

## RECENT DEVELOPMENTS IN METHODS OF MEASUREMENT

Session Chairman: L. A. JONES

Chief, Division of Drainage and Water Control,  
Soil Conservation Service, U. S. Dept. of Agriculture

### INTRODUCTORY REMARKS

Progress in research and technical development is intimately related to methods of measurement of fundamental quantities. Upon accuracy of measurement often depends the success or failure of an investigation. Frequently, too, progress cannot be made in certain areas until new methods of measurement are developed.

The war just ended brought great stimulus to instrumentation of all kinds and it is to be expected that the development along instrumental lines will open up many fruitful fields of measurement in scientific areas. The hydraulic engineer is among those who may expect to profit from modern equipment.

Great advances have been made in photography. Perhaps nowhere in this country, however, has such extensive use been made of photographic measurement of hydraulic phenomena as at the California Institute of Technology. The Conference is fortunate in having as the first speaker Mr. Hugh Stevens Bell, Research Engineer from that institution and an expert in photography. His subject is "Photographic Techniques in Experimental Hydraulics."

The phenomenal development of electronic equipment during the war is well known in a general way. Application of electronic devices to hydraulic measurements is probably less well understood. Of interest to all, therefore, is the second paper, to be presented by Dr. Stuart W. Grinnell, Research Associate in the Department of Chemistry at Stanford University. Dr. Grinnell's subject is "The Application of Electronics to Hydraulic Research".

All engineers dealing with river behavior are aware of the value of reliable and accurate hydrologic instruments. As in other fields,

progress has been made in the development of new and better recorders during recent years. Perhaps no one has been more active in this development than Mr. J. C. Stevens, Past President of the American Society of Civil Engineers and partner of Leupold and Stevens Instruments. Mr. Stevens' paper is on "Hydrologic Instruments".