phone Company, Limited, and the Marconiphone Company, Limited, occupied a whole room. A model was shown of a photographic sound-recording system. The system comprises a glow lamp, the brilliance of which is modulated by speech currents from the studio microphone. A slit of light from this lamp, after traversing an optical system which reduces the image of the slit to the required dimensions, impinges on a reel of film and makes a record of the variable density type. Another H. M. V. exhibit showed a method of reproducing physically the conditions in record grooves of any desired type. The apparatus enables groove conditions to be magnified 400 times, and by its use the behavior of needles at various stages of wear and under any required groove conditions can be felt and examined at leisure. Among numerous exhibits from the research laboratories of the General Electric Company, Limited, was a model of a photo-electric street lighting unit, so designed that as daylight fails lamps are automatically illuminated. The apparatus is being tested practically in a street at Wembley. Another model illustrated a transmission tower testing plant for the load testing of overhead transmission of current—a topical exhibit in view of the proposals for the distribution of electricity by means of towers and cables. Other bodies represented in the section included the British Research Association for the Woollen and Worsted Industries, which has an instrument for measuring the thickness of fabrics, and the Gas Light and Coke Company, Limited.

The apparatus for the historical section of the exhibition was selected this year to illustrate experiments of historical importance on the determination of the mechanical equivalent of heat, and some points in the evolution of thermometers. The thermometers included reconstructions of the earliest known instruments for demonstrating the expansion of air by heat, the thermoscopes described by Philo of Byzantium (300 B. C.) and Hero of Alexandria. There was also a photograph of Galileo's thermoscope.

Three evening discourses were arranged in connection with the exhibition. Lord Rayleigh gave an address on "Iridescent colors in nature from the standpoint of physical optics"; Mr. S. G. Brown on "Gyro compasses for gunfire control," and Sir Ambrose Fleming on "The present and future of television."

THE FOREST SURVEY

THE U. S. Department of Agriculture has issued a statement announcing the promotion by the United States Forest Service of District Forester C. M. Granger, of the Pacific northwest district, to the position of head forest economist in charge of the nation-wide forest survey now being launched by the Forest Service.

The forest survey, authorized by the McSweeney-McNary Act of 1928, is one of the most important undertakings in the development of forestry thus far undertaken. It will be a comprehensive appraisal of existing forest supplies and conditions, growth and requirements, and of present and future trends, all of which, when properly coordinated, will constitute a fundamental and economically sound basis for determining federal, state and industrial forest policies and programs. Congress has authorized a federal contribution of $3,000,000 to the project. A small initial appropriation of $40,000 is available this year.

Success in developing the project will depend upon widespread cooperation with federal and state and industrial and other private agencies. Certain phases of the survey, such as the forest resource inventory and the study of growth, will be handled by the regional forest experiment stations under the general direction of Mr. Granger.

Because of its outstandingly complex and important forest problems, the Pacific northwest has been selected as the region for the beginning of intensive work. The Pacific northwest forest experiment station, of which T. T. Munger is director, has already commenced preliminary work. The study will be extended as rapidly as possible to other forest regions, and will eventually cover the entire United States.

Another step already taken is a canvass, in cooperation with the U. S. Bureau of the Census, of the wood requirements of the wood-using industries, as a part of the present and future wood requirements phase of the survey. Advance cooperative work also is being initiated in the Lake States region.

The agricultural appropriation bill now before the Congress carries an increase of $85,000 for the forest survey for the next fiscal year. It is planned to use $50,000 of this to expand the work in the Pacific northwest, $25,000 to initiate intensive work in the southern hardwood region and $10,000 for individual assignments.

Mr. Granger is a graduate in forestry of Michigan Agricultural College. He entered the Forest Service in 1907, serving successively as deputy supervisor, supervisor, and assistant district forester in charge of the offices of silviculture and of operation in the Rocky Mountain district. During the war he served with the Tenth Forestry Engineers, attaining the rank of major. In 1924 he became district forester of the Pacific northwest district. He will enter his new work with a wide experience in the development of silvicultural policies, management plans, fire protection plans and with a comprehensive understanding of the economic aspect of forestry.

Mr. Granger assumes his new duties immediately, with headquarters temporarily in Portland, Oregon.

The Forest Service also announces the appointment of Horace J. Andrews as senior forest economist, to become regional project leader for the Pacific northwest. Mr. Andrews is a graduate of the University of Michigan and received the M.S. degree in forestry from that institution in 1916. He was formerly employed in the U. S. Forest Service, and later engaged in private forestry work and in teaching at three forest schools. He was closely associated with the development of the Michigan land economic survey, and more recently has been in charge of the divisions of protection and lands in the Michigan department of conservation.

RADIO TALKS ON SCIENCE IN THE KITCHEN

EACH year since 1925 Mellon Institute of Industrial Research has been giving a series of radio talks, broadcast from the University of Pittsburgh Studio of the Westinghouse Electric & Manufacturing Company's Station KDKA. Each of the five series presented so far has been published in booklet form; three of these publications are really text-books of home economics and, in fact, are being widely used in domestic science courses.

In order to supplement these series of talks, the Mellon Institute has decided to schedule eight radio discourses on "Science in the Kitchen," on the Fridays of February and March, at 5:45 P. M., from the University of Pittsburgh Studio of Station KDKA. They will subsequently be published by the university. In general, the new series will relate to the selection, care and service of foods, and each talk will be given by a research specialist of the institute.

The complete program is as follows:

Date in 1930	Subject	Speaker
Feb. 7	"The Well Planned Kitchen"	Dr. Geo. D. Beal
Feb. 14	"The Intelligent Purchasing of Foods"	Dr. W. W. Duecker
Feb. 21	"The Care of Food in the Home"	Dr. E. W. Morrison
Feb. 28	"Good Proportions of Foods"	Dr. G. J. Cox
Mar. 7	"The Uses of Milk in the Home"	Dr. L. W. Bass
Mar. 14	"Good Meals by the Young Homemaker"	Mr. E. R. Harding
Mar. 21	"Food for Young Children"	Dr. R. N. Wenzel
Mar. 28	"School Lunches"	Dr. R. F. Beard

ANNUAL REPORT OF THE YALE SCHOOL OF MEDICINE

TRAINING of physicians and humanitarians, rather than doctor-technicians, is described as the prime objective of the Yale School of Medicine, in the annual report of Dean M. C. Winternitz to the president and fellows of Yale University. Such an aim is said to necessitate the study of man in his entirety, and great strides in the direction of making this possible were taken during the past year. Of first importance was the formation of the Human Welfare Group, with the Institute of Human Relations as the integrating agent, bringing into close contact various university divisions engaged in the study of individual and social conduct.

Gifts equivalent to $9,900,000 were obtained by the university during the year to meet financial requirements aggregating $15,500,000 for the stabilization of the activities of the group. Most of the gifts were designated for the work of the Institute of Human Relations. There was also included, however, the sum of $2,000,000 for erection of a clinic building and the medical and pediatrics laboratory on the grounds of the New Haven Hospital, and construction of these units is well under way.

During 1929, the Farnam Memorial Building, Lauder Hall and the Brady Memorial Laboratory, on the hospital grounds, were completed at a cost of $1,250,000, and the Raleigh Fitkin Memorial Pavilion for children, to cost $600,000, is nearly ready for occupancy.

With this progress in building construction have gone developments which will enable the Yale School of Medicine better to take its part in forwarding the plan for studying man from the mental, social and physical point of view. The work in psychiatry and mental hygiene has been strengthened both by additions of personnel in the fundamental sciences underlying study of the mind, and by adding representatives of the various aspects of treatment and prevention of mental disease. A number of appointments were made following Dr. Winternitz's visit last spring to the European clinics for the study of the central nervous system.

Not only is the mind to be taken into consideration by the Yale School of Medicine in dealing with all its problems of health, but economic and social factors as well, the study of these latter factors to be furthered by cooperation, through the Institute of Human Relations, with the university divisions of the social sciences. Furthermore, the School of Medicine is to devote its attention not alone to the sick in mind and body, but also to the well, with the aim of keeping people from getting sick. The report says:

> Not only is the negative side of well-being important, but the positive must also be understood. Furthermore, no one is so efficient that further assistance in one or another direction might not be advantageous. Too long has