

subjects. Many of the students who are not following such grouped courses are doing work of an advanced and sometimes post-graduate standard. Less than twenty per cent of the total number of students are receiving elementary instruction in single subjects, and a considerable proportion of these are attending lectures of a non-professional type and standard.

The report describes the general character and distribution of the facilities offered for the study in these institutions of applied chemistry, the information being grouped under the headings: fuel industries; chemical engineering and chemical technology; metallurgy; pottery and refractories; bleaching and dyeing; leather manufacture, rubber technology, and paper-making; foods and drugs; oils, fats, and waxes; painters' colours and varnishes; coal tar colours; synthetic resins and cellulose industries. While the tendency to defer the teaching of applied chemistry until an adequate knowledge of pure chemistry and ancillary subjects has been obtained is commended, it is stated that beyond the elementary stage the instruction provided in physics is rarely what is required—it is either too narrow or too wide. On the other hand, a few schools seek to meet the needs of a small number of students of varied requirements by offering lectures in certain subjects which all attend, the main differentiation being achieved by individual instruction in the laboratory. The wisdom of attempting such an "almost impossible task" is, however, doubted.

The attitude of employers has entered on a new

phase, passing from individual benevolence to a clearly defined collective policy, and being associated with a closer interest, so that the training "is tending to become a definite element of industrial organisation". The position which has now arisen is that expanding knowledge renders necessary a higher standard of training, which can be given more satisfactorily and under less onerous conditions in part-time day courses than in classes held exclusively in the evenings. While the difficulty of interrupting routine work by releasing employees for this purpose is acknowledged, the wide adoption of such a plan by the engineering industry and other industries is quoted as an example which might with advantage be copied more frequently in applied chemistry. Not only is co-operation in the use of facilities desirable, but also the achievement of completely co-ordinated schemes of technical education is a matter which requires closer co-operation between educational administration and industry.

A relatively new problem is the provision of instruction suitable for men, engaged on plant or process, who control apparatus or machinery without sharing the chemist's responsibility or ambitions. The well-informed worker finds greater interest in his work, and renders more efficient service to his employer; but "the traditional method of approach is not likely to be successful. A new technique in teaching is required." Another type of instruction which seems desirable is the commercial training of men who are primarily chemists or technicians.

### A Monument to Henri Moissan.

HENRI MOISSAN was born in Paris on Sept. 28, 1852, and died there, at the age of fifty-four, on Feb. 20, 1907. He is remembered to-day for his successful work on the isolation of fluorine, his experiments on the manufacture of artificial diamonds and the development of the electric furnace.

Moissan's isolation of fluorine in 1886 was accomplished by electrolysis of a solution of potassium hydrogen fluoride in anhydrous hydrofluoric acid contained in a platinum tube. He was led to his researches on diamonds by the study of the allotropic modifications of carbon, and the minute diamonds he made were obtained by melting iron and carbon in a crucible and dropping the fused mass into water. The electric furnace which he used in these experiments consisted of a scooped-out block of marble, covered by a marble lid having two horizontal passages for the carbon electrodes, the current being obtained from a small dynamo.

Moissan's whole life was passed in Paris. He entered the laboratory of Fremy at the Muséum national d'Histoire naturelle at the age of twenty; at thirty-four he was appointed professor of toxicology in the Ecole Supérieure de Pharmacie, in 1899 was transferred to the chair of mineral chemistry, and the following year became professor of general chemistry at the Sorbonne. Elected a member of the Paris Academy of Sciences in 1891, he was made a foreign member of the Royal Society and awarded the Davy Medal, and in 1906 received the Nobel Prize for chemistry. His son, Louis Moissan, an assistant at the Ecole Supérieure de Pharmacie, who was killed in action on Aug. 10, 1914, left funds for founding prizes in memory of both his father and mother.

A fête in honour of Moissan was celebrated on Oct. 4, in brilliant autumn sunshine, in the cathedral town of Meaux, picturesquely situated on the banks of the Marne. The delegates were received on Saturday afternoon, Oct. 3, at the Ministry of Foreign Affairs on the Quai d'Orsay, and on the

following morning nearly three hundred were taken by special train to Meaux to take part in the ceremonies there.

These ceremonies included the formal presentation to the Communal College (of which Moissan was a pupil from 1864 until 1870) of a plaque on the wall of the entrance hall, and in the afternoon the unveiling, by Mme. Jean Gerard, of a monument in a small square by the side of the town hall. The monument is in the form of an obelisk, from the upper part of which the rugged features of Moissan emerge from the solid stone, whilst on the side are sculptured diagrammatic representations of his electric furnace and of the apparatus with the help of which he isolated fluorine, with quotations from his own writings.

Discourses appropriate to the occasion were delivered, in a natural theatre formed by the surrounding buildings and gardens, under the direction of Prof. Behal, representing the Minister of Public Instruction. The first three discourses were by the president of the organising committee, by the mayor of Meaux, and by the president of the old students' association of the College of Meaux; the others were by M. Lebeau, the assistant and colleague of Moissan, representing the friends and students who had worked in Moissan's laboratory, by Prof. Hönigschmid of Munich (himself an old student of Moissan) on behalf of the foreign delegates, and by Prof. Behal on behalf of the Government. Prof. Behal was supported by the presence, also in full dress, of his fellow academicians, Bertrand and Délépine, and by many of their French colleagues.

The list of foreign delegates included sixty-three names, but of those actually present the three representatives from Great Britain constituted as large a group as from any other country except Belgium and Italy. The ceremonies were associated with the eleventh meeting of the Société de Chimie industrielle, and owed much of their success to its vice-president, M. Jean Gerard, who has been responsible for the organisation of so many international gatherings.