

### Contributors to this Issue

RALPH BOWN, M.E., 1913, M.M.E., 1915, Ph.D., 1917, Cornell University, Captain Signal Corps, U. S. Army, 1917-19; Department of Development and Research, American Telephone and Telegraph Company, 1919-. Mr. Bown has been in charge of work relating to radio transmission development problems. He is a Past President of the Institute of Radio Engineers.

JOHN R. CARSON, B.S., Princeton, 1907; E.E., 1909; M.S., 1912; American Telephone and Telegraph Company, 1914-. Mr. Carson is well known through his theoretical transmission studies and has published extensively on electric circuit theory and electric wave propagation.

KARL K. DARROW, B.S., University of Chicago, 1911; University of Paris, 1911-12; University of Berlin, 1912; Ph.D., University of Chicago, 1917; Western Electric Company, 1917-25; Bell Telephone Laboratories, 1925-. Dr. Darrow has been engaged largely in writing on various fields of physics and the allied sciences. Some of his earlier articles on Contemporary Physics form the nucleus of a recently published book entitled "Introduction to Contemporary Physics" (D. Van Nostrand Company). A recent article has been translated and published in Germany under the title "Einleitung in die Wellenmechanik."

WILLIAM FONDILLER, B.S., College of the City of New York, 1903; E.E., Columbia University, 1909; M.A., Columbia University, 1913; Engineering Department, Western Electric Co., Inc., 1909-25; Bell Telephone Laboratories, Inc., 1925-. Mr. Fondiller's work has related to the development of transmission apparatus, such as loading coils, filters, transformers, etc. and is now Assistant Director of Apparatus Development of Bell Telephone Laboratories, Inc. In this capacity he is responsible for the design of telephone apparatus and investigations of materials.

NORMAN R. FRENCH, A.B., University of Maine, 1914; A.M., 1916; Instructor, Physics Department, University of Maine, 1914-16; Instructor, Princeton University, 1916-17; General Staff, A.E.F., 1917-18; Commanding Officer, Flash and Sound Ranging Sections, Army Engineers' School, A.E.F., 1918; American Telephone and Telegraph Company, Department of Development and Research, 1919-. Mr. French's work has related chiefly to loading, submarine cables and transmission quality.

CHARLES W. CARTER, JR., A.B., Harvard, 1920; B.Sc., Oxford, 1923; American Telephone and Telegraph Company, Department of Development and Research, 1923-. Mr. Carter's work has had to do with the theory of electrical networks and with problems of telephone quality.

WALTER KOENIG, JR., A.B., Harvard, 1923; Instructor and Research Assistant, Harvard, 1923-24; American Telephone and Telegraph Company, Department of Development and Research, 1924-. Mr. Koenig has been engaged chiefly in studies relating to transmission quality.

W. A. MACNAIR, B.Sc., Colgate Univ., 1920; Ph.D., Johns Hopkins Univ. 1925; National Research Fellow in Physics, 1925-27; Bell Telephone Laboratories, 1929-.

W. P. MASON, B.S., University of Kansas, 1921; M.A., Columbia, 1924; Ph.D., Columbia, 1928. Engineering Department, Western Electric Company, 1921-25; Bell Telephone Laboratories, 1925-. Mr. Mason's work has been largely in transmission studies.

A. A. OSWALD, B.S., Armour Institute of Technology, 1916; E.E., 1927. Western Electric Company, Engineering Department, 1916-24; Bell Telephone Laboratories, Inc., 1925-. Mr. Oswald's work has been concerned with the development of long and short wave transatlantic and ship-to-shore radio-telephone systems; and, during the War, of systems for airplane radio-communication and radio-control.

D. A. QUARLES, A.B., Yale University, 1916; U. S. Army, 1917-19; Engineering Department, Western Electric Company, 1919-25; Bell Telephone Laboratories, 1925-. Mr. Quarles was earlier engaged in transmission studies of circuits and networks. More recently he was in charge of inspection engineering on apparatus products. As Assistant Director of Apparatus Development, he is now engaged in development work on Outside Plant products.

WALTER A. SHEWHART, A.B., University of Illinois, 1913; A.M., 1914; Ph.D., University of California, 1917; Engineering Department, Western Electric Company and Bell Telephone Laboratories, 1918-. Mr. Shewhart is making a special study of the application of probability theories to inspection engineering.

