News of Science

Beycesultan and the Arzawan Culture

Excavations at Beycesultan, Anatolian Turkey, by members of the British Institute of Archeology at Ankara have brought to light further information about the Arzawas, a people who apparently occupied a belt of country extending about 175 mi from north to south and 75 mi from east to west between the Hittites and Greeks [*Science* **120,** 692 (1954)].

An Arzawan palace that lies amid the charred ruins of an unnamed 3000-year-old city beneath a mound at Beycesultan is now being explored, mapped, and photgraphed. Beycesultan is 150 mi up the Meander River, which flows into the Aegean Sea near Miletus.

According to a *London Times* dispatch printed in the *New York Times,* structural similarities between the newly unearthed palace and the court room of King Minos at Knossus in Crete have been noted. Excavations have revealed the citadel or private "sarai" of an unknown ruler. They have also disclosed two broad streets paved with gravel, as well as residential buildings, servants' quarters, a grain store, and elaborate stables.

On the basis of ceramic evidence, the date of the cultural level just above the palace is believed to be about 1230 B.C., the period directly before and during the Trojan War. The great palace is earlier. The archeologists believe that several cities are buried at Beycesultan.

Antirabies Vaccine

A clinical trial of a new antirabies vaccine is reported in the May number of the *Journal of Laboratory and Clinical Medicine* by F. B. Peck, H. M. Powell, and C. G. Culbertson. This vaccine, previously described, is prepared from fixed rabies virus of high titers grown in embryonated duck eggs, and is claimed by the authors to be almost devoid of the encephalomyelitis-producing qualities that occasionally occur with the use of rabies vaccine prepared from rabbit brain. The new vaccine is claimed to have caused no severe systemic reactions in 20 human subjects who had sustained minor bites from dogs, squirrels, cats, rats, mice, or monkeys. Virus-neutralizing antibodies were demonstrated in 12 of 13 patients tested 14 days after the vaccine was administered. The authors note that none of the 20 patients who received vaccine developed clinical symptoms of rabies.

The actual prevention of the development of rabies cannot be assessed in this trial, since examination for rabies of the animals involved was apparently not made, and since it would appear unlikely that a number of the animals (if any) were rabid. However, the antibody responses found in the patients and in the experimental animals tested suggest that this vaccine may prove useful in the treatment of actual infections with the rabies virus, as a replacement for vaccines containing brain material.
—E.M.L.

Health Physics Society

Formation of a new national scientific organization for health physicists was announced 14 June during the 3-day Health Physics Conference at Ohio State University, Columbus. The "Health Physics Society" was the name tentatively selected for the organization, which elected Karl Z. Morgan of the Health Physics Division of Oak Ridge National Laboratory as its interim president. Other interim officers are Fred Cowen, Brookhaven National Laboratory, Upton, N.Y., vice president, and Elda E. Anderson, director of the education and training department of the Health Physics Division, Oak Ridge National Laboratory, secretary-treasurer. Plans for establishment of the society had been discussed over a period of several years. The health physicists voted to form an independent organization rather than to affiliate with any existing group. The constitution, organizational structure, membership policies, and other matters have not yet been settled.

Directors of the Health Physics Society include: Herbert Mermagen, University of Rochester, Rochester, N.Y.; E. C. Barnes, manager of industrial hygiene, Westinghouse Atomic Power Division, Bettis Field, Pittsburgh, Pa.; J. Healy, General Electric Co., Hanford, Wash.; William T. Ham, professor of biophysics, Medical College of Virginia, Richmond; C. M. Patterson, DuPont Atomic Energy Plant, Aiken, S.C.; G. W. C. Tait, Health Physics Branch, Atomic Energy Co. of Canada, Ltd., Chalk River, Ont.; Francis J. Bradley, superintendent of radiation safety at Ohio State University and organizer of the first Health Physics Conference; William Nolan, Radiation Laboratory, University of California, Berkeley; Walter D. Claus, biophysics branch, Division of Biology and Medicine, U.S. Atomic Energy Commission, Washington, D. C.; and John E. Pickering, department of radiobiology, School of Aviation Medicine, Randolph Air Force Base, Tex.

■ The 8th expedition of the Juneau Ice Field Research Project of the American Geographical Society is making detailed studies of Lemon Creek Glacier, as well as spot observations of nearby glaciers in southeastern Alaska, in an effort to add to the knowledge of the relationship between glacial behavior and weather. More snow has accumulated this year than in 1954, and more glacial activity has been reported than in previous years.

The expedition will seek to determine whether the greater accumulation of snow will cause any of the glaciers that have been receding to advance. First seismic soundings of Lemon Creek will be taken this season. Lemon Creek Glacier, which is about 4 mi long and 1 mi wide, has been proposed as the site of one of the U.S. stations for glaciological observations to be made during the International Geophysical Year, 1957–58.

The expedition will continue its studies of heat exchange between the glacier and the air above it, the state of its nourishment, and geobotanical evidence to determine the variations of the glacier in the past, to establish when it attained its maximum size. Calvin J. Heusser, geobotanist, is project officer of the Juneau Ice Field Research Project; Edward R. LaChappelle, glaciologist, is field leader.

■ The desirability in medical research of securing new laboratory animals that resemble man both anatomically and physiologically is obvious. England, Winters, and Carpenter [*Growth* **18,** 207 (Dec. 1954)] note that, except for size, the pig meets these requirements remarkably well. They report the results of a program to develop miniature swine that was initiated at the Hormel Institute in 1949. In the crossbreeds, average 154-day weights have declined to considerably less than half. General improvement was noted in the number born alive and in age at first farrow. Surplus pigs are being used for various medical purposes in a number of laboratories.
—W.L.S., JR.

■ The U.S. Public Health Service assumed responsibility for health services for American Indians on 1 July, in accordance with Public Law 568 of the 83rd Congress, which transferred the Indian health and hospital program from the Department of the Interior to the Public Health Service. The program affects about 350,000 Indians who live on reservations.

A division of Indian health, located in the Bureau of Medical Services, has been created to administer the program. James R. Shaw, a Public Health Service officer who has headed the Indian health program for the past 2 years in the Bureau of Indian Affairs, will continue in this capacity as chief of the new division. Frank French and Joseph Dean will continue to serve as assistant chiefs. About 3600 employees, most of whom are located in hospitals and area offices in the western parts of the country, have also been transferred with the program.

Plans for a twofold health program have been announced. The medical care program will be expanded to provide clinic and hospital services to as many Indians as possible. Public health and preventive services—including field health facilities and services, public health nursing activities, maternal and child care, school health, sanitation, health education, and dental services—will also be expanded.

A study of the entire Indian health problem and methods for meeting it has been set up. A report of findings of the study, which was directed by Congress, is due in October 1956.

■ No special hazard attributable to tobacco among workers engaged in its manufacture is disclosed by a statistical study made by Harold F. Dorn and William S. Baum of the National Institutes of Health, Bethesda, Md. Dorn and Baum summarize their findings, which were published in the June issue of *Industrial Medicine and Surgery*, as follows:

"The results of this study show that the total mortality rate of employees engaged in processing cigarettes for The American Tobacco Co. is definitely lower than that for the general population of Virginia and North Carolina. This is true for all causes, for cancer, and for cardiovascular diseases. The death rates for respiratory cancer and for coronary disease among employees of The American Tobacco Company do not differ appreciably from those of the general population."

The study, which was initiated by the National Cancer Institute, covered an average number of more than 11,200 employees of the American Tobacco Co. —virtually all full-time employees in the company's cigarette plants—during the period October 1946 through December 1952. The study did not concern itself with investigation of smoking habits.

■ On 22 Sept. the first independent commercial television station in Britain will start transmitting its programs. The station is now being built at Beaulieu Heights, Croydon, a suburb of London, and will serve an area in which about 10 million people live. By March 1956 two other commercial stations will open, in the Midlands and in Lancashire.

People live so close together in Britain that these three stations, despite the relatively short radius of coverage of television transmissions, will bring almost 60 percent of the total population of the United Kingdom within reach. Additional stations will be opened at the rate of about one a year. It is estimated that all the people in Britain can be reached by 14 or 15 stations.

The Independent Television Authority, set up in August 1954 by an Act of Parliament, is responsible for the new television service. It has a statutory life of 10 years. Under this Act ITA will not have to produce programs. Its main functions are to own and operate transmitting stations.

■ An epidemic of North American blastomycosis, a fungus disease limited to the United States and Canada, that occurred in a 6-mo period in 1953–54 within a 4-mi radius of Grifton, Pitt County, N.C., is reported in the 25 June issue of the *Journal of the American Medical Association* by J. Graham Smith, Jr., Jerome S. Harris, Norman F. Conant, and David T. Smith, all of Durham, N.C. The disease, rarely diagnosed 20 years ago except in a few medical centers, may occur in the Midwest, Ohio River Valley, and the southeastern United States. No cause for the epidemic has been found, but the scientists hope a study of the Grifton area and population may provide a clue to the method of disease spread.

Eleven cases of North American blastomycosis were admitted to Duke University Hospital within a few months. Previously, only 14 cases had been reported in 16 years in Pitt and seven adjacent counties. Blastomycosis is a chronic infection marked by tumors in the skin (cutaneous blastomycosis) or by lesions under the skin and in the lungs, bones, liver, spleen, and kidneys (systemic blastomycosis). The outbreak described was primarily of the systemic type.

■ The U.S. Atomic Energy Commission has approved the payment of $400,000 to four atomic scientists for the acquisition of all right, title, and interest in certain inventions in plutonium separative processes that they developed prior to their engaging in research work in connection with Government contracts. All rights in the pending classified patent applications on the inventions have been assigned to the AEC.

The scientists are Glenn T. Seaborg, professor of chemistry at the University of California, Berkeley; Joseph W. Kennedy, head of the chemistry department of Washington University, St. Louis, Mo.; Arthur C. Wahl, professor of chemistry at Washington University, St. Louis; and Emilio G. Segrè, professor of physics at the University of California, Berkeley. In late 1940 and early 1941, prior to their engagement in work under the Office of Scientific Research and Development and the Manhattan District, they were associated with the University of California. During this period, they made inventions and discoveries pertaining to the element plutonium and certain of its isotopes, in particular plutonium-239 and its neutron fissionability as well as certain aspects of its chemical properties. Their work included the discovery that plutonium in its lower oxidation state is carried from solution by certain precipitates, whereas in the higher oxidation state it is not carried. The early inventions and discoveries became the subject matter of classified patent applications filed by the scientists between 1945 and 1947.

■ The U.S. Fish and Wildlife Service will open a new oceanic research unit on 1 Sept. at Stanford, Calif. The unit will conduct a study of fishery production in relation to climate and ocean conditions. The relationships between variations in ocean circulation and the sudden appearances and disappearances of commercial fish stocks from the customary fishing grounds will be studied on a broad scale. The work will be of a pioneering nature in three fields—fishery biology, oceanography, and meteorology.

John L. Farley, director of the Fish and Wildlife Service, explained that the need for such a study has been demonstrated by the fact that many of our important sea fisheries are subject to large, unexpected, and sometimes catastrophic failures. It is felt that recent advances in oceanography and meteorology suggest that the abundance of fish may be greatly affected by large-scale changes in the weather pattern. If the study of oceanwide events, as they may be related to worldwide weather fluctuations, discloses the causes of major fishery fluctuations, then it may be possible to predict future fluctuations.

O. E. Sette, director of the service's Pacific Oceanic Fishery Investigations, Honolulu, will be in charge of the new research unit.

■ Experiments are being conducted at Kansas State College to determine the usefulness of meal made from *Elodea canadensis,* which grows in fresh-water lakes and ponds, in pig-fattening rations. The *E. canadensis* meal was compared with alfalfa meal in a test with 16 weanling pigs. The pigs that were fed *E. canadensis* gained an average of 1.75 lb/day, and those fed alfalfa meal gained 1.57 lb/day. The meal constituted about 3 percent of the total ration.

Chemical analysis of dehydrated *E. canadensis* showed that it contains approximately the same amounts of moisture, calcium, phosphorus, nitrogen, crude fiber, and ash as alfalfa meal. It contains less protein, and its carotene content is 48 mg/lb, whereas alfalfa's is 58 mg/lb. Further analyses are being run to find out why the pigs gained weight at a greater rate when the new meal was substituted for alfalfa meal in the rations. The results of nutritional studies with poultry have not yet been tabulated. Draytford Richardson and Paul Sanford have been conducting the nutrition studies. The harvest of the plant was 12 to 14 tons (green weight) per acre every 3 mo.

Scientists in the News

ANDRIJA STAMPAR, president of the Yugoslav Academy of Sciences and Arts, has been awarded the Léon Bérnard Foundation prize and medal in "recognition of his outstanding contribution and practical achievements in the field of social medicine."

ALEXANDER SILVERMAN, emeritus professor of chemistry at the University of Pittsburgh, was presented a special striking of the Francis Clifford Phillips medal in chemistry of the university on 13 June in honor of the 50th anniversary of his full-time association with the university's chemistry department.

OSWALD TIPPO, chairman of the department of botany and dean of the Graduate College, University of Illinois, has resigned to become chairman of the department of botany, Yale University, effective 1 Sept. JOHN R. LAUGHNAN, professor of farm crops at the University of Missouri, will succeed Tippo as chairman of the department of botany at Illinois.

HARRY F. HARLOW, professor of psychology at the University of Wisconsin, has been named to the George Cary Comstock research professorship. This professorship was established this year in honor of Dr. Comstock, who was the first dean of the Graduate School at the University.

The American Therapeutic Society has awarded the first Oscar B. Hunter award to JONAS E. SALK, director of the Virus Research Laboratories of the School of Medicine, University of Pittsburgh, for his outstanding contribution to preventive medicine during 1955.

CLARK W. GOULD, former research associate in the General Aniline and Film Corp. at Easton, Pa., has been appointed a research associate in the analytical chemistry unit at the General Electric Research Laboratory, Schenectady, N.Y.

RAYMOND E. KIRK, head of the department of chemistry at the Polytechnic Institute of Brooklyn since 1931, has retired from that position. He will continue his duties as dean of the Graduate School and professor of inorganic chemistry.

ROBERT CUSHMAN MURPHY, Lamont curator of birds of the American Museum of Natural History, has retired after 35 years of service. Murphy, an authority on oceanic birds, has been one of the principal figures in the development of the museum's department of birds. Under his supervision, the collection has grown to number more than 800,000 specimens.

Among his museum exhibition projects is the Whitney memorial hall of Pacific bird life. Two decades of work went into the preparation of the hall, which contains the most comprehensive habitat groups of Pacific birds to be found in any museum.

Murphy's 13 expeditions have taken him to the tropical and subantarctic Atlantic, Peru, the western Mediterranean, New Zealand and other Pacific islands, Bermuda, Venezuela, and various islands in the Caribbean. It was on the expedition to Bermuda that he rediscovered the cahow, a sea bird thought to have been extinct since the early 17th century. He was also responsible for excavating many skeletons of New Zealand moas.

Murphy has recorded some of his scientific discoveries in his books, *Bird Islands of Peru, Oceanic Birds of South America, Logbook for Grace,* and *American Land Birds.*

After he had completed his training at Brown and Columbia universities, Murphy became a curator of the Brooklyn Museum. He joined the staff of the American Museum of Natural History in 1921, and became chairman of the department of birds in 1942. Murphy, who has been named Lamont curator emeritus of birds, is a foreign fellow of the Zoological Society of London. He has been awarded the Daniel Giraud Elliot medal of the National Academy of Sciences and the Cullum medal of the American Geographical Society.

HYMAN G. RICKOVER, chief of the naval reactors branch of the division of reactor development of the U.S. Atomic Energy Commission and director of the nuclear power division of the Navy's Bureau of Ships, has been named recipient of the George Westinghouse gold medal award of the American Society of Mechanical Engineers.

The citation honors Rickover "for eminent achievement in the power field of mechanical engineering as exemplified by the successful completion of the submarine *U.S.S. Nautilus,* in which by his foresight, determination, and leadership, the idea of nuclear power generation was transformed from speculation to reality."

S. A. BEATTY, director of Canada's Atlantic Fisheries Experimental Station at Halifax, N.S., has been given an appointment with the Food and Agriculture Organization of the United Nations in Brazil, where he will serve on a technical assistance mission of the FAO to the Government of Brazil.

Beatty's service will consist of advising and assisting the Brazilian Central Government and state governments on a program of work for their research laboratories in which problems of handling, processing, storage, and distribution of fishery products will be studied.

HARRY SOBOTKA, director of the department of chemistry at Mount Sinai Hospital, New York, and adjunct professor of organic chemistry at the Polytechnic Institute of Brooklyn, will visit the Near East in September and October. He will give a number of lectures and conferences on subjects of physical biochemistry at the University of Athens and the National Technical University of Athens, Greece, at the universities of Ankara and Istanbul, Turkey, and at the University of Jerusalem and the Weizmann Institute in Rehovoth, Israel.

WALTER BARTKY, dean of the division of the physical sciences of the University of Chicago, has been elected vice president of the university in charge of special scientific programs. Bartky will devote his attention to various contracts with governmental agencies, which have demanded an increasing share of his time in the postwar period.

TOM F. WHAYNE, who retired 30 June as chief of the preventive medicine division in the Office of the Surgeon General of the Army, has been appointed professor of public health and preventive medicine at the University of Pennsylvania. In addition to his other duties at the university, he is serving as coordinator of the program of medical education for national defense in the School of Medicine.