

considerations are involved in the order named:-

- (a) The estimation of the loads to be carried.
- (b) The determination by some fundamental theory, of the effects of the loads on the structure.
- (c) The proportioning of the various parts of the structure so that they will sustain safely, and for an indefinite period, the forces which come upon them. This involves a knowledge of the properties of materials used in construction.
- (d) The economic study of different designs, which is only possible after fundamental processes outlined above, have been thoroughly assimilated.

While item (d) is never completely ignored and is stressed as strongly as possible in the working out of problems, it is our experience that undergraduates must centre their attention mainly on items (a), (b) and (c). The economic aspect of a project requires a broad experience which, in general, can only be acquired in practice after the college course is completed. Such considerations arise quite apart from the broad general question of training engineers in economics, engineering law, accountancy, etc. to which further reference is made on page 20 .

#### STUDENTS ENTERING OUR COURSES.

Our students are drawn mainly from the high schools of this country, and therefore their preliminary training is by no means uniform. The average age at entry is from 18 to 19, and while methods of education and content of courses in the schools have changed, the student of to-day