zymatic processes. From this point of view, increased importance must be attached to the old question of whether the proteinases themselves are proteins or contain proteins as an essential constituent. In the event that the proteinases are not proteins or do not contain proteins, it would be necessary to postulate the existence of another group of substances capable of equal multiplicity of form in order to explain the organization of the numerous individual proteins. If, on the other hand, the individual organizing proteinases are wholly or partially proteins, no special postulates are necessary and the known examples of proteins with catalytic properties would be increased by an additional and extensive group of substances. The intracellular proteinases would then have to be regarded as proteins endowed with the property of catalyzing the formation of specific proteins from the materials at their disposal. This view-point is worthy of discussion, since it leads to interesting consequences and new experiments. If the proteinases themselves are proteins and at the same time have the ability to synthesize other individual proteins, then there must exist proteinases which have the ability to synthesize replicas of their own structural pattern and therefore are able to "multiply" in suitable surroundings. Such a type of proteinase when placed in the presence of a suitable host organism would cause the continuous production of foreign protein. It is evident that this property is similar to that described by Stanley for the tobacco mosaic virus, and it would appear desirable to investigate this and other viruses for possible proteinase activity.

SCIENTIFIC EVENTS

CONGRESSIONAL APPROPRIATIONS FOR SCIENTIFIC WORK

A SUMMARY of legislation enacted by the seventy-fifth Congress is printed in *The New York Times*. A list of appropriations for agriculture and for the work of the Department of the Interior are as follows:

Appropriations of $630,381,208 are made for the Department of Agriculture and Farm Credit Administration for the fiscal year 1938.

Among the major items are $6,232,500 for agricultural experiment station payments to states, Hawaii, Alaska and Puerto Rico; $1,200,000 for the department's special research fund; $13,690,672 for the Agricultural Extension Service; $4,703,049 for the Weather Bureau; $10,373,098 for the Bureau of Animal Industry; $703,694 for the Bureau of Dairy Industry; $4,833,048 for the Bureau of Plant Industry; $18,892,182 for the Forest Service; $1,425,431 for the Bureau of Chemistry and Soils; $5,711,398 for the Bureau of Entomology and Plant Quarantine; $2,127,840 for the Biological Survey; $167,500,000 for the Bureau of Public Roads; $6,212,698 for the Bureau of Agricultural Economics; $500,000 for the enforcement of the Commodity Exchange Act; $2,227,758 for the Food and Drug Administration; $24,390,780 for the Soil Conservation Service; $340,000,000 for carrying into effect the provisions of the Soil Conservation Act plus not to exceed $100,000,000 for that purpose of the funds made available for the fiscal years 1937 and 1938 by Section 32 of the Act of August 24, 1935; $12,500,000 for forest roads and trails; $4,000,000 for the Farm Credit Administration plus $2,950,000 from funds made available under Section 5 of the Emergency Crop Loan Act of 1934; $15,000,000 for the Federal Farm Mortgage Corporation.

Appropriations of $132,732,499.85 for the various activities of the Department of the Interior during the fiscal year 1938 include $14,483,000 for vocational education; $13,000,000 for the Grand Coulee Dam project; $12,500,000 for the Central Valley reclamation project in California; $3,050,000 for the Boulder Dam, plus $1,500,000 for the All-American Canal phase of that project; $1,500,000 for the Yakima, Wash., reclamation project; $1,000,000 for the Boise, Idaho, reclamation project; $900,000 for the Colorado-Big Thompson tunnel project in Colorado; $700,000 for the Gila reclamation project in Arizona; $750,000 for the Provo River reclamation project in Utah; $500,000 for the Owyhee project in Oregon; $650,000 for the Casper-Alxova reclamation project in Wyoming; $700,000 for the Shoshone reclamation project in Wyoming, and $500,000 for the Colorado River irrigation project.

THE LEVERHULME FELLOWSHIPS IN GREAT BRITAIN

AWARDS of thirteen Leverhulme research fellowships in 1937 and fourteen grants to research workers have been announced.

The awards in the sciences are as follows:

D. H. BANGHAM, professor of inorganic chemistry, Egyptian University, Cairo. The wetting of solid surfaces and the phenomena of spreading liquids thereon.

MISS D. E. CHARLES, research fellow, department of social biology, London. The mechanism of population decline with special reference to Scottish population problems.

C. W. DAVIES, senior lecturer in chemistry, Battersea Polytechnic. Adsorption at liquid surfaces.

J. R. FIRTH, senior lecturer in phonetics, University College, London. Research in the phonetics of four principal languages of India.

O. V. S. HEATH, research worker, Institute of Plant Physiology, London. Study of carbon assimilation by the green plant.

J. DE GRAAFF HUNTER, lately director, survey of India, Leverhulme research fellow. Planning and execution of geodetic triangulation of great extent. (Renewal of present fellowship.)

G. W. B. HUNTINGFORD, farmer, Kenya Colony, mem-

ber, Nandi Land Trust Board, government examiner in Nandi language. Research on the sociology of the Dorobo, a forest people of Kenya.

J. W. H. LUGG, West Australia, biochemist, Imperial College, London. Preparation and amino-acid analysis of pasture plant proteins.

J. P. M. PRENTICE, solicitor. The study of meteors and meteor streams.

H. SCOTT, assistant keeper, department of entomology, British Museum. Biogeographical research on the fauna of the highlands of southwestern Arabia.

G. SELIGMAN, chairman, British Group, International Commission of Snow. To examine the transition of firm snow into glacier ice.

H. W. THOMPSON, departmental demonstrator, University Museum, Oxford. The correlation of data derivable from the spectra of polyatomic molecules with chemical problems.

Grants in aid of scientific research have been made to the following:

MISS E. M. LIND HENDRICKS, research worker, Imperial College, London. Geological research in Cornwall.

F. H. LAWSON, fellow and tutor, Merton College, Oxford. Modern civil law in contact with English law.

G. MANLEY, senior lecturer in geography, Durham University. A study of the helm wind of the Northern Pennines.

R. E. MORTIMER WHEELER, keeper, London Museum. Origins in Northern France of later prehistoric civilizations of Britain.

M. WILSON, reader in botany, University of Edinburgh. A comparative study of the diseases of the Douglas fir in Europe and North America.

THE ANNUAL SCIENCE EXHIBITION

ALREADY we may forecast that the annual science exhibition in connection with the Indianapolis meeting of the American Association for the Advancement of Science will be a distinctive attraction. The exhibition will be held in Murat Theater along with registration and general sessions. The different societies will be meeting only a few blocks away, except for the mathematical groups, which will be in session at Butler University.

In order to encourage members to make early plans to go to the annual meeting, some of the important exhibits may be announced at this time. Professor A. H. Compton will have a display of charts and diagrams showing compiled results in recent cosmic ray measurements on the Pacific Ocean and at various observatories in cooperation with the Carnegie Institution of Washington. Also a new set of counting tubes for the measurement of cosmic rays underground will be shown. These large diameter tubes are about one meter long and have a counting rate of 3,000 per minute. They will be used with four-fold coincidence as developed by Volney Wilson.

Professor Harold C. Urey will place on exhibit samples of water which have an increased concentration of the 0^{18} isotope approximately four and one half times that of natural water. Also there will be very sizable samples of ammonium chloride whose nitrogen contains as high as 2.5 per cent. of N^{15}, being a six and one half fold increased concentration of this isotope. These samples have been prepared by the distillation of water and by a chemical exchange reaction between ammonium ion and ammonia gas. Diagrams will be shown illustrating the method used, and there will be exhibits illustrating the method of the researches and the progress made in using these materials.

Scientific results of observations of the total eclipse of the sun of June 8, 1937, by the National Geographic Society-U. S. Navy Expedition to Canton Island, in the mid-Pacific, and new types of equipment used by the expedition will be featured in the exhibit by the National Geographic Society. Dr. S. A. Mitchell, director of the McCormick Observatory of the University of Virginia was scientific leader, and Captain J. F. Hellweg, superintendent of the U. S. Naval Observatory, was in charge of the Navy's participation. Among the equipment to be shown will be the first "polaroid camera" ever successfully used at a solar eclipse, with which Dr. F. K. Richtmyer, of Cornell University, obtained important polarization measurements, and a 14-foot camera with a special attachment to make improved photographs of the sun's corona. This was designed by Dr. Irvine C. Gardner, of the National Bureau of Standards. Enlarged photographs of the sun's corona and other features of the eclipse together with pictures of the eclipse in color and scientific data obtained by the expedition will also be included. Additional personnel included: Dr. Paul A. McNally, S.J., director, Georgetown College Observatory; Dr. Theodore Dunham, Jr., Mount Wilson Observatory; Charles G. Thompson, president, Foundation for Astrophysical Research, New York; John E. Willis, U. S. Naval Observatory; Charles Bittinger, artist, Washington, D. C.; Richard H. Stewart, staff representative, National Geographic Society; Walter Brown, radio engineer, New York City; M. S. Adams, radio engineer, San Francisco; George Hicks, radio announcer, all of the National Broadcasting Company; Lieutenant Herman A. Gross, U. S. Navy surgeon, and Lieutenant T. B. Williamson, commander of the *Avocet*, the expedition's ship.

The Museum of Science and Industry, Chicago, hopes to make a friendly gesture to the American Association for the Advancement of Science by having an exhibit of peculiar interest, and having the purpose of broadening the interest in science.

The writer hopes that all members of the associa-