the benefit of hydro-electric development and for municipal and community water supply.

The gross extent of the new purchase areas approved is 3,227,000 acres, but only about 2,326,000 acres have been classed as purchasable, since the wooded lands are interspersed with many small fertile valleys and farms, and developed areas which will not be purchased.

The new areas are largely mountainous and formerly were covered with vast forests of mountain hardwood, usually mixed with pine and hemlock. In some areas there are stands of spruce. A few small patches of virgin timber remain. Larger lumbering operations in the region have been followed in many places by small portable mills, and in most instances not much attention has been paid to forest reproduction. Fires have ravaged the lands and seriously damaged the young growth.

Industries that can be aided by the protection and development of timber stands in the region include pulp and paper mills, wood-using factories of various kinds, rayon mills and other factories depending more or less upon the forest products.

Purchases in the new unit and the current additions as approved will be made with a portion of the $20,000,000 allotted from Emergency Conservation Work funds by President Roosevelt last summer for the purchase of lands for the national forests in the East as an emergency relief measure. Acquisition in the new areas will be subject to the same policy as in areas previously established by the commission and will not be given prior status. That is, the remaining unexpended portion of the fund will be apportioned for use among all the units established in the East.

## COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY

THE Cold Spring Harbor Symposia on Quantitative Biology will be continued at the Biological Laboratory this year during July with a consideration of some aspects of growth. It will be recalled that the conference-symposia were inaugurated last year as a further method of fostering a closer relationship between biology and the basic sciences, mathematics, physics and chemistry. Representatives of these sciences are invited to join with biologists during July in the discussion of some aspect of biological research.

A small number of participants are in residence throughout the whole month, or an appreciable part of it, while others are invited to present papers and take part in discussions without being in continuous residence at Cold Spring Harbor.

The former this year include: George L. Clark, chemistry, University of Illinois; Charles B. Davenport, genetics, Department of Genetics, Carnegie Institution of Washington; M. Demerec, genetics, Department of Genetics, Carnegie Institution of Washington; Hugo Fricke, biophysics, The Biological Laboratory; Hans Mueller, physics, Massachusetts Institute of Technology; Otto Rahn, bacteriology, Cornell University; Nicolas Rashevsky, physiology, University of Chicago; Victor C. Twitty, embryology, Stanford University; Harold C. Urey, chemistry, Columbia University.

Participants not in continuous residence include: W. T. Astbury, textile physics, The University, Leeds (paper to be read by Dr. Clark); Felix Bernstein, mathematical statistics, Columbia University; H. W. Chalkley, physiology, National Institute of Health, Washington; J. W. Gowen, biology, Rockefeller Institute, Princeton; F. Gudernatsch, biology, New York University; F. S. Hammett, physiological chemistry, Research Institute, Lankenau Hospital; Theo. L. Jahn, biology, Yale University; L. G. Longsworth, physical chemistry, Rockefeller Institute for Medical Research; Charles Packard, zoology, Columbia University; Oscar W. Richards, biology, Yale University; Charles R. Stockard, anatomy, Cornell Medical College; C. Voegtlin, pharmacology, National Institute of Health, Washington; C. P. Winsor, physiology, Harvard University; Sewall Wright, zoology, University of Chicago; Ralph W. G. Wyckoff, biophysics, Rockefeller Institute for Medical Research.

The building up of the discussion on the aspects of growth under consideration this year will probably be of interest both from the point of view of the method in general and of this year's conference-symposia in particular.

The physical background is supplied by discussions of the following aspects by the men indicated: the structure of liquids and solids, Mueller; the principles of crystal growth, Clark; ultra-violet photography as a means of studying crystal growth and cell structure, Wyckoff; x-ray studies of protein structure, Astbury; the chemical-physical foundation of the biological activities of x-rays, Fricke; the effects of x-radiation upon cell growth and structure, Clark; diffusion in cell models and volume changes analogous to growth, Longsworth; possible uses of heavy water in the study of biological phenomena, Urey.

Physico-mathematical aspects of cellular multiplication and development will be discussed by Rashevsky, mathematical analysis of growth of mixed population, by Winsor, and a critique of curves of growth and of relative growth will be given by Davenport.

The chemistry of growth receives considerable attention in the following: building materials and energy, and the growth mechanism, both by Rahn; natural chemical factors in growth and development, Hammett; observations concerning the chemistry of cell growth and division, Voegtlin and Chalkley, and

specific chemical factors influencing vertebrate growth and differentiation, Gudernatsch.

The genetics of growth is to be considered particularly in discussion of the gene in relation to growth and development, Demerec; internal constitution and genic factors in growth determination, Stockard; the gene as a factor in pathology, Gowen, and the genetics of abnormal growth in the guinea pig, Wright.

Other specific biological aspects of growth are to be discussed: growth and structure of plant tissues with special reference to cellulose, Clark; growth correlations in amphibia studied by the method of transplantation, Twitty; mitogenetic rays, Rahn; growth of yeast, Richards, and population growth in protozoa, Jahn.

Certain biological aspects (biological dosimeters) of x-radiation in growth and in other phenomena will be considered by Packard. Bernstein will discuss growth and decay generally, and Rahn the chemistry of death.

Such, in practise, is this year's development of the more formal part of Cold Spring Harbor conference-symposia on quantitative biology. Investigators interested in taking part in the discussion may obtain programs from the Biological Laboratory at Cold Spring Harbor.

## HONORARY DEGREES AT YALE UNIVERSITY

TWELVE honorary degrees were conferred by Yale University at the two hundred and thirty-third commencement. These included the doctorate of laws, conferred on President Roosevelt, on Dr. William Lyon Phelps and on Dr. James Bryant Conant, and the doctorate of science conferred on Dr. Frederick George Keyes and Dr. Adolf Meyer. The degree of master of science was conferred on John Levi Rice, formerly of New Haven, now commissioner of health of New York City.

The candidates were cited by Professor Phelps and the degrees were conferred by President Angell.

The citations made in conferring the degrees on President Conant, Professor Keyes and Professor Adolf Meyer were as follows:

JAMES BRYANT CONANT, LL.D.

*Professor Phelps:*

President of Harvard.

Born in Dorchester, Massachusetts, March 26, 1893, Dr. Conant took his B.A. at Harvard in 1913, Phi Beta Kappa and his doctor's degree in 1916. He began to teach there the same year, and proceeded through the grades of instructor, assistant professor, associate professor, to the professorship of organic chemistry in 1927. He was the head of that department until he became head of the university. His researches in chemistry were recognized everywhere by those competent to judge; in 1932 he received the Chandler Medal from Columbia University and in the same year the Nichols Medal from the American Chemical Society. In 1924 he was visiting lecturer at the University of California and in 1927 research associate of the California Institute of Technology at Pasadena.

But although learned specialists are proud of his distinction as a scientific investigator, the world is not particularly interested in that. When at the age of forty, he was elected president of Harvard, every one who did not have the privilege of his acquaintance wanted to know what kind of a man he was.

Well, serious students who took his courses, and those who were not serious took something else, found him not only an admirable teacher, but an intimate associate. He spent much time with individual students, and seemed to understand both them and their problems. That is to say, he was interested both in the subject and in the object. In matters requiring practical judgment and executive ability, his qualities have been admired by his associates for a long time.

One can not help thinking of the election to the presidency of Harvard of another young professor of chemistry, in 1869. It is the universal wish that President Conant may have as long a time in office as his scientific predecessor enjoyed; that such length of service will again be of great service to Harvard and to the cause of education everywhere, is the universal belief.

His own words on taking office may fitly be quoted today: "May I have skill and patience to continue the bold advance, and courage and steadfastness sufficient for my duty in these uncertain times. . . . I pledge my entire strength and devotion to the leadership of this community of scholars and students, that knowledge and understanding may be increased and transmitted to the youth of our country."

We know that both scholarship and citizenship are safe in his hands. During his entire career he made only one mistake, and that is now about to be rectified.

*President Angell:*

Eminent chemist, foregoing a brilliant scientific career to heed the imperative call to leadership of the most venerable of American universities, Yale manifests her profound confidence in your future achievement and her filial respect and admiration for the noble institution whose destinies now lie so largely in your hands by conferring upon you her highest honor, the degree of Doctor of Laws, admitting you to all its rights and privileges.

FREDERICK GEORGE KEYES, SC.D.

*Professor Phelps:*

Physical chemist. Born in Kingston, Canada, he took his bachelor of science degree at Rhode Island College, and his master's and doctor's degrees at Brown University. He is professor of physical chemistry research at the Massachusetts Institute of Technology, chairman of the department of chemistry and director of the George Eastman Research Laboratory. He is to-day the most prominent American investigator in the field of thermodynamics. His particular contribution is the interpretation of the thermodynamic properties of gases and liquids from the point of view of intramolecular forces