THE ROLE OF AIR-FLOW PHENOMENA IN HYDRAULICS

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Introductory Remarks

The three papers presented at this session deal with the weather and its effects on engineering and engineering structures. The first paper is by a meteorologist who "specifies" the weather which may be experienced. The second paper deals with simulating the effects of weather in a laboratory and the third and last paper deals with engineering innovations in design to outwit the weather.

The author of the first paper, Dr. C.-G. Rossby, was born in Sweden and studied at the University of Stockholm and the University of Leipzig. He has been a meteorologist for the governments of Norway and Sweden and was employed by the U. S. Weather Bureau in 1926. He was appointed Professor of Meteorology at the Massachusetts Institute of Technology in 1931, and has been prominent in meteorological activities in N.A.C.A. for a long time. He was one of the two joint recipients in 1934 of the Reed award of the Institute of Aeronautical Sciences. Dr. Rossby, Professor of Meteorology at the University of Chicago, has now prepared a discussion of the relationship between Meteorology and Hydrology.

The second speaker, Dr. Hunter Rouse, was born in Ohio and attended the Massachusetts Institute of Technology and the Technische Hochschule, Karlsruhe, where he obtained his doctor's degree. He has been a member of the faculty of the Massachusetts Institute of Technology, Columbia, and the California Institute of Technology, and has been at the University of Iowa since 1939. He was awarded the Norman Medal in 1938. His paper deals with the laboratory approach to engineering problems with particular emphasis on the utilization of low-velocity air tunnels.

The third paper deals with engineering analyses of structures circumventing the effects of "weather." The author, Dr. David B. Steinman, graduated from the College of the City of New York and later obtained a Ph.D. degree from Columbia. He is one of the best known bridge engineers in the country and has won the Croes Medal in 1919, the Norman Medal in 1923, and the Rowland prize in 1939, and has received five awards for his artistic bridge designs. Dr. Steinman will present an analysis of the stability of structures subject to the pulsating forces of flowing fluids.