

The movement toward a 5-year university course was touched upon by the speaker, who urged that all possible elementary work be taught before the student leaves the high schools and preparatory institutions.

Dr. Frank D. Adams, dean of the faculty of applied science, McGill University, agreed with the suggestion made by Dr. Eve that the universities should carry the curriculum through a specialized fifth year, but he would prefer to raise the entrance standards if it were possible to do so, which it is not at present, excepting by very gradual steps. If the entrance requirements were to be raised so as to eliminate the work of the present freshman year, there are not two schools in the province of Quebec that would be able to feed students into the university.

#### Fundamentals Necessary to Engineer

It is unfortunate in many respects, said Dr. Adams, that the student must spend the first two years acquiring a great quantity of very diversified information of quite fundamental and elementary character, and that he does not get any interesting engineering work for such a long time that many students become discouraged. The student should be thoroughly impressed with the value of this fundamental information, said Dr. Adams. He pointed out the difficulty of making an engineer in four terms of seven or eight months each, but was glad to say that pre-war records of McGill showed that 86% of the engineering students worked all summer every summer in some engineering capacity, and thus added to their education.

Dr. Adams referred to the efforts of McGill to keep abreast of the times in engineering education by the establishment of new courses such as engineering economics and engineering law.

Arthur Surveyer, member of the board of governors of the University of Montreal (formerly Laval University), discussed the papers from the standpoint of the French-Canadian university, and urged the importation of more French engineering experts to teach the young men of Quebec province. He also urged that the students be taught how to study, and that it should not be assumed that they know the proper methods of obtaining results through concentration. Mr. Surveyer presented his case in a very able manner and received the heartiest applause of the morning.

Chas. F. Scott, professor of electrical engineering at Yale University, New Haven, Conn., and past president of the American Institute of Electrical Engineers, concluded the discussion. He opposed specialized training at the expense of general education. An engineer should be able to use all technical specialties in attaining his ends. He should be able to "take up anything and put it through." He should have a general training in all basic engineering principles and the specialization should be left to his own individuality as it develops.

E. J. Mehren, editor of "Engineering News-Record," New York, agreed with Prof. Scott that better engineers are needed. He said that the members present would be astonished if they knew the lack of engineering forethought in the construction of highways to-day. Yet the Romans had good roads and made good concrete. Any attempt to build highways to-day on the Roman methods would bankrupt a nation, and it is not known just how they made their concrete. It must have been by very expensive methods, said Mr. Mehren, and no doubt would not be practicable to-day.

#### Need for Better Engineers

There is no shortage of engineering administrators, said Mr. Mehren, and no need to endeavor to train better administrators, but there is a need for better engineers. Above all else there is a demand for the type of man who can delve into the science of a problem, break it down and get at the elements in the way that E. W. James and his assistants in the Bureau of Public Roads are doing, and along the lines followed by the men who have recently advanced to a very marked degree the science of proportioning the materials entering into concrete mixtures.

At 1 p.m. the meeting adjourned for lunch, which was served at the plant of the Northern Electric Co., Ltd., with the president of that firm as host. Special street cars carried the party from the hotel to the plant, and moving pictures were taken by a Pathé representative while the engineers were boarding the cars, and a group photograph after their arrival at the plant. After a very enjoyable luncheon, R. A. Ross thanked Mr. Sise, the president of the Northern Electric Co., for his hospitality, and congratulated him upon the plant, which is one of the largest and most modern industrial establishments in Canada. Mr. Sise responded briefly and told the several hundred guests that the plant was theirs for the afternoon. The guests were taken, forty at a time, in huge freight elevators, to the top of the 8-story plant, and they walked along every aisle of each floor, finishing their visit at the steam-turbine-driven power plant on the ground floor. The building occupies a ground area of over 4 acres, and the trip through the plant required over two hours of steady walking. A guide was assigned to every 20 men, and explained briefly the various interesting operations in the manufacture of electrical wire and cable of all kinds.

#### Annual Banquet

The annual banquet of the institute was held Tuesday evening in the Rose Room of the Windsor Hotel. It was the most elaborate and most successful banquet ever held by the institute. A beautifully engraved menu card contained a long list of delicacies that defied the food shortage and flaunted the H.C. of L. After the guests had partaken more or less fully of eight solid courses, not to mention those of a liquid nature, the president, R. A. Ross, who acted as toast master, started the speeches with the toast to the King. Dean Mitchell proposed the toast to the province of Quebec, and Hon. Charles Marcl, M.P., replied. Col. Leonard proposed the toast to the engineering profession, and the reply was by Prof. Scott. Mr. Ross toasted the kindred professions, and the replies were by Justice E. F. Surveyer and B. K. Sandwell.

The "Engineering Activities of the Province of Quebec" was the general descriptive title given to the third and last day's proceedings. The two sessions on Thursday were held in Windsor Hall, as the Ladies' Ordinary had been found considerably too small for the crowd on Wednesday morning, and for the second time during the meeting, larger quarters had to be found.

R. A. Ross opened the morning session Thursday promptly at 10 o'clock, but shortly afterwards he requested Dean Mitchell to preside, as he was called away on matters of civic administration.

#### Quebec's Policy as to Water Powers

Oliver Lefebvre, chief engineer of the Quebec Streams Commission, reviewed the policy of the province of Quebec in respect to water powers. He explained the method of leasing and the steps taken by the provincial government to ensure a reasonable measure of control over the water powers. He said that capital will not invest where the conditions are drastic or arbitrary. He quoted some of Mr. Amos' statistics on water powers in Quebec province, and also the totals of those compiled by the Dominion Water Power Branch and the Commission of Conservation, and then outlined the organization and work of the Quebec Streams Commission, particularly in regard to the St. Maurice, St. Francis, and Ste. Anne de Beaupre storage reservoirs, and showed the great beneficial effect that these dams have had on the minimum flow of the rivers. With the exception of the Gatun reservoir, in connection with the Panama Canal, the St. Maurice storage reservoir is the largest in capacity in the world. Gatun stores 183 billion cu. ft., St. Maurice 160 billion. Mr. Lefebvre also outlined very briefly the work that the commission now has under consideration, which includes at least four more storage dams, totalling several million dollars in estimated cost.

Theo. J. Lafrenière, sanitary engineer to the provincial board of health, reviewed the public health acts of Quebec.