University Agricultural Extension, 1 Sept.

GEORGE C. CLARKE, New York, 85, industrial engineer who built the Pennsylvania Railroad terminal in New York, 5 Sept.

LORD COURTHOPE, Wadhurst, England, 78, a member of Parliament for 40 years and a naturalist who advocated conservation of Britain's natural resources, former president of Royal Agricultural Society, 2 Sept.

ALBERT HEYNINX, Brussels, Belgium, 78, former medical specialist to the royal family in Belgium and honorary professor at Brussels University, 30 Aug.

JOSEPH F. D. HOGE, New York, 74, former product design engineer with Bell Telephone Laboratories who specialized during World War II in the mechanical design of battle announcing systems for the Navy, 5 Sept.

WALTER KEPLER, SR., Wynnewood, Pa., 71, assistant in the department of chemistry and instructor in roentgenology at Hahnemann Hospital, Philadelphia, Pa., 1 Sept.

ARTHUR W. MILLER, Washington, D.C., 78, retired chief of the Bureau of Animal Industry of the U.S. Department of Agriculture, 30 Aug.

EDUARD PERNKOPF, 67, German anatomist, emeritus professor at the University of Vienna, and director of the Institute of Systematic Anatomy until 1945, 17 Apr.

WILLIAM E. SAUER, St. Louis, Mo., 80, professor of otolaryngology at St. Louis University School of Medicine and inventor of surgical instruments and operating techniques bearing his name, former director of the school's department of otolaryngology, 3 Sept.

HEWITT S. WEST, Las Vegas, Nev., 65, mining executive; president of Haile Mines, Inc., which controls the Tungston Mining Corp. and Manganese, Inc., two of the largest producers of these metals in the United States.

Education

■ The recent opening of the Albert Einstein College of Medicine in the Bronx marks the first time in nearly 60 years that a new medical school has been founded in New York State. Almost every current report on manpower problems points to the need for more doctors, dentists, and nurses. American hospitals have 12,000 internships available and only 6000 interns to fill them. There are 19,000 residencies and only 12,000 doctors available. This country is graduating only one new doctor for each 30,000 people; it is estimated that by 1960 there will be a shortage of from 30,000 to 40,000 physicians.

Expansion programs for medical education are under way in various parts of the country. Last year the University of California at Los Angeles graduated its first class. The University of Miami will graduate its first class next June. The University of Mississippi completed a $9-million construction plan and will admit its first third-year class in June. The University of Missouri is also undergoing a conversion from a 2-year science to a 4-year medical college. The University of Florida will admit its first medical class next June. Seton Hall College of Medicine in Jersey City, N.J., will open in the fall of 1956, under present plans.

These developments probably represent a greater growth in medical school facilities than in any comparable period; however, many authorities doubt that the additional facilities will be enough to meet the needs of an increasing population and an expanding military, as well as the development of new medical and health practices.

Further, a disturbing fact will be brought out in the annual report of the American Medical Association's Council on American Education and Hospitals, to be issued 8 Oct. The report will show that the number of applicants for medical school admission has dropped drastically in recent years. In 1954–55 there were about 15,000 applicants for the 7500 positions in the entering class. This group of 15,000 made 47,000 applications (an average of about three applications for each student). Three years ago there were more than 20,000 candidates for medical schools; and, three years ago, one out of every 3.6 applicants was accepted. Last year, one out of every 1.97 found a place in a medical school.

■ Stevens Institute of Technology celebrated the 25th anniversary of its evening graduate program in engineering and science when its first classes of the 1955–56 term began on 22 Sept. Although the institute has offered graduate work almost since its founding in 1870, the formal evening sessions were not started until 1930. The enrollment in the graduate program has grown since then to just under 800.

■ The Westinghouse Educational Foundation has embarked on a $4-million program in support of education that includes: (i) contributions to universities' regular operating expenses; (ii) contributions for building and building equipment; (iii) contributions toward laboratory apparatus; (iv) encouraging higher education through aid to students and teaching.

In a brochure of announcements, each of the four aspects of this plan is described in some detail. Emphasis is placed not only on past accomplishment, but also on future objectives as visualized by the trustees of the foundation. The trustees, believing that privately endowed institutions are truly part of this country's heritage, have now committed the foundation to a 5-year program of contributing to the operating expenses of these institutions.

Some 100 engineering, liberal arts, and business colleges will benefit from