

## Bell Telephone Laboratories, Incorporated

**T**HE Bell Telephone Laboratories is a new name for an essential organization in the Bell System. As the Laboratories become better known and better understood their function will be facilitated. In this brief exposition of the Laboratories some of the important features of their operation will be described.

### TWO BROAD PHYSICAL PROBLEMS OF COMMUNICATION

In broad classification the activities in the Laboratories are concerned with the two fundamental and inherent problems of electrical communication: namely, that of the electrical transmission of intelligence and that of switching and controlling the channels for such transmission. In the functionalized organization by the American Telephone and Telegraph Company of its continuous program of development and research there was instituted in the Laboratories activities which have resulted from time to time in important and now well-known developments in physical principles and in the apparatus or system embodiment of these principles. And all the activities of the technical staff of the Laboratories may be considered to have been undertaken in the solution of present or prospective phases of one or the other of these two main problems, or to have been either preliminary to their investigation or by-products thereof.

In the development of transmission systems the effective, and at times determining, contributions of the Laboratories have been evident in carrier current and radio systems, in telephone amplifier and repeater systems, in loading coils, in printing telegraphy and high-speed telegraphy, in duplex cable and in transoceanic submarine cable, in the transmission of pictures, and in many other instances which readily come to the mind of one skilled in the communication art.