

# ... CIVIL ENGINEERING

by Professor EARNEST BOYCE

... A tribute to the oldest Department  
in the College of Engineering ...

In preparation for the 1953 Centennial Anniversary of Engineering Education at the University of Michigan, historical data with regard to the College of Engineering were compiled and published.

This record of the development of engineering education at the University reflects in an interesting way the development and ever increasing dependence of modern society on the knowledge and skill of those who have a technical education.

Engineering in 1853 reflected, as it does at present, the socio-economic need for persons with the knowledge and aptitude required to find solutions to engineering problems of the time period concerned. Industry, as we know it today, was unknown in 1853, and the public need for and interest in the then emerging engineering profession was limited to the solving of problems confronting the civil population from whence came the name still applied to this branch of engineering. The problems of 1853 were those relating to the development of a new land that was lacking in the transportation facilities and other works of internal improvement necessary to meet the needs of a rapidly changing national economy. New lands were being subdivided and a knowledge of land measurement and mapping represented a major area of public interest in technical education. Then, as now, the University of Michigan, responsive to an educational need, provided the type of instruction required to qualify its graduates to solve the technical problems of that period.

The century of Civil Engineering



Construction on the General Library Addition.

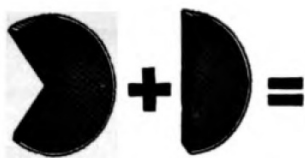
ing education at the University of Michigan there has been a continuous reappraisal of the nature of the engineering problems confronting the civil population in the progressive development of the environment in which we live.

Meanwhile, the growth and development of manufacturing industry has created an ever increasing demand for men with a knowledge of the many ap-

plications of science to the development and production of manufactured goods. While some have suggested that the early civil engineering educational program was the parent stem from which other fields of engineering branched, this concept is hardly borne out by fact.

Man's increasing knowledge of science and his improvement of methods whereby

(Continued on page 70)



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## Civil Engineering

(Continued from page 54)

science can be put to work in the many technical fields, has produced a vast broadening of the areas where technical knowledge is needed. Hence, we may conclude that the many fields of modern engineering do not represent so much the branching of the earlier field of civil engineering, but rather more a parallel development from the common ground of basic science of new and independent programs stimulated by industrial needs as

professors of structural, hydraulic and sanitary, and geod engineering. Courses in highway e were first offered in 1912 and testing laboratory to provide a ice in the testing of highway tion materials was established.

In 1915 the University star structural program for state a road officials—a conference grown during the forty-two ye

Professor Boyce has a distinguished record in the fields of Civil Engineering and Public Health. He received his B.S. degree in C.E. from Iowa State College. Subsequent training at Harvard University earned him an M. S. degree in Sanitary Engineering. He received his professorship in 1934. In 1941 he became civilian consultant for Army Water Supply. He is editor of U. S. Public Health Service Report and he is also the author of numerous articles on public health, especially water supply and disposal.



distinguished from that area of engineering still dedicated to the engineering analysis of the problems that are of vital concern to the civil population.

Prior to 1912 the civil engineering program gave especial emphasis to the design of steel structures, principally bridges, and to the problems of railroad location and construction. It also had the responsibility for many of the courses serving all departments now forming the Department of Engineering Mechanics. With the organization of a separate Department of Engineering Mechanics in 1912, there occurred a major change in the Civil Engineering staff and in the organization of the curricula offered. New professors with years of engineering experience and practice were added to the staff and the expanding field of civil engineering was recognized by appointing

recent Conference held in Gra with attendance in excess of 9 effort was made to orient the in program into the fields of e practice that then, as now, prov to the public in the planning, d construction of highways, railw ways, buildings, bridges, dams many other structural facilities 1 public works and industrial dev

The problems of sanitary 2 cipal engineering have attrac students into this field so esse satisfactory way of life in a moc community.

The nature of the civil engin requires that he not only hav basic knowledge of the physica but also that he be alert to the and social significance of the works that he plans and builds.