now under consideration for the polypeptide chains of collagen and gelatin, the analytic treatment is so complex that it resists successful execution, and only the model method can be used. In order that the principles of modern structural chemistry may be applied with the power that their reliability justifies, molecular models must be constructed with great accuracy. For example, molecular models on the scale 2.5 centimeters = 1 angstrom have to be made with a precision better than 0.01 centimeter.

We may, I believe, anticipate that the chemist of the future who is interested in the structure of proteins, nucleic acids, polysaccharides, and other complex substances with high molecular weight will come to rely on a new structural chemistry, involving precise geometrical relationships among the atoms in the molecules and the rigorous application of the new structural principles, and that great progress will be made, through this technique, in the attack, by chemical methods, on the problems of biology and medicine.

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News of Science

New Oral Insulinlike Agent

Preliminary observations with a sulfonamide derivative, which was originally synthesized in Germany, indicated it to be orally effective in controlling the hyperglycemia and glycosuria of patients with the adult form of *diabetes mellitus*. Less consistent beneficial effects have been produced in juvenile diabetics from observations to date. Nondiabetic human subjects may experience symptoms of hypoglycemia in association with the fall of blood-sugar levels. This compound is a bacteriostatically inert aryl sulfonylurea, being developed in the United States by the Upjohn Company, Kalamazoo, Mich., under the trade name of Orinase. It has been found to be similarly active in the intact animal but is without effect in depancreatized or alloxan-diabetic animals.

The mechanism of hypoglycemic action of Orinase remains to be clarified. Some observers favor the concept of insulinase inhibitions; others suggest a suppression of glucagon elaboration to account for its "antidiabetic" action. No disturbance of hypatic or renal functions or evidence of direct sensitivity from Orinase have been reported to date. The use of this compound is at present restricted to investigation of its scope and limitations.—E.M.L.

National Institute of Allergy and Infectious Diseases

An expanded program of research in allergy and infectious diseases has been announced by Leonard A. Scheele, Surgeon General of the U.S. Public Health Service. The program will be administered by the National Microbiological Institute, which is being redesignated the National Institute of Allergy and Infectious Diseases. The renaming of the institute reflects the importance of the new research program on allergies and the close relationship of such research with the study of infectious diseases.

The institute will also support long-term basic studies through grants to research scientists in the universities and medical schools. An increase of $3.3 million will be sought for this program for fiscal year 1957.

A separate national advisory council on allergy and infectious diseases is being established to make recommendations regarding the new grant and training activities. Heretofore, the National Advisory Health Council has advised on grants for infectious disease research as well as on grants for research in other medical and public health fields that are not covered by a specific research institute.

Assistant Director for STIP

Irvin E. Wallen, associate professor of zoology and chairman of biological science courses at Oklahoma Agricultural and Mechanical College, has been granted a year's leave to serve as assistant director of the AAAS Science Teaching Improvement Program (STIP). He assumed his post in Washington on 25 Jan.

Wallen holds a B.A. and an M.A. degree from Oklahoma A. and M. and a Ph.D. from the University of Michigan. He was a teaching fellow at Michigan before he started his full-time teaching career in 1948 as instructor at Oklahoma A. and M. His research has included water pollution studies, and recently he helped the petroleum refiners in Oklahoma to organize a waste-control council.

Wallen's activities at Oklahoma A. and M. especially qualify him for service on the STIP program. He has served on a number of university committees, particularly those concerned with teacher education and the relationship of the college to secondary schools. In addition, during the past year he has been chairman of the science education section of the Oklahoma Academy of Science. One of his responsibilities in STIP will be to work with state academies.

U.S. Geological Survey

In its annual report the U.S. Geological Survey states that the previous achievement records in mapping were exceeded in 1955 by the publication of some 2669 new and reprinted topographic maps. This represents an increase of more than 25 percent over the high record established the previous year. The year's production brought to about 17,000 the number of different maps now

available in the national topographic map series.

Cooperative mapping projects are under way in 30 states. A significant accomplishment of the year was the substantial completion of the topographic quadrangle mapping of Kentucky as a cooperative project. This work, initiated in 1949, represents the largest concentration of mapping operations on a federal-state cooperative basis ever accomplished by the Survey and includes over 700 7½-minute maps at the uniform scale of 2000 feet per inch.

Drilling on public lands during the year included the spudding of 1413 wells and the completion of 1352, of which 937 were productive of oil or gas. In all, 21,758 wells, including 12,433 capable of oil or gas production, were under supervision on 30 June 1955. Production was appreciably greater than in 1954, amounting to about 110,595,718 barrels of petroleum; 260,661,003,000 cubic feet of natural gas; and 211,127,968 gallons of gasoline and butane, with royalty returns to the United States of about $39,222,638.

Under the Federal mineral leasing laws the bureau supervised 1813 mining properties and 110,577 oil and gas properties on Federal, Indian, and "acquired" lands. Total valuation of production amounted to approximately $523,753,229. This was an increase of about 8 percent over the preceding record-breaking year, and produced royalties for division among the states, Indian tribes, the Reclamation Fund, and the U.S. Treasury of $53,676,777.

Atomic Energy Notes

■ A conference to discuss the establishment of an international atomic energy agency will take place in Washington, D.C., on 27 Feb. All the invited countries have agreed to send delegates to the meeting. The participants include Australia, Belgium, Brazil, Britain, Canada, Czechoslovakia, India, France, Portugal, South Africa, and the U.S.S.R. James J. Wadsworth, deputy to the chief United States delegate to the United Nations, is this country's representative. The primary purpose of the meeting will be to consider the text of a draft statute for the new organization, which is to be a special agency under the United Nations.

■ The first cyclotron on the African continent was opened recently by the South African minister of economics. The facility was built by the South African Council of Scientific and Industrial Research at a cost of $280,000.

■ The U.S. Atomic Energy Commission has made public its 19th semiannual report to the Congress.

■ West Germany has started construction of its first plant for production of heavy water. The Farbwerke Chemical Company of Höchst, which is near Frankfurt, has announced that it is building a $1.5 million plant that is expected to be in production in 1957.

Annual Reviews

Annual Reviews, Inc., nonprofit publishing house in Palo Alto, Calif., has expanded so greatly that construction of a $63,000 headquarters building will begin soon. Since its founding 25 years ago by J. Murray Luck, professor of biochemistry at Stanford University, the organization has been housed in the university's physiology building.

Annual Reviews publishes summaries of all the literature in each of nine different fields. The most recent subject to be included in the series is entomology, the first volume of which has just been completed.

The original market for the reviews was primarily academic, but there has been a growing demand from industry. Annual sales last year were $193,000.

News Briefs

■ The U.S. Army Medical Nutrition Laboratory, Denver, Colo., in cooperation with the Quartermaster Research and Development Command, Natick, Mass., is conducting a metabolic balance study on a platoon of 26 soldier volunteers at Fort Churchill, Manitoba, Canada. The object is to determine the caloric and nutrient requirements of human subjects who are exposed to cold and great physical exertion for an extended period of time, and also to study the physiological and biochemical changes that occur. The team from the Nutrition Laboratory includes Leo V. Growley, Lester M. Levy, Billy Welch, C. Frank Consolazio, and seven enlisted laboratory technicians.

■ M. S. Thacker, director of the Indian Council of Scientific and Industrial Research, announced in Calcutta at the end of December the establishment of a Scientific Civil Service for India. The new service has been formed in order to develop a group of men of ability for scientific study and research. At the end of the second Five-year Plan the council will have 21 research laboratories; at present it has 16.

■ Evidence that early man may have roasted elephants more than 29,000 years ago on Santa Rosa Island, 30 miles off the coast of California, has been reported by George F. Carter, professor of geography at Johns Hopkins University. The discovery of burned elephant bones in what is believed to be a man-made fire place was made by an expedition to Santa Rosa that included, in addition to Carter, Philip C. Orr, curator of anthropology at the Santa Barbara Museum of Natural History; Carl L. Hubbs, biology professor at the Scripps Institution of Oceanography; and Wallace Broecker of the Lamont Geological Observatory at Columbia University.

Scientists in the News

T. KEITH GLENNAN has been selected by President Eisenhower for membership on the National Science Board. Glennan, who has been president of the Case Institute of Technology in Cleveland since 1947, is to serve out the unexpired term, ending in May 1958, of Chester I. Barnard, president (retired), Rockefeller Foundation, whose resignation the President has accepted.

NORRIS W. RAKESTRAW, head of the chemistry division of the Scripps Institution of Oceanography, has received the annual $1000 James Flack Norris award of the Northeastern Section of the American Chemical Society. The award, which is for outstanding achievement in the teaching of chemistry, was presented at a dinner on 9 Feb. at Massachusetts Institute of Technology.

H. L. ANTHONY, III, has been appointed director of research at the Mellon Institute and G. A. WEBB the new director of engineering. Both men, who took office on 1 Feb., have held fellowships at the institute.

Anthony, a member of the institute since 1939, is a specialist in metalworking, particularly in pressure vessel technology. He has headed the fellowship on metalworking that is sustained by the Scaife Company of Oakmont, Pa., and since 1947 he has been a member of Scaife's executive committee.

Webb is a chemical engineer for the Koppers Company. He specializes in catalytic operations involving dehydrogenation, chlorination, and polymerization.

EARL W. FLOSDORF, director of research and development for the F. J. Stokes Machine Company, Philadelphia, has just returned from the Territory of Chad in French Equatorial Africa. He was there in connection with a joint project being sponsored by the United States and France to assist the cattle industry. In particular, the purpose of the visit was to instruct in proper lyophilization techniques for the mass production of viral veterinary vaccines.