LOWELL LECTURES BY PROFESSOR A. V. HILL

THE series of Lowell lectures to be delivered in Boston by Dr. A. V. Hill, Foulerton research professor of physiology in the University of London, will begin on March 7. They will continue throughout the month on Mondays and Thursdays at five o'clock in the afternoon, in accordance with the following synopsis:

March 7—Physiology as a meeting-ground of the sciences. The different branches of science are mutually dependent upon one another. Physiology in a very special degree is so dependent. It may be regarded as an application of the methods and the results of all the other sciences to the study of the phenomena of life.

March 10—Mechanism and purpose. Three chief factors emerge from the study of life phenomena: (a) the complexity, beauty and sufficiency of the mechanisms by which results are brought about, and the certainty that all these have a material basis; (b) the extraordinary adaptation of means to an end and the existence of an apparent "purpose" in the mechanisms employed; (c) the arbitrary and freakish paths along which living creatures have passed in evolution. To recognize these factors is a task for science; to reconcile them, at present a task for philosophy.

March 14—Nerves and their messages. The living strands along which messages pass in the animal carry "waves of electrochemical change." The nature of these waves, the means by which they are started, and some of the results of studying them.

March 17—Muscles and how they move. A muscle is a mass of contractile jelly-like threads. Much is known about muscles, chiefly because they work so long and so well after removal from the body. Work, fatigue and recovery in the isolated muscle. Strength and speed of muscular response.

March 21—The heart and the involuntary muscles. Voluntary and involuntary muscles. The heart and its labors.

March 24—The supply of oxygen, fuel and energy to the muscles. Muscles, like all machines, require oxygen, fuel and energy. The rôle of the lungs and circulation in supplying them with these. The measurement of the energy liberated and of the fuel burnt in the body.

March 28—The cooperation of nerves and muscles. Most postures or movements are automatic or reflex, depending on the play or interplay of muscular response, with ingoing and outgoing nervous impulses. The accuracy and quickness of such automatic action. The synthesis of voluntary movement.

March 31—Speed, strength and endurance. The factors which limit speed of movement; the wastefulness of high speeds. "Optimum" speed. Skill, strength, endurance, and the factors on which these depend. The quantitative assay of muscular effort and deductions therefrom.

CHIEF OF THE U. S. BUREAU OF CHEMISTRY AND SOILS

THE United States Civil Service Commission states that the position of chief of the Bureau of Chemistry and Soils of the Department of Agriculture is vacant, and that, in view of the importance of the position in the whole field of chemical and soil research, and to insure the appointment of a thoroughly qualified man for the work, an unusual method of competition will be followed to fill the vacancy.

Instead of the usual form of civil service examination, the qualifications of candidates will be passed upon by a special board of examiners, composed of Dr. A. F. Woods, director of research in the Department of Agriculture, Dr. Joseph G. Lipman, director of the New Jersey Agricultural Experiment Station, and Mr. Frederick W. Brown, consulting examiner of the United States Civil Service Commission. For the purposes of this examination, these men will be examiners of the Civil Service Commission.

The examination will consist solely of a consideration of qualifications by this special board. The minimum qualifications for consideration are a doctor's degree from a college or university of recognized standing, at least ten years' experience in the direction and performance of chemical and soil research of a character to show the required degree of knowledge and ability in both chemistry and soils, administrative capacity of the highest order, and thorough familiarity with the literature of chemistry and soils, and with the activities of scientific and professional organizations and associations concerned with the subjects of chemistry and soils. The applicant must also have a personality which will enable him to deal tactfully with the personnel of the research units to be under his direction, and to enter into successful cooperative relations with other research and administrative agencies.

The duties of the position are to direct and administer the work of the Bureau of Chemistry and Soils carried on by a personnel of approximately 540 persons under an annual appropriation amounting to $1,115,005 for the fiscal year 1928; and personally in cooperation with assistant chiefs and the respective division leaders to initiate, outline, develop and direct the various phases of research, demonstration and service work devolving upon the bureau, under the agricultural appropriation and other acts, and by the direction of the secretary of agriculture.

The entrance salary for this position is $6,000 a year. Promotion may be made without change in assignment up to $7,500 a year.

Qualified persons who wish to be considered for this vacancy should apply to the United States Civil Service Commission, Washington, D. C., for Form 2600,

which must be executed and returned, with a list of the applicant's technical publications and reprints of such of these publications as are available, in time to be on file in the office of the Civil Service Commission at Washington not later than April 5, 1927.

MEMORIAL MEETING FOR DR. CHARLES D. WALCOTT

AT the memorial meeting for the late Dr. Charles D. Walcott, secretary of the Smithsonian Institution, held in the auditorium of the National Museum on February 10, the following resolutions were presented by the committee named by Acting Secretary Abbot, consisting of Dr. George P. Merrill, *chairman*, Dr. J. Walter Fewkes, Mr. James G. Traylor, and Mr. Webster P. True:

We of the Smithsonian Institution, its several branches and coordinate scientific institutions of Washington, have assembled here to-day to do honor to one of our number who achieved in scientific circles an exalted position attained by few. During the twenty years that Dr. Walcott so eminently served as secretary of the Smithsonian Institution; during the forty or more years of his life in Washington, he displayed to a degree that excited our greatest admiration a capacity for the dual duties of research and administration. Under his administration the institution has passed successfully through a trying period and is but now emerging upon what he firmly believed will prove the most useful and striking period of its existence. Meanwhile, in his studies of the geology and paleontology of the older rocks of the earth's crust he won world-wide recognition among scientific men and became the recipient of nearly every honor that can be bestowed, both in America and abroad. It is not necessary that his achievements and successes be dwelt upon in detail. He has gone from us.

Be it therefore resolved, that we here express our personal sense of loss in the death of a friend and leader who, through his unfailing courtesy and encouragement in our various lines of work, aroused our deepest respect and admiration. In the passing of Secretary Walcott the institution which he loved and served so well has suffered a severe blow and his friends and associates have lost an inspiring leader.

Be it also resolved, that we, Dr. Walcott's associates, extend to his family our deepest sympathy in their bereavement.

A number of Dr. Walcott's associates present at the meeting expressed their esteem and affection for him, and their admiration for his scientific work. Among these were Dr. Keith, Mr. Newell, Dr. David White, Dr. Abbot, Dr. Wetmore, Dr. Bassler and Mr. Victory.

SCIENTIFIC NOTES AND NEWS

PROFESSOR JAMES KENDALL, professor of chemistry in the Washington Square College of New York University, has been elected a fellow of the Royal Society.

DR. F. G. BANTING, professor of medical research in the University of Toronto, has been awarded the Cameron prize in recognition of his investigations on insulin and on the treatment of diabetes. This prize, which was founded in 1878, "may be awarded annually to a person who, in the course of the five years immediately preceding, has made a highly important and valuable addition to practical therapeutics."

DR. SIMON FLEXNER, director of the Rockefeller Institute for Medical Research, has been elected a member of the German Academy of Natural Sciences (Leopoldina) in Halle, Germany.

DR. JOHN M. T. FINNEY, professor of surgery, the Johns Hopkins University Medical School, Baltimore, who gave the annual Hunterian lecture in London, has been made an honorary fellow of the Hunterian Association and also of the Medical Society of London.

DR. AMEDEE GRANGER, professor of radiology in the graduate school of medicine at Tulane University, was awarded a gold medal by the Radiological Society of North America at its annual convention held in Milwaukee for his work on the sphenoid sinus.

THE Collingwood prize of the American Society of Civil Engineers has been awarded to Cecil Vivian von Abo, of Johannesburg, South Africa, for his paper on "Secondary Stresses in Bridges."

DR. ROBERT BARANY, professor of medicine at the University of Upsala, has received from the King of Sweden the Commander-Cross of the Order of the North Star.

SIR SIDNEY HARMER will retire, under the age clause, on March 9 from the directorship of the Natural History Museum, South Kensington, London.

THE seventieth birthday of Professor D. A. Low, emeritus professor of engineering at the University of London, was celebrated on February 9 by a dinner arranged by his old students.

DR. ALEXANDER ZIWET, professor emeritus of mathematics in the Engineering College at the University of Michigan, was honored recently by fellow members of the Apostles' Club on the occasion of his seventy-fourth birthday.

IN response to an invitation from the American Association for the Advancement of Science, the following have been appointed by their respective organizations to constitute a committee to promote research in American colleges: Vernon Kellogg, for the National Research Council; Charles R. Mann, for