primarily for the teaching of undergraduates. The cost of large-scale operations, and the nature of the equipment involved, usually place such researches outside the bounds of university work. But the university should train the men who are to carry on such work in industry, and should provide facilities for research in the fundamental sciences underlying our industries. In the working out of new processes in industry, ideas first developed by pure scientific research in a laboratory, may be tried out in a small scale plant under conditions approximating to those of practice. Unexpected difficulties are frequently encountered at this stage, and the combined efforts of the laboratory staff and of those familiar with the operation of industrial processes are needed to reach a solution. Engineering practice is not infrequently somewhat in advance of theory, and the resources of the laboratories of engineering schools can aid greatly in the solution of the varied problems which arise.

The close relation between research work carried on at any given period, and the special problems of contemporary engineering practice, is noted in the reports of different departments. Several investigations of the stress-distribution in welded joints have been made in recent years in the Department of Civil Engineering. The applications of welding processes are increasing rapidly and much more research work is needed, especially in the structural field, in some branches of which welding is replacing riveted work. Likewise, in the Department of Electrical Engineering, new laboratory facilities have been provided for the