tation that produced the characteristic type of tooth growth of the cave bear and is still present in some modern brown bears traces back through roughly a million years, where it may still be studied in the biometric variations of the fossil *U. etruscus.*

The fairly strong allometric growth in both types leads to a diminished fitness of the shape of the tooth crown as the tooth enlarges excessively in size, just as it did in the cave bear toward the time of its extinction. Very likely the existence of the two types of allometric growth of the teeth and the intermediate between them made it possible for bears of different sizes to possess teeth of the optimal shape.—B. G.

News Briefs

■ The State Department on 8 July issued a passport to Martin D. Kamen, former atom bomb project chemist and now an associate professor at Washington University, St. Louis. For the past 8 years, Kamen has been seeking a travel permit in order to accept speaking engagements abroad [*Science* **121,** 758 (27 May 1955)]. On 14 July the State Department formally withdrew its charges that Kamen is a supporter of Communism, and Kamen's suit to force issuance of a passport was dropped.

■ The areas in six southwestern states that are regulated because of the pink bollworm of cotton will be merged into a single continuous regulated area, instead of being divided as now into heavily and lightly infested areas, the U.S. Department of Agriculture has decreed. This change became effective 12 July. At the same time 20 Arkansas counties were added to the regulated area. Merging of the lightly and heavily infested pink bollworm areas became necessary because heavy infestations have been found sporadically throughout the entire regulated area. It was therefore no longer practicable to operate the quarantine on a two-area basis.

■ The Mediterranean fruit fly has been found in almost every part of Costa Rica, it has been announced by the Agriculture Ministry and United States technical aid authorities. The pest, which attacks many forms of ripe fruit, was first detected a few weeks ago by Harold Mowry, acting chief of the technical aid program. Subsequent spot checks have revealed many other infestations. Identification was confirmed by laboratory tests in Washington.

The infestations of Mediterranean fruit fly have not been serious in this hemisphere, except in isolated spots in southern Brazil, since the 1929 infestation in Florida, which did heavy damage to the citrus industry.

The Costa Rican government plans an eradication campaign. In an effort to prevent spread of the infestation, the government of Nicaragua has embargoed imports of Costa Rican fruits, plants, and seeds. Other control measures may be instituted in Costa Rica and elsewhere.

■ The National Society of Professional Engineers has urged a House committee to approve pending legislation that will give more liberal tax benefits to self-employed persons who wish to establish an individual retirement plan.

Paul Robbins, executive director of NSPE, in recent testimony before the House Committee on Ways and Means, stated that present tax rates "do not leave the average self-employed professional person enough to cover living costs and a residue for the relatively high payments which are required for an acceptable private pension plan." Pointing out that salaried employees can receive "substantial tax benefits under existing favorable tax law provisions," Robbins added that the professional man alone "stands in a position where high surtaxes prevent him from leveling his earnings to provide a stable income and retirement benefits."

Robbins testified that "in all fairness the laws should be written to permit those who earn their income by a personal practice of a profession to project some portion of their earnings into the future for tax purposes" and emphasized that the nation can ill afford to discourage young people "from embarking on professional careers by presenting them with a prospect of rewards not commensurate with the risks they are asked to run."

■ Proposed agreements for the exchange of atomic information for mutual defense purposes have been approved by President Eisenhower, signed by representatives of Canada, the United States, and the United Kingdom, and submitted to the Joint Committee on Atomic Energy of the U.S. Congress. According to the terms of the U.S. Atomic Energy Act of 1954, the proposed agreements are to lie before the Joint Committee for a period of 30 days before becoming effective.

Scientists in the News

AUGUST C. HELMHOLZ has been appointed chairman of the department of physics at the University of California. He succeeds RAYMOND T. BIRGE, who retired 1 July. Helmholz has been a member of the Berkeley staff since 1940. ERWIN L. HAHN, now with the I.B.M. Corp. at the Watson Laboratory, Columbia University, will join the Berkeley staff in September. Other departmental changes at Berkeley include the promotion to full professor of WILLIAM B. FRETTER, WILLIAM A. NIERENBERG, and CORNELIUS A. TOBIAS.

On 17 June at the commencement in Berkeley, Calif., the University of California awarded to RAYMOND THAYER BIRGE an LL.D. degree, thereby recognizing his long years of distinguished service as a scientist, teacher, and administrator. Birge retired as chairman of the department of physics on 1 July, 1955, having served in this position since 1933.

After completing his academic training through the Ph.D. degree at the University of Wisconsin, Birge served for 5 years on the physics staff of Syracuse University. In 1918 he came to the University of California as an instructor and rose rapidly to full professorship in 1926. Although he reached the retirement age in 1954, he was reappointed for the year 1954–55. During his period as chairman, the department grew in both numbers and eminence, and his guiding hand was largely instrumental in this rise.

Birge's research interests were originally in spectroscopy; he entered the field at the time that Bohr's quantum theory of the hydrogen atom was first published, and his researches did much to interpret the spectra of molecules in terms of this theory and developments from it. The use of intensities in the rotational structure of band spectra to measure the temperature of emitting molecules was introduced by him in 1921. He was one of the first to employ data on the vibrational and rotational states of diatomic molecules to determine the force law constants and to examine critically their interrelations. Soon after it was realized that the presence of isotopes in diatomic molecules was manifested in their spectra, he was largely instrumental in the discovery of the rarer isotopes of hydrogen, carbon and oxygen. The celebrated Birge-Sponer method of extrapolating vibrational energy levels to evaluate heats of dissociation was discovered in 1926 and has proved to be a powerful method of estimating these quantities for the more stable diatomic gases.

Through his interest in spectroscopy, Birge was led to examine the relationships between the constants of atomic physics—for example, in the Rydberg constant and the fine-stucture constant. In pursuing this line, he became, for many years, the leading authority on the best values of the whole array of general constants. His thorough investigations pointed up many discrepancies in the values of the physical constants then known and stimulated much important work in the resolution of these difficulties. In the course of this work, he developed an interest in the propagation of errors

and in the statistical treatment of data and has made important contributions to both of these fields. The present satisfactory state of our knowledge of the physical constants is, in large part, the result of Birge's pioneering work.

Birge was a member of the Division of Physical Sciences of the National Research Council from 1930 to 1937, and was chairman of the Committee on Physical Constants from 1930 to 1937. He served as Pacific Coast secretary of the American Physical Society from 1941 to 1946. He was elected to the National Academy of Sciences in 1932 and acted as chairman of the Physics Section from 1942 to 1945. He has been a member of the American Philosophical Society since 1943. He was elected vice president of the American Physical Society for the year 1954 and is now serving as president.

IRVING H. LEOPOLD has been appointed chairman of the department of ophthalmology in the University of Pennsylvania's Graduate School of Medicine. He succeeds EDMUND B. SPAETH, who is relinquishing the chairmanship but who will continue to teach and practice.

GILBERT F. WHITE has resigned as president of Haverford College, effective 1 Jan., to become professor of geography at the University of Chicago. A geographer specializing in land and water conservation, White continued activity in this field while he was president of Haverford. He is the U.S. member of UNESCO's Advisory Committee on Arid Zone Research and was chairman of the International Conference on Arid Lands sponsored by the AAAS in April.

Two recent appointments at Harvard University are those of SYDNEY GOLDSTEIN as Gordon McKay professor of applied mathematics in the division of engineering and applied physics, and WALTER M. BOAS as visiting lecturer on metallurgy for the 1955–56 spring term.

Prior to coming to Harvard in 1952 as Gordon McKay visiting lecturer on applied science, Goldstein was vice president of the College of Technology in Haifa, Israel. Boas is currently serving as chief of the division of tribophysics of the Commonwealth Scientific and Industrial Research Organization in Australia.

GERALD S. TOMPKINS, who has been a vice president in charge of production, has been elected president of American Viscose Corp.

WILLIAM C. FOSTER, former Deputy Secretary of Defense and president of the Manufacturing Chemists' Association, will become an executive vice president of Olin Mathieson Chemical Corp. on 1 Aug.

JAMES B. SUMNER, the first scientist to crystallize an enzyme, and the winner in 1946 of a Nobel prize in chemistry, retired on 1 July from Cornell University, where he had taught since 1914. He joined the staff of the Cornell Medical School as assistant professor of biochemistry and for 26 years served as professor of biochemistry, first in the College of Arts and Sciences and later in the College of Agriculture. In 1947 he was appointed director of Cornell's laboratory of enzyme chemistry.

Sumner began his research on the isolation of an enzyme, urease, in 1917. While he was a student at Harvard Graduate School, where he received his Ph.D. in 1914, one of his professors had stated that such an accomplishment was impossible without a revolutionary change in methods. Sumner considered this a challenge; his persistence was rewarded in 1926 when he first crystallized urease. This discovery started an immense burst of activity in the biological sciences. About 30 enzymes have been crystallized since then, and his recent research has dealt with 12 of them.

Sumner has published more than 100 research papers in his field. With G. Fred Somers he wrote *The Chemistry and Methods of Enzymes,* published in 1943 and now in its 3d edition. In 1950 and 1952 he edited, with K. Myrbäck, two volumes, *The Enzymes,* containing articles written by 78 scientists.

Our society today, Sumner feels, places too little emphasis on helping the individual scientist and too much on backing large groups of researchers striving for immediate practical results. Speaking as a teacher, he said that too many students have this same philosophy, preferring to learn recently discovered facts for immediate application only, and that if this continues, man's quest for knowledge will stagnate.

Sumner was born in Canton, Mass., in 1887. At 17, he lost one arm in a hunting accident. He was told that, as a result, he would be unable to become a chemist, but he went on to achieve his ambition despite the handicap. His honors include membership in the National Academy of Sciences.

ERNEST F. BARKER has turned over the chairmanship of the University of Michigan physics department to DAVID M. DENNISON, after serving 14 years in that capacity and 33 years as a faculty member.

Barker joined in the quest for knowledge of atomic and molecular structure through the study of the infrared spectra, his field of specialization. His early work on such molecules as those of carbon dioxide and ammonia helped to open a whole new field of research. Barker expects to resume his scientific research on diffraction gratings designed for infrared studies.

Dennison has been a member of the physics department since 1927 and is internationally known for his interpretation of experimental data on the structure of molecules.

JOHN O. WAGNER, former chief engineer of the Materials Section for Rockets and Guided Missile Components, Navy Bureau of Ordnance, has joined the Defense Products Division of the M. W. Kellogg Co. as its Washington representative.

FRANKLIN S. COOPER, research physicist, has been elected president and director of research of Haskins Laboratories of New York. He succeeds CARYL P. HASKINS, who has resigned to accept the presidency of the Carnegie Institution of Washington next January.

The Army announced on 6 July that HERMANN OBERTH, German physicist rocket pioneer, had recently come from West Germany to work on the development of guided missiles at Redstone Arsenal in Huntsville, Ala. It is reported that Oberth rejected invitations to work in East Germany. According to Army disclosures, several former German scientists work at Redstone Arsenal under WERNHER VON BRAUN, developer of the German V-2 rocket of World War II.

F. DOUGLAS LAWRASON, assistant dean of the University of North Carolina School of Medicine and assistant professor of medicine, has been appointed provost for medical affairs and acting dean of the Medical School at the University of Arkansas.

ALFRED D. STARBIRD of the office of the Chief of Engineers, U.S. Army, became director of the U.S. Atomic Energy Commission's division of military application on 1 July.

ROLLIN H. BAKER, associate professor in zoology and assistant curator of mammals in the Museum of Natural History at the University of Kansas, has been appointed professor of conservation and director of the university museum at Michigan State University. He will assume his new duties in September.

DAVID A. RYTAND, executive head of the department of medicine at Stanford Medical School, will tour European medical centers this summer under a $2350 grant from the Rockefeller Foundation. He will visit famous Old World institutes in London, Stockholm, Copenhagen, and Paris to observe their teaching and research in medicine. He will return to San Francisco in September.

PITIRIM A. SOROKIN, well-known Harvard University sociologist, will retire from teaching on 31 Aug. He will continue to direct the university's center for research in creative altruism.

The more than 30 books that he has written include *Contemporary Sociological Theories,* first published in 1928. In the 4-volume *Social and Cultural Dynamics* (1937–40), Sorokin presented his philosophy of history. Periods of "sensate" culture, based on a materialistic outlook and developing strong natural sciences, alternate with periods of "ideational" culture, based on faith, mysticism, and authority, as in medieval European society. He believes that our own Western culture is sensate and that its breakdown is at hand.

Sorokin was born in Russia 66 years ago. Active in Russian politics before the revolution, he was banished by the Bolsheviks in 1923. Coming to America, he taught at the University of Michigan from 1924 to 1930. In the latter year he became a United States citizen. He joined the Harvard faculty in 1931. In 1937 he was president of the International Congress of Sociology.

ARNO C. FIELDNER, 74 years old, government research scientist and an expert on fuels, has retired.

F. F. NORD, Fordham University, New York, has received an honorary degree of doctor of agricultural sciences from the University of Pisa, Italy, in recognition of his work on lignin and the mechanism of enzyme action.

SUNIL CHANDRA DATTA, pharmacognosist, Indian Food and Drug Administration, after spending more than a year at the Philadelphia College of Pharmacy and Science, has returned to Calcutta.

CHARLES H. WEAVER, who has directed the atomic power division of Westinghouse Electric Corp. since it was organized in 1948, has been elected a vice president, with responsibility for all Westinghouse atomic power activities. These will include the design and development of two additional atomic submarine power plants, the nuclear power plant for a large naval vessel, and the nuclear power plant for the nation's first full-scale atomic power plant for the generation of electricity.

GEORGE H. BOYD has relinquished his duties as head of the department of zoology at the University of Georgia in order to devote his full time to his work as dean of the graduate school and director of research. R. BARCLAY MCGHEE has replaced Boyd as head of the department of zoology.

WALTER C. RUECKEL, vice president of the Henry J. Kaiser Co., Oakland, Calif., has been elected vice president and general manager of the engineering and construction division of Koppers Co., New York.

EVERETT P. PARTRIDGE, director of Hall Laboratories, Pittsburgh, Pa., has been presented the 1955 Max Hecht award of the American Society for Testing Materials in recognition of his 30 years of contributions to the technology of industrial water.

ROBERT PERLOFF, former supervisory research psychologist in the Department of the Army and chief of the statistical research and consultation unit of the Adjutant General's Office, has joined the staff of Science Research Associates, Chicago, as director of test research.

DAVID LYALL has been promoted from associate professor to professor of clinical surgery at the Post-Graduate Medical School of the New York University–Bellevue Medical Center. He has also been appointed director of the center's University Hospital Tumor Service and the Fourth Surgical Division of Bellevue Hospital, succeeding HERBERT WILLY MEYER, who resigned 1 July. PAUL S. SEAGER has been promoted from associate professor to professor of clinical otorhinolaryngology.

GILES F. FILLEY will join the department of medicine at the University of Colorado Medical Center on 1 Sept. He will also serve as clinical physiologist at the Colorado Foundation for Research in Tuberculosis. Filley was formerly director of the department of physiology, Trudeau-Saranac Institute, Trudeau, N.Y.

HENRY W. FITZPATRICK has been appointed director of defense laboratories at the Massachusetts Institute of Technology, succeeding HORACE S. FORD. The duties of director include administrative responsibility for Lincoln Laboratory in Lexington, the Instrumentation Laboratory in Cambridge, and the Operations Evaluation Group in Washington.

A. JUDSON WELLS, an assistant research director of the Du Pont Co.'s film department and director of the Yerkes Research Laboratory in Buffalo, N.Y., will move to Wilmington, Del., 1 Sept. to devote full time to his work as assistant research director. CLEMENT W. THEOBALD, who has been research manager at the laboratory, will succeed him as director there. In the meantime, Theobald will act as deputy director of the laboratory. FREDERICK W. GANDER, a research supervisor, has been named research manager.

Necrology

ADELBERT AMES, JR., Hanover, N.H., 74, research professor in the department of physiological optics at Dartmouth, former director of Dartmouth Eye Institute, discoverer of cure for aniseikonia, 3 July.

H. SHERIDAN BAKETEL, Philadelphia, 83, former professor of preventive medicine at Long Island College of Medicine, editor of *Medical Economics,* former president of the American Pharmaceutical Manufacturing Association, 7 July.

EDWARD S. BROWN, Phliadelphia, 49, an osteopathic surgeon and chief of the department of chest surgery at Metropolitan Hospital, 12 July.

WALTER L. CHENEY, Washington, D.C., 65, professor of physics at George Washington University, 6 July.

REINA A. HUTNER, Hastings-on-Hudson, N.Y., 44, research scientist, Haskins Laboratories, former member of Office of Scientific Research and Development, 4 July.

WENDELL M. LATIMER, Oakland, Calif., 62, former dean of the college of chemistry, associate director of the radiation laboratory, University of California, 1954 chairman of AAAS Section C, 6 July.

PAUL DE LESSEPS, San Sebastian, Spain, 75, industrial engineer and only surviving son of builder of the Suez Canal, 11 July.

GUSTAVE MAGNEL, Brussels, Belgium, 65, professor of civil engineering at the University of Ghent, inventor of Belgian system of prestressed concrete construction, 5 July.

ETIENNE OEHMICHEN, Paris, 72, researcher in helicopter aviation, naturalist, author, 10 July.

OSCAR ORIAS, Buenos Aires, 49, director of Instituto de Investigación Médica-Mercedes y Martin Ferreyra, physiologist, author, 4 June.

ERNEST R. SASSCER, Washington, D.C., 72, retired head of the U.S. Department of Agriculture, division of foreign plant quarantines, former president of the AAAS and of the Entomological Society of America, 7 July.

RUFUS E. ZIMMERMAN, New York, 68, president of American Standards Association, former chairman of research policy committee, 21 June.

In the Laboratories

■ A tiny new electronic device made of extremely pure silicon shows promise of reducing costs on a large scale in many industries using electric power, Bell Telephone Laboratories has announced.

The simple device—a silicon power rectifier—converts alternating current into direct current, an essential step in the operation of telephone systems. In-