

**THE EDUCATION AND STATUS
OF CIVIL ENGINEERS,
IN THE UNITED KINGDOM
AND IN FOREIGN COUNTRIES**

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by Institution of Civil Engineers

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INSTITUTION OF CIVIL ENGINEERS

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188 *Edwards*

THE

EDUCATION AND STATUS OF
CIVIL ENGINEERS,

IN THE UNITED KINGDOM AND IN FOREIGN
COUNTRIES.

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INTRODUCTORY MEMORANDUM.

THE Council of the Institution of Civil Engineers, in issuing this volume on the Training and Status of Civil Engineers in the United Kingdom and in Foreign Countries, desire to express, on behalf of the Institution, their cordial thanks for the trouble taken by various correspondents in so fully responding to their inquiry, and for the ready courtesy with which the information so supplied has been in every case communicated.

A FEW years ago attention was called to the state of technical education in this country, which, it was stated, had been recently shown to be so much inferior to that in other European states as to threaten seriously the industrial interests of Great Britain. The subject was taken up by the Government, and by various public bodies, and much information respecting it was collected and put on record.

The Council of the Institution of Civil Engineers felt it their duty to interest themselves in that part of the inquiry which bore upon their own profession. During the sessions of 1867 and 1868 suggestions had been made to them with a view to their taking steps for promoting and encouraging the theoretical education of engineering students; and after considering the subject maturely, they resolved that it would be highly desirable in the first instance to obtain, from the most direct and authoritative sources, full information as to the system adopted for the education and technical training of Engineers, and generally as to the status of members of the profession, in various foreign countries where this profession had assumed an important position.

With this view the Council issued the following circular:—

THE INSTITUTION OF CIVIL ENGINEERS.

Established 1818. Incorporated by Royal Charter 1828.

25, Great George Street, Westminster, S.W.

7 July, 1868.

SIR,

The Council of The Institution of Civil Engineers, being anxious to obtain the most complete and reliable information as to Engineering Education (other than Military Engineering) in different countries, have directed me to seek your assistance and co-operation, with a view to the collection of full particulars of the systems of instruction pursued in your country and elsewhere, their cost to the students and to the State, and the effect, or presumed effect, of such preparatory training upon the profession.

The accompanying heads of inquiry have been drawn up to serve as a basis for the investigation, but not in the least degree to limit its scope; and I am to express the earnest hope of the Council, that you will be pleased to promote the object they have in hand to the utmost of your power.

I am, Sir,

Your obedient Servant,

JAMES FORREST,

Secretary.

HEADS OF INQUIRY

As to Systems of Engineering Education in different Countries.

The general system of Engineering Education (exclusive of Military Engineering).

The presence or absence of Government support, and its nature if given.

The courses of study and examinations, if any, required before entering the profession.

A list of the principal establishments for Engineering Education, with programmes of the course of study pursued at each place, and details of the systems of teaching and of the whole *modus operandi* of communicating instruction. Also a Catalogue of the Text Books employed.

The nature of the Diplomas, or Certificates granted, if any.

Whether the plan of serving a regular pupilage to a practising Engineer, as in England, prevails; and, if so, the fees paid by the pupils, and the duration of such pupilage.

The practice of the profession as to the assumption of the style and title of Civil Engineer, without any previous regular training, certificate, or diploma.

The titles of any printed Reports, or other documents, bearing on the subject of Engineering Education, which may be consulted with advantage.

In addition to this, the Council invited suggestions on the subject from any persons who might be willing to aid in the cause.

These appeals were liberally responded to, a very large mass of information having been received, consisting of original reports and statements by Engineers of eminence, and by the authorities of educational establishments, accompanied by voluminous collections of printed documents illustrative of the subject, often in minute detail.

This information has been carefully examined, translated, condensed, abstracted, classified, and arranged, and in some cases, where there was no direct intelligence, reference has been made to published sources of information, in order to render the whole as complete as possible. The result is now given in the following pages, and the matter has been divided into three parts.

The First Part contains information collected as to the educational institutions in Great Britain and Ireland, where instruction is given bearing on the profession of engineering.

The Second Part contains information collected as to engineering education and the status of Civil Engineers in foreign countries.

In Part the Third are published various suggestions which have been offered to the Council, and extracts taken from various publications, bearing on the subject of engineering education generally.

It may be desirable here to give a brief summary of the most important points that appear to be shown by these documents in regard to the status of the members of the profession in different countries, and the nature of the education and training they receive.

It will facilitate any remarks on the latter subject to distinguish clearly between the two kinds of education which it is generally deemed desirable an Engineer should receive.

In the first place, he should be acquainted with such physical sciences as bear on his profession, and should be