

and later the University of Freiburg, where he received the degree of doctor of philosophy in 1908. After two years as assistant in the Technische Hochschule of Zurich, he carried on advanced research at Karlsruhe in Professor Haber's laboratory in 1910, and from 1911 to 1914 he held a research fellowship in the University of Manchester, working in the laboratory of Sir Ernest Rutherford. During this period he also carried on research work at the University of Liverpool in the laboratory of Professor Donnan.

He was then called to a position in the Radium Institute of Vienna, and in 1920 he became a member of Bohr's Institute of Theoretical Physics at Copenhagen. In 1926 he was called to the professorship of physical chemistry at the University of Freiburg. While connected with Bohr's institute he car-

ried out, in cooperation with Dr. Coster, of Holland, a brilliant research that led to the discovery of the new element hafnium.

A correspondent writes: "The many and diverse investigations of Professor Hevesy have lain in the fields of inorganic chemistry, physical chemistry, electrochemistry, radioactivity and the separation of isotopes, and his researches are characterized by brilliancy of conception, unique experimental attack and convincing thoroughness."

During the coming term Professor Hevesy will lecture on five different topics, as follows: "Chemical Analysis by X-rays and its Applications," "Rare Earth Elements and Atomic Structure," "Chemistry of Hafnium," "Electrolytical Conduction and Diffusion in Solids," "Separation of Isotopes."

SCIENTIFIC NOTES AND NEWS

JEWISH residents of Montevideo have taken up a popular subscription to present a statue of Professor Albert Einstein to the city on the occasion of Uruguay's centenary of independence. The statue will be erected in one of the most prominent plazas of the city.

SIR ARTHUR STANLEY EDDINGTON on September 25 received the honorary freedom of the town of Kendal, Westmoreland, England, his birthplace. In handing him a scroll recording the decision of the Town Council, the Mayor said: "Kendal is determined it will not leave the recognition of its most distinguished sons to a future generation." It was pointed out in an appreciation sent by Sir Oliver Lodge that it was in Kendal that John Dalton, as first assistant master of a school, began his scientific work.

ABBÉ HENRI BROUIL, professor in the Institut de Paleontologie Humaine, Paris; Sir Arthur Keith, of the Royal College of Surgeons, London, and Professor Grafton Elliot Smith, of University College, London, have been elected corresponding members of the Field Museum of Natural History in recognition of services rendered to the museum.

DR. T. WAYLAND VAUGHAN, director of the Scripps Institution of Oceanography of the University of California, was at the meeting in Eugene, Oregon, elected president of the Pacific Division of the American Association for the Advancement of Science for the year 1930-31.

MR. CHARLES G. DAWES, ambassador to England, has accepted appointment as the delegate of the National Geographic Society to the one hundredth anniversary celebration of the Royal Geographical Society, London, on October 21. Mr. Dawes is a member of the board of trustees of the National Geographic Society.

PROFESSOR FRANCIS G. BENEDICT, director of the Nutrition Laboratory of the Carnegie Institution of Washington, was the guest of honor on October 3 at a dinner given for him by friends and associates at the Algonquin Club, Boston, to celebrate his sixtieth birthday. Professor George H. Parker presided, and the speakers were Dr. Elliott P. Joslin, Dr. Eugene F. DuBois, Dr. George W. Crile, Dr. Allan Winter Rowe and Professor Benedict.

DR. OTTO OLDENBERG, professor of physics in the University of Göttingen, has accepted a call to Harvard University. Professor Oldenberg lectured at Harvard University last year.

PROFESSOR EDGAR T. WHERRY has resigned from the position of principal chemist in charge of the crop chemistry laboratory, Bureau of Chemistry and Soils, to become associate professor of plant ecology in the department of botany of the University of Pennsylvania.

DR. ALEXANDER GOETZ, of the University of Göttingen, has been called to an associate professorship of electrophysics in the California Institute of Technology.

At a recent meeting of the agricultural council of the Board of Trustees of Cornell University, Dr. D. C. Carpenter was named head of the division of chemistry of the State Agricultural Experiment Station at Geneva, New York. Dr. Carpenter has been engaged for the past several years in researches on casein both at Geneva and at the University of Upsala, Sweden. At the same time the council promoted Leon R. Streeter from associate in research to be chief in research, and Dr. Z. I. Kertesz from assistant in research to associate in research in chemistry. The appointment of Dr. J. J. Kereura, formerly of the

Ohio State University, to be an assistant in research in chemistry on the station staff is also announced.

It is reported by the Department of Commerce in Washington that Mr. E. B. Swanson has been appointed chief economist of the division of petroleum economics of the United States Bureau of Mines. Mr. Swanson has been serving as acting chief of the division since October, 1928. Other recent personnel changes in the petroleum economics division included the promotion of G. R. Hopkins from associate petroleum economist to economic analyst and of A. H. Redfield from assistant scientist to associate economic analyst.

DR. ADDAMS S. McALLISTER has been appointed assistant director in charge of commercial standardization in the Bureau of Standards. The appointment of Dr. McAllister fills a vacancy created by the resignation of Mr. R. M. Hudson on December 31 of last year.

MR. H. W. DICKINSON, senior keeper in the Science Museum, South Kensington, England, retired on September 1.

PROFESSOR G. E. MACGINITIE has been appointed acting director of the Hopkins Marine Station of Stanford University for the autumn quarter during the absence of Dr. W. K. Fisher.

MAJOR JAMES STEVENS SIMMONS, who for the past two years has been president of the Army Medical Department Research Board at the Bureau of Science, Manila, has been assigned to the staff of the Army Medical School, Washington, as instructor in charge of the bacteriological department.

DR. FERDINAND W. HAASIS recently resigned his position as associate professor of forestry at the University of Idaho to become research associate of the Carnegie Institution of Washington. He is working with Dr. D. T. MacDougal at the Coastal Laboratory of the Division of Plant Biology, Carmel, California.

PROFESSOR R. B. THOMSON, professor of anatomy and head of the Department of Botany of the University of Toronto, has been granted leave of absence for the collegiate year 1930-31, because of ill health. Dr. H. S. Jackson, professor of mycology, has been appointed acting head of the department during Professor Thomson's absence.

DR. OSCAR RIDDLE, of the Carnegie Institution, Cold Spring Harbor, returned to New York on October 2 from a visit to various laboratories in Europe. He served as chairman of the American delegation at the International Congress for Sex Research, London, and as a vice-president at the International Congress of Zoologists, Padua.

THE Tulane University medical expedition to Central America to study the relationship of tropical diseases to men and monkeys, under the direction of Dr. E. C. Faust, has returned from visiting the jungles of the Canal Zone.

A DETAILED survey of the city of Rio de Janeiro and environs with a study of inland waters is to be undertaken by Dr. Preston James, professor of geography at the University of Michigan.

DR. HUGH M. SMITH, who has been in Siam for several years establishing a department of fisheries for the Siamese government, is on a vacation in the United States for several months. While in Siam he has been making a collection of birds and other natural history objects in his spare time and has already presented several thousand birds to the National Museum, with another large shipment on the way, chiefly from the mountains of northern Siam and localities on the eastern border of that country, where little natural history work has been carried on.

THE department of chemistry of the Pennsylvania State College, in cooperation with the department of electrical engineering, announces that the fifth annual Priestley Lectures will be given by Dr. John W. Williams, assistant professor of chemistry of the University of Wisconsin, on November 10, 11, 12, 13 and 14, at 7 P. M. The general subject of the lectures will be "The Relation between Physical Chemistry and Electrical Engineering."

THE twenty-third Hanna Lecture was delivered at the School of Medicine, Western Reserve University, on September 25 by Professor Franz Knoop, professor of physiological chemistry at the University of Tübingen, on "The Significance of the Intermediary Metabolism." On September 26 he gave a second lecture in which he presented an informal review of his work on beta-oxidation.

THE Harben Lectures for 1930 were delivered on October 6, 7 and 8 at the Royal Institute of Public Health, London, by Professor William H. Park, director of the Bureau of Laboratories, Health Department, New York City.

THE British Science Guild announces that the sixth annual Norman Lockyer Lecture will be delivered by Professor Sir William Pope, on November 13.

THE Harveian Oration will be delivered before the Royal College of Physicians of London on October 18 by Professor John Beresford Leathes, F.R.S.

THE American Astronomical Society will hold its forty-fifth meeting in New Haven. The date of the meeting has not been set definitely but it will probably be the latter part of the week December 28 to January 3.

THE Ninth Annual Exposition of Power and Mechanical Engineering is to be held from December 1 to 6 in the Grand Central Palace, New York, N. Y., under the leadership of I. E. Moulthrop, chairman of the advisory committee of the exposition. This year plans call for an exhibit which will include many indications of progress during the year which has already seen numerous mechanical advances.

THE Seventeenth French Congress of Hygiene will be held at the Institut Pasteur, Paris, under the presidency of Professor Delépine, of the Académie de Médecine, from October 20 to 23, it is announced in the *British Medical Journal*. The following subjects will be discussed: the successive changes in the French pharmacopoeias, introduced by the president; comparative statistics of infantile mortality, introduced by Dr. Lesage; the relation of health offices to health inspection, introduced by MM. Aublant and Prunet, and Brocquin-Lacombe and Bennet; and hygiene and reconstruction in the flooded area in the south of France. Lectures will also be delivered by Professor Sacquépée on psittacosis, and by Dr. Dujarric de la Rivière on Lavoisier as hygienist. Further information can be obtained from Dr. Dujarric de la Rivière, Institut Pasteur, Rue Dutot, Paris, XV^e.

MR. EDWARD S. HARKNESS has given to Columbia University \$500,000 to supplement his original gift of \$2,000,000 for a residence hall at the Medical Center.

AN exposition, the object of which will be to demonstrate the general health conditions and progress in physical culture in Switzerland, will be held in Berne next year. The exposition will be divided into groups, as follows: Climatic; climatic and bathing resorts: housing; architecture, popular dwellings, unhealthy houses and quarters, heating systems, cleaning, ventilation, disposal of refuse, drinkable water: food; meat and its food value, unhealthy meat, animal diseases, milk and milk products, frauds and unsanitary handling of food products, sanitary maintenance of stables, vegetables' nutritive value, falsifications: fashions and clothing; history of clothing, methods of examining tissues and colors, irrational and eccentric clothing, industry and trade. Corporal hygiene and sports; physiological effects of hygiene, bathing and baths, sport societies and establishments: labor; protection of workers, safeguards and insurance: infectious diseases; campaigns against epidemics, vermin and parasites: care of sick and ailing; hospitals, clinics, polyclinics, dispensaries, training schools for nurses, National Red Cross. Scientific and medical research; goiter, cancer, intoxication, alcoholism, origin, preparation and use of medicines: child welfare; traffic; sanitary installations, traffic rules, antidust campaign: man; anatomy and physiology, medical and natural science history, racial hygiene and heredity. Statistics; statistics pertaining to hygienic and medical facts: sanitary service of the army: industries and trade; general review of present sanitary and hygienic conditions and facilities.

DISCUSSION

YARDANG AND ZASTRUGA

USING the right term in the right place is like choosing the proper tool for a particular operation in carpentry. Both facilitate good work. Hence this note regarding two terms useful to geologists but somewhat confused in usage and not yet widely employed.

The words *yardang* and *zastruga* denote certain features made by the action of the wind. The first is a native Asiatic word utilized by the explorer Sven Hedin¹ to name the curved and often undercut ridges that the sandblast carves from weakly indurated deposits of silt and sand. Such forms are found in all deserts. The German spelling used by Hedin is "jardang" but the Anglicized form is preferable for English-speaking workers.

Zastrugi (singular *zastruga*) are wind-made ridges of snow, well known to polar explorers and to dwellers in cold regions in general. The Russian word

zastruga means a splinter made by planing a board against the grain.² From that it was modified to designate a sand bank undercut by a stream and also mere sand bars built by currents. In Siberia it came to be used for the low ridges, most of them sharply undercut on the windward side, that are characteristic of snow surfaces abraded by strong winds. The first use of the term in scientific writings, so far as the writer has been able to learn, was in a geographical report by Baron von Wrangel³ who thus referred to the wavy ridges on the snow in the Arctic wilderness. In transliterating into German, the Russian *zastruga* became *sastruga*, and the latter spelling has unfortunately been adopted by most later English and American writers. The Century Dictionary, however, gives only the original and correct form, *zastruga*.

Snow, sand and silt are all mineral deposits of sim-

¹ Sven Hedin, "Central Asia and Tibet; towards the Holy City of Lassa," Vol. I, p. 365, 1903.

² Vladimir Dal, "Explanatory Dictionary of the Russian Language," Vol. I, p. 661, 1880.

³ Baron Ferdinand P. v. Wrangel, "Journey along the North Coast of Siberia," pp. 311-312, 1839.