

Contributors to this Issue

WALLACE C. BABCOCK, A.B., Harvard University, 1919; S.B., Harvard University, 1922. U. S. Army, 1917-19. American Telephone and Telegraph Company, 1922-34; Bell Telephone Laboratories, 1934-. Mr. Babcock was engaged in crosstalk studies until World War II, when he studied radio countermeasure problems for the N.D.R.C. Since then he has been concerned with antenna development for mobile radio and point-to-point radio telephone systems and has been engaged in other systems studies. Member of I.R.E. and Harvard Engineering Society.

JOHN BARDEEN, B.S., in E.E., University of Wisconsin, 1928; M.S. in E.E., University of Wisconsin, 1929; Ph.D., Princeton University, 1936. Gulf Research and Development Company, 1930-33; Harvard University, 1935-38; University of Minnesota, 1938-41; Naval Ordnance Laboratory, 1941-45; Bell Telephone Laboratories, 1945-51; University of Illinois, 1951-. At Bell Telephone Laboratories, Dr. Bardeen, co-inventor with Dr. Walter Brattain of the point-contact transistor, was primarily concerned with theoretical problems in solid state physics, including the study of semi-conductors, diffusion in solids, and superconductivity. Associate editor of *The Physical Review*, 1949-51. Stuart Ballantine Medal of the Franklin Institute, 1952. Fellow, American Physical Society; member, American Association for the Advancement of Science.

WALTER H. BRATTAIN, B.S., Whitman College, 1924; M.A., University of Oregon, 1926; Ph.D., University of Minnesota, 1929. Bureau of Standards, 1928-29; Bell Telephone Laboratories, 1929-. Dr. Brattain, co-inventor with Dr. John Bardeen of the point-contact transistor, has been primarily concerned with the study of semi-conductors at Bell Laboratories. During World War II he worked for the Division of War Research of Columbia University and is currently spending the fall term of the academic year 1952-53 as a visiting lecturer at Harvard University. Stuart Ballantine Medal of the Franklin Institute, 1952. Fellow, American Physical Society and American Association for the Advancement of Science; member, Sigma Xi and Phi Beta Kappa.

KENNETH BULLINGTON, B.S. in E.E., University of New Mexico, 1936; S.M., Massachusetts Institute of Technology, 1937; Bell Telephone Laboratories, 1937-. Until World War II, Mr. Bullington was occupied with systems engineering work on wire transmission circuits. Since 1942, he has been concerned with transmission engineering on radio systems, especially with radio propagation studies. Member of I.R.E., Phi Kappa Phi, Sigma Tau, and Kappa Mu Epsilon.

R. H. COLLEY, A.B., Dartmouth College, 1909; A.M., Harvard University, 1912; Ph.D., George Washington University, 1918; Austin Teaching Fellow in Botany, Harvard University, 1910-12; Instructor in Botany, Dartmouth College, 1909-10 and 1912-16; Pathologist, Division of Forest Pathology, Bureau of Plant Industry, U. S. Department of Agriculture, 1916-28. Bell Telephone Laboratories, 1928-1952. Dr. Colley was chairman of Committee 05—Wood Poles, of the American Standards Association for nearly twenty years. He was president of the American Wood-Preservers' Association 1943-44. During his years with the Laboratories he worked particularly on development and research problems connected with material and preservative treatment specifications for poles and other timber products used in outside plant. His more recent activities were directed toward improvement of laboratory techniques for evaluating wood preservatives, and toward the development of a coordinated plan for fundamental research on oil preservatives. He was Timber Products Engineer for the Laboratories from 1940 to 1950, and Timber Products Consultant from 1950 to 1952. His article in this issue of the JOURNAL was prepared before his retirement on May 31, 1952.

KARL K. DARROW, B.S., University of Chicago, 1911. He studied at the Universities of Paris and Berlin in 1911 and 1912, specializing in physics and mathematics; Ph.D., University of Chicago, 1917. He then joined the staff of Bell Telephone Laboratories, at that time known as the Engineering Department of Western Electric Company. Here his work has included the study, correlation, and representation of scientific information for his colleagues, keeping them informed of current advances made by workers in fields related to their own activities. As a corollary to his work, Dr. Darrow appears from time to time before scientific and lay audiences to lecture on current topics in physics and the related sciences. He has taken an active interest in education, teaching physics during summer and other sessions at Stanford, Chicago, and Columbia Universities and at Smith College. From 1944 to 1946, he served

as consultant to the Metallurgical Laboratory in Chicago. Dr. Darrow is the author of *Introduction to Contemporary Physics* (1926 and 1939), *Electrical Phenomena in Gases* (1932), *Resonance of Physics* (1936), and *Atomic Energy* (1948) and of many articles in this and other journals. He is a member of the American Physical Society, which he has served as secretary since 1941, the Physical Society of London, Société Française de Physique, the American Philosophical Society, of which he was a counsellor for four years. From 1949 to 1951 he was vice-president of the International Union of Pure and applied Physics. In 1949 he received an honorary doctorate from the Université de Lyon and was made Chevalier de la Légion d'Honneur in 1951.

JOHN RIORDAN, B.S., Sheffield Scientific School of Yale University, 1923. United Electric Light and Power Company, now a part of the Consolidated Edison Company, 1923-1926. Department of Development and Research of the American Telephone and Telegraph Company, 1926-1934. Bell Telephone Laboratories, 1934-. With the American Telephone and Telegraph Company, his work was largely on circuit and transmission theory, particularly in relation to inductive interference from electrified railways. This work was continued in Bell Telephone Laboratories after the Development and Research Department was consolidated with it in 1934. Since 1940 Mr. Riordan has been engaged in mathematical work: Boolean algebra in switching, number theory in cable splicing, and combinatorial and probability studies of traffic. Mr. Riordan is a member of the American Mathematical Society, the Mathematical Association of America, the Institute of Mathematical Statistics, and is a Fellow of the American Association for the Advancement of Science.

GREGORY H. WANNIER, Louvain University, 1930-31; University of Cambridge, 1933-34; Ph.D., University of Basel, 1935. Assistant, University of Geneva, 1935-36; Swiss-American Exchange Fellow, Princeton University, 1936-37; instructor, University of Pittsburgh, 1937-38; assistant lecturer, Bristol University, 1938-39, instructor, University of Texas, 1939-41; University of Iowa, 1941-46. Socony-Vacuum Laboratories, 1946-49. Bell Telephone Laboratories, 1949-. Mr. Wannier, a theoretical physicist in the Physical Research Department, has worked on photoconductivity and related phenomena, and the motion of ions in gases. Also Mission to Germany, 1945. Member of American Physical Society and Schweizer Physikalische Gesellschaft.

