indicates that an absolute measure is given, and secondly identifies the quantity concerned and its reference value. For a number of years, I have been using (as an extension of this scheme) the abbreviation dbp for the unit of sound pressure level re 0.0002 dyne/sq cm. It has proved quite convenient and understandable. In addition, I have used double suffixes to indicate sensitivity, such as dbmp for microphone gain rating by the RETMA method.

Extension of these schemes to the absolute logarithmic measurement of other physical quantities is simple in concept and can be used immediately. However, there should be some agreement on the suffixes chosen, and this is the function of various standardizing groups. Although it is too early to consider final standardization, a modicum of consultation and guidance at this time may aid in forestalling painful decisions at a later date. I hope that Dr. Stevens and the other prominent members of the SPD will continue their efforts toward increasing the acceptance of both the relative and absolute decibel as a respected and versatile unit.

Vincent Salmon
Stanford Research Institute

Nobel Physics Prize

Two American physicists, Polykarp Kusch, professor of physics at Columbia University, and Willis E. Lamb, professor of physics at Stanford University, have been named to receive jointly the 1955 Nobel physics prize. Dr. Kusch was cited "for his precision determination of the magnetic moment of the electron" and Dr. Lamb "for his discoveries regarding the hyperfine structure of the hydrogen spectrum". The two, working independently at Columbia some eight years ago, developed experimental evidence of small deviations from expected energy-level values as predicted by the Dirac quantum theory of the electron. Kusch, who began measuring the electron's magnetic moment in 1947, found a discrepancy of 0.125 percent between the predicted value and his experimental results. Lamb, in collaboration with Robert Retherford, observed a small displacement (the "Lamb shift") of the $2s_{\frac{1}{2}}$ energy level from its theoretical position in the course of spectral measurements of the fine structure of hydrogen in the microwave region. The deviation from theory has since been explained as resulting from an interaction of the electron with the radiation field. The joint award (worth $36 720) was announced on November 2nd by the Royal Swedish Academy of Science. Presentation ceremonies take place December 10th in Stockholm.

Societies

Newly elected officers of the Optical Society of America were installed at the close of the annual meeting of the Society held in Pittsburgh on October 6–8, 1955. They include the following: (for two-year terms), President, Ralph A. Sawyer, dean of the Graduate School of the University of Michigan; Executive Vice President, I. C. Gardner, chief of the Optics and Metrology Division of the National Bureau of Standards; (for four-year terms), Vice President for Meetings and Local Sections, Stanley S. Ballard, research physicist at the Scripps Institution of Oceanography, University of California; Directors-at-large, Walter S. Baird, president of Baird Associates, Inc., and Robert E. Hopkins, director of the Institute of Optics of the University of Rochester. Incumbent officers now in the middle of their four-year terms are the Secretary, Arthur C. Hardy of the Massachusetts Institute of Technology; the Treasurer, E. D. McAlister of the Eastman Kodak Company; the Editor of Publications, Wallace R. Brode of the National Bureau of Standards; and two Directors-at-large, James G. Baker of the Harvard College Observatory and Richard Tousey of the Optics Division, Naval Research Laboratory. Deane B. Judd of the National Bureau of Standards, as the most recent Past President, will continue as a member of the Board of Directors for two years.

The 1955 E. C. Bingham Medal, sponsored by the Society of Rheology, was awarded to Herbert Leaderman of the National Bureau of Standards on November 3rd at a banquet held during the annual meeting of the Society at the Henry Hudson Hotel in New York City. The Bingham Medal is awarded annually to "an individual who has made outstanding contributions to the science of rheology or to the Society of Rheology within the ten years preceding the date of the award".

Dr. Leaderman was one of the first to investigate and discuss the behavior of viscoelastic materials in terms of present-day concepts. His book, *Elastic and Creep Properties of Filamentous Materials and Other High Polymers*, was based largely on his own experimental observations and contains the first modern, systematic discussion of the analysis of viscoelastic behavior of linear systems based on the superposition principle. His more recent work, continuing his experimental observations of creep and recovery, has included a pioneering study of the effect of molecular weight distribution on the viscoelastic properties of rubberlike polymers, and of the behavior of such materials in the nonlinear range. Dr. Leaderman joined the National Bureau of Standards in 1948 and is now a member of the Rubber Section. He was a wartime member of the staff of the MIT Radiation Laboratory, and during 1946–48 was a physicist at Firestone Tire and Rubber Co., Akron, Ohio.

Society of Rheology officers elected on November 3rd for a 2-year term are: President, F. D. Dexter, Bakelite Co.; 1st Vice President, J. H. Dillon, Textile Research Institute; 2nd Vice President, J. H. Elliot, Hercules Experiment Station; Secretary Treasurer, W. R. Willets, Titanium Pigment Corp.; and Editor, Bryce Maxwell, Princeton University.

One of the most outstanding events in the history of the American Physical Society was the session honoring Enrico Fermi, held at the 1955 Washington meeting of the Society. This consisted of addresses by

H. L. Anderson, E. Konopinski, F. Seitz, E. Segrè, and W. H. Zinn, and of the words by which H. A. Bethe as Chairman (and organizer of the session) introduced the session as a whole and the speakers severally. These addresses and Bethe's remarks were recorded on tape by R. E. Wolford and J. B. Wise, whose avocation is the making of records, and who made these gratuitously as a service to the Society. Through their courtesy also, reproductions of the records on tape or disc will be made available in any quantity, and may be purchased at no more than cost. The six records, either in form of tape (7-inch reel, ¼-inch tape, 1200 or 1800 feet in length) or 12-inch microgroove LP disc, will be sold separately or all together. The price for the whole set, tape or disc, will be $30.00. The price for any disc is $5.00; the price for the tapes of Anderson, Bethe, Konopinski, and Seitz is $5.00 for each; the price for the (longer) tapes of Segrè and Zinn is $7.50 each. These figures include postage in the United States, Canada, and Mexico.

Checks or money orders (no cash please) should be made payable to the American Physical Society and mailed to Dr. R. D. Huntoon, National Bureau of Standards, Washington 25, D. C. Anyone who places an order from other countries should ascertain the postage required, deduct 50 cents, and remit the difference with his order. The shipping weight is one pound for each disc or tape.

The 1955 Christmas Lecture sponsored by the Philosophical Society of Washington for young people in the Washington, D. C. area is to be given by Eric Rogers, associate professor of physics at Princeton University. Professor Rogers is in charge of the demonstration lecture course at Princeton and has published numerous articles on the teaching of physics. His first experience in this field was in Cambridge, England, where he was a demonstrator at the Cavendish Laboratory. He has also taught at Mount Holyoke and Harvard. The lectures are patterned after the annual Christmas lectures given by the Royal Institution of London. This is the fifth year they have been sponsored by the Philosophical Society of Washington. Previous lecturers in the series have been: E. H. Land of the Polaroid Corporation, R. M. Sutton of Haverford College and George Gamow of George Washington.

Anti-Proton

The anti-proton, a negatively-charged particle having the same mass as the proton, has been discovered experimentally by a group of physicists at the University of California Radiation Laboratory in Berkeley, thus supporting the generally-accepted atomic theory that for more than a quarter of a century has assumed the necessary existence of a negative proton. First observations of the particle were made on September 21st by physicists Owen Chamberlain, Emelio Segrè, Clyde Wiegand, and Thomas Ypsilantis, with the help of Herbert Steiner and the cooperation of Edward J. Lofgren, physicist in charge of the bevatron. The experiment was fully confirmed on October 17th and was announced two days later by the Atomic Energy Commission and the University of California. Initial observations of the anti-proton have been made only with radiation counters, but it is indicated that efforts are being made to find its tracks in photo emulsions. The particles are expected to be found in cosmic rays, but in low abundance. The experiment involved bombardment of a copper target in the bevatron chamber with 6.2 Bev protons. The ensuing proton-neutron collision caused the emission of an additional proton and an anti-proton, resulting from the conversion into mass of a part of the bombarding energy.

Grants and Awards

The National Science Foundation will extend its fellowship awards program in 1956 to include some 40 senior postdoctoral fellows (with at least 5 years experience beyond the science doctorate or its equivalent) in physical, mathematical, or other sciences. Stipends from $4000 to $10 000, adjusted to match as closely as feasible the regular salaries of the recipients, may be applied toward study or research in accredited nonprofit institutions of higher learning in the United States or abroad. Further information and application forms may be obtained from the Division of Scientific Personnel and Education, National Science Foundation, Washington 25, D. C. Completed material must be received not later than January 16, 1956.

An annual $250 award for an original essay on the history of science and its cultural influences has been established by Henry and Ida Schuman of New York City. The competition is open to United States or Canadian college graduate or undergraduate students. Papers should be about 5000 words long, exclusive of footnotes, and thoroughly documented. It is hoped that the prize-winning essay will be suitable for publication in *Isis*, the journal of the History of Science Society. Papers submitted for competition must be received on or before June 1, 1956, by the chairman of the prize committee, Professor Charles C. Gillispie, Department of History, Princeton University, Princeton, N. J. Inquiries may be addressed to Professor Gillispie.

Shell Companies Foundation, Inc., in an effort to "help offset the dangerous cutback in science teaching at the secondary level", announced on October 20th the creation of a new program of recognition fellowships for high school science and mathematics teachers. Under the program, which is to be known as the Shell Merit Fellowships for High School Science and Mathematics Teachers, Shell will underwrite summer seminars at Stanford and Cornell Universities for sixty teachers yearly. Recipients will receive travel allowances, all tuition and fees, campus living expenses, and $500 in cash to make up for the loss of potential summer earnings. Physics, mathematics, or chemistry teachers with five years' experience and known leadership ability will be eligible for the fellowships, as will former teachers