

and to administer these lands as permanent national forests. An appropriation of \$2,000,000 is made annually until July 1, 1915, for the examination and acquisition of these lands, together with \$25,000 additional annually for the expenses of the commission.

Eliminating the deficiency appropriations and that for the Forest Reservation Commission, these various appropriations, which are intimately connected with the work of the department, would, if added to the regular appropriations, make a grand total of \$22,570,016. This is a large sum, but as was pointed out by Chairman Scott in concluding the presentation of the bill, "the money appropriated for the Department of Agriculture is an investment and not an expense. And that it has been a good investment the statistics showing the expansion of agriculture and the improvement in methods throughout our country bear eloquent witness. During these past ten years, while the Department of Agriculture has been expending \$90,000,000, the farmers of the United States have added to the wealth of the world the stupendous and incomprehensible sum of \$80,000,000,000. Without anything like a corresponding increase in the area of land under cultivation, the value of the farm products of our country has risen from slightly more than \$4,000,000,000 ten years ago to nearly \$9,000,000,000 in 1910.

"The conclusion is inevitable, therefore—and that conclusion could be made incontestable by innumerable other proofs if time permitted—that the farmers of America are applying better methods and getting better results from their labors than ever before. And in devising these better methods, in pointing the way for better results, the Department of Agriculture has been the undisputed leader, as it should be, and has thus beyond cavil or question derived from the money it has expended a percentage of profit to all the people which can not be calculated."

**APPROPRIATIONS FROM THE BACHE
FUND OF THE NATIONAL ACADEMY
OF SCIENCES**

DURING the past year the following grants

have been made from the Bache Fund of the National Academy of Sciences:

May 20, 1910. Franz Boas	\$300
Investigation of head-forms of new-born children.	
May 20, 1910. John A. Parkhurst	500
Photometric and spectroscopic survey of circum-polar stars.	
June, 1910. Louis T. More	500
Continuation of investigation on discharge of electricity through gases; radioactivity and electro-magnetic action (second appropriation; first made in May, 1908).	
December 9, 1910. S. F. Acree	400
Investigation of reactions of alkyl halides with sodium ethylate.	
January 25, 1911. P. W. Bridgman	500
Effects of high pressure; variation of freezing point of liquids with pressure; compressibility of liquids and solids; and mechanical properties of metals.	
February 2, 1911. Francis B. Sumner	250
Experiments on effects of external conditions on growing white mice.	
April 17, 1911. E. W. Washburn	200
To prepare and measure the specific conductance of pure water.	
April 17, 1911. Gilbert N. Lewis	500
The determination of the electrode potentials of the alkali metals and of the metals of the alkaline earths.	
April 17, 1911. Charles C. Adams	125
For the expense of completing and preparing for publication a paper entitled "The Geographic Variations and Relations of CO."	

SCIENTIFIC NOTES AND NEWS

COLUMBIA UNIVERSITY has conferred its doctorate of laws on Professor C. F. Chandler, who retires this year from the chair of chemistry after forty-seven years of active service.

SIR WILLIAM T. THISTLETON-DYER, formerly director of the Kew Botanic Gardens, will receive the honorary doctorate of science from Oxford University on June 28.

DR. C. S. SARGENT, director of the Arnold Arboretum, Harvard University, has been elected an honorary member of the Société Nationale d'Acclimation de France, and an honorary member of the Royal Irish Academy.

DR. JOSEPH H. WHITE, of the U. S. Public Health and Marine Hospital Service, was elected president of the American Society of Tropical Medicine at its recent New Orleans meeting.

THE trustees of the Jefferson Medical College, Philadelphia, on the recommendation of the faculty, have elected Dr. Warren B. Davis as the Corinna Borden Keen research fellow of the college. This election carries with it an award of \$1,000 for the purpose of a year's research work in Europe upon any subject approved by the faculty.

A GRANT of two hundred dollars has been made from the C. M. Warren Fund of the American Academy of Arts and Sciences to Dr. S. F. Acree, Johns Hopkins University, for the study of the physical and chemical properties of pure ethyl alcohol. A grant, amounting in all to one hundred and fifty dollars, has also been made to Dr. J. E. Gilpin, Johns Hopkins University, in aid of his work on the study of the nature and source of petroleum, which involves results on the fractionation of petroleum by means of selective absorption by porous materials, such as fuller's earth.

CURATOR BASHFORD DEAN, of the department of ichthyology and herpetology in the American Museum of Natural History, has been appointed the official representative of the museum at the twenty-second annual conference of the Museums Association, which will be held in Brighton, England, from July 10 to July 15, under the presidency of Mr. H. M. Platnauer, B.Sc., and at the one hundredth anniversary of the founding of the Universitas Regia Fredericiana at Christiania, which is to take place on September 5 and 6.

PROFESSOR ALBERT JOHANSEN, of the department of geology of the University of Chicago, will sail from Montreal on the seventeenth of this month to inspect the petrological laboratories of the principal European Universities.

DR. C. H. SHATTUCK, head of the department of forestry at the University of Idaho, will during the coming summer conduct a

forestral and floral survey of the Kaniksu National Forest. This survey will be similar to that conducted by him last summer on the Clearwater National Forest. The party will consist of twelve men with headquarters at Coolin, Idaho.

SIR JOHN MURRAY lectured before the California chapter of Sigma Xi on May 11 on "The Floor of the Ocean," using illustrations from the recent cruise of the Norwegian steamer *Michael Sars* in the Atlantic.

THE annual public address before the University of Michigan chapter of the society of the Sigma Xi, was delivered, June 2, by Professor J. Playfair McMurrich, of the University of Toronto, the subject of the address being "Sir Francis Galton, his Life and Work." Professor F. G. Novy was elected president of the chapter.

AN address on "The Evolution of Human Teeth and their Racial Differences," was delivered by Dr. A. Hrdlicka, of the Smithsonian Institution, on June 1, at Toronto, under the auspices of the Ontario Dental Society, and on June 27 before the Alumni of the dental department of the University of Buffalo. On May 25 a similar address was given by Dr. Hrdlicka before the Maryland State Dental Association, at Baltimore.

MR. A. D. DARBISHIRE has been appointed to the newly instituted lectureship in genetics, at the University of Edinburgh, and will deliver a course of six lectures on heredity during the summer session.

THE statue to Captain Cook, the plans for which have been noted in SCIENCE, will be placed on the Mall side of the Admiralty arch, on the right hand going towards Charing Cross. The execution of the statue has been entrusted to Sir Thomas Brock.

THE executive committee on the Chiene portrait fund has resolved to hand to the University of Edinburgh the balance of the fund, about \$1,500, for the foundation of a bronze medal, to be called the "Chiene Medal in Surgery."

DR. EDWARD BURNETT VORHEES, professor of agriculture at Rutgers College and direc-

tor of the N. J. Agricultural Experiment Station, known for his important contributions to agricultural chemistry and agricultural education, died on June 6, aged fifty-four years.

PROFESSOR WILLIAM RUSSELL DUDLEY, since 1893 professor of botany in Stanford University, died on June 4, aged sixty-two years.

MRS. EMMA WILSON DAVIDSON MOOERS, custodian of the neuropathic collection of the Harvard Medical School, previously assistant pathologist in the Worcester and Maclean Hospitals, died on May 31.

THE death is announced of Mr. Robert Service, of Dumfries, Scotland, who while conducting the work of a nursery made valuable contributions to ornithology.

THERE is existing a vacancy in the position of physical chemist in the Bureau of Mines, Department of the Interior, at Washington, D. C. This position requires a high order of scientific training equivalent to that required by the leading American universities for a professorship in physical chemistry. A man is wanted who will be able to organize, to participate in, and to supervise the physical and chemical investigations of problems that serve as a basis for modern metallurgical methods, especially the problems connected with the ores, operations and products of modern smelters. The government is endeavoring to find the best man available for this work and has no particular individual in view. The methods of procedure will be similar to those of an educational institution or business organization, whose board of trustees or governing officers desire to fill professional or technical positions. The qualifications and fitness will be determined by an impartial board of scientific men. The entrance salary for this position is \$4,000 per annum. There is also existing a vacancy in the Bureau of Mines in the position of chief mechanical engineer at an entrance salary of \$4,800 per annum. For this position it is desired to secure a man who will be able to participate in and supervise the various mechanical engineering problems appropriate to

the work of the Bureau of Mines, including investigations looking to a greater efficiency in the utilization of mineral fuels at the various heating and power plants of the government in different parts of the country, and the mechanical problems connected with various mining operations. Qualified persons who are interested in these positions are invited to communicate with the U. S. Civil Service Commission, Washington, D. C., at an early date, since the selections will be made about the middle of July.

ACCORDING to a bulletin issued by the Bureau of Statistics the month of May was not, on the whole, very favorable for crop growth, drouthy conditions having prevailed over a great portion of the United States. In consequence the average condition of crop growth in the United States on June 1 was 2.8 per cent. below the average condition on that date. Some relief from the unfavorable conditions came at the close of May and first part of June. A comparison of the conditions of various crops on June 1, with their average growing condition on June 1 of recent years (past ten years for most crops) is shown as follows (100 representing average conditions and not normal): cotton 108.5, sugar beets 103.2, apples 102.5, raspberries 101.8, spring wheat 101.1, watermelons 100.6, pears 99.7, cantaloupes 99.6, blackberries 99.5, sugar cane 99.5, barley 99.2, winter wheat 98.5, rye 98.2, oats 96.9, alfalfa 96.1, onions 95.5, lima beans 92.5, cabbage 91.0, pastures 90.2, hemp 89.0, clover hay 84.6, all hay 85.1, peaches 83.5. The above figures relate only to relative growing conditions, not taking into account changes in acreages. Taking into account both acreage and condition, indications are for about 9.9 per cent. larger wheat crop than was produced last year, and 10.2 per cent. larger than the average of the past five years; oats crop 13.3 per cent. less than last year, but 4.8 per cent. more than the average of the past five years; barley 8 per cent. more than last year, and 5.3 per cent. more than the five-year average. Total areas have not been estimated for the other crops, except that the rye area planted is about 1.2 per cent. less

than last year. Clover (for hay) acreage 6.3 per cent. less and sugar cane acreage 0.4 per cent. more than last year.

UNIVERSITY AND EDUCATIONAL NEWS

THE Harvard Medical School has been bequeathed \$22,000 by the will of the late Professor Samuel Hubbard Scudder, the eminent entomologist.

GOVERNOR DIX has signed a bill that appropriates \$235,000 for the state colleges of Cornell University. The Veterinary College receives \$140,000 for a new building and \$50,000 is appropriated for a heating plant. This bill is independent of the annual bill for maintenance, which has not yet been passed.

At the Bryn Mawr College commencement announcement was made of a bequest of \$150,000 from Phoebe Anna Thorne, of New York, who died in 1909, to endow an associate professorship of education and the Phoebe Anna Thorne Model School to be conducted by the college as an experimental high school in connection with a graduate school of education.

COLUMBIA UNIVERSITY has received a gift of \$10,000 annually for five years from Mr. Charles H. Davis, C.E. ('87), for the support of advanced instruction in highway engineering and Professor Arthur H. Blanchard, of Brown University, has been appointed professor of highway engineering. Among other gifts announced are \$45,000 from the committee appointed to raise the Richard Watson Gilder Memorial Fund to establish the Gilder fellowships in good citizenship; \$33,133 from the committee appointed to raise the William T. Bull Memorial Fund, to establish a fund for research in surgery, and \$20,000 from an anonymous donor for the equipment of the research laboratories in electro-mechanics.

DR. EUGENE A. NOBLE, president of Goucher College, has been elected president of Dickinson College.

MISS ELLEN FITZ PENDLETON, dean, acting-president and associate professor of mathematics of Wellesley College, has been elected president of the institution.

DR. MICHAEL I. PUPIN, professor of electro-mechanics in Columbia University, has been

designated to serve as director of the Phoenix Research Laboratories. In this capacity, Professor Pupin will be in general charge of the development of the research work in the department of physics.

IN the School of Education of the University of Pittsburgh the following appointments have been made: Henry Davidson Sheldon, dean of the School of Education in the University of Oregon, has been made professor of the history of education. Dr. Sheldon will spend next year in Europe on leave of absence and will take up his work in Pittsburgh in the fall of 1912. Charles Barr Robertson, director of the schools of practise and professor of psychology and education in the Cortland, N. Y., State Normal School, has been called to the professorship of secondary education, and will organize and direct the practise teaching and the cooperative relations of the high schools and the university.

THE Johnston scholarships, of the Johns Hopkins University, "offered primarily to young men who have given evidence of the power of independent research," have been awarded by Johns Hopkins for 1911-12 to James Ryals Conner, Ph.D., in mathematics; Franklin Edgerton, Ph.D., in Sanskrit, and Joseph T. Singewald, Jr., Ph.D., in geology. The Adam T. Bruce fellowships, bestowed upon candidates who are considered "most likely to promote biological science, and especially animal morphology, by original research," have been awarded to Elmer J. Lund, Ph.B., in botany, and David H. Tenent, Ph.D., in zoology.

DR. FREDERICK P. LORD, of Iowa City, formerly connected with the department of anatomy of the State University of Iowa, has been appointed as the head of the department of anatomy of Dartmouth Medical School.

DR. J. F. SHEPARD has been promoted from instructor to assistant professor of psychology at the University of Michigan.

A NEW chair of machine design has been created in the engineering department of the University of Michigan, to which Professor Woldenburg, of Charlottenburg, Germany, has been appointed.