

Toronto, and he intimated that he might be of some service to the institute in connection with the Ontario section of his society.

As a man grows in his profession, said Mr. Rice, he may desire to join other more specialized societies, and the institute should offer no objection to his doing so, but he should join the institute first.

The chief aim of the Engineering Institute, said Mr. Rice in conclusion, is the advancement of science, and in this its objects are identical with those of all other engineering societies in the world, excepting the German one, whose charter declared that the organization was for "the advancement of science for the benefit of the Fatherland"; how mistaken this qualification was, history has shown. The printed and avowed aim of the Engineering Institute, said Mr. Rice, is to render the maximum of service to the nation, but in this case the intent is broader and service to the nation means service to all mankind.

#### Paper on Modern Highway Problems

Mr. Francis then introduced E. W. James, who had been invited to deliver the principal luncheon address, and who spoke on "Modern Highway Problems." Mr. James' address appears practically in full upon another page of this issue.

The Tuesday afternoon session was called to order by President Leonard about 3.15 o'clock in the Ladies' Ordinary of the Windsor Hotel, and the room was well filled. William McNab presented the report of the scrutineers. As previously announced, R. A. Ross was elected president by acclamation. Mr. Ross is an electrical engineer, and a member of the Montreal Administrative Commission.

The new vice-presidents are: Brig.-Gen. C. H. Mitchell, dean of the faculty of applied science and engineering at the University of Toronto, and W. G. Chace, chief engineer of the Greater Winnipeg Water District.

The newly-elected members of council are: F. B. Brown and Julian C. Smith, Montreal; A. R. Decary, Quebec; F. A. Bowman, Halifax; J. B. Challies, Ottawa; E. R. Gray, Hamilton; Guy C. Dunn and B. Stuart McKenzie, Winnipeg; J. R. C. Macredie, Moose Jaw; Geo. W. Craig, Calgary; and H. W. Burwell, Vancouver.

Col. Leonard enquired whether there were any matters not on the program which the members would care to discuss, but no new business was brought forward. He then suggested a topical discussion on legislation. J. B. Challies outlined the status of legislation in Ontario, and briefly reviewed the bill suggested by the Joint Committee of Technical Organizations. B. M. Hill, H. E. T. Haultain and H. H. Vaughan expressed emphatic opposition to the J.C.T.O. bill and the applause indicated that the majority of members present preferred the E.I.C. bill. Fear was expressed that the J.C.T.O. bill would brand engineering as a trade rather than a profession.

#### Regarding Place for Next Annual Meeting

Col. H. J. Lamb invited the members to choose Toronto as the place for the next annual meeting. H. E. T. Haultain supported this invitation, referring to the enthusiasm and fine leadership that is being shown by the new chairman of the Toronto branch, R. O. Wynne-Roberts. The younger members of the branch are solidly behind Mr. Wynne-Roberts, said Prof. Haultain, and would work hard to make the next annual meeting a big success.

M. A. Lyons, of Winnipeg, extended an invitation on behalf of that city, and members from Regina supported Winnipeg so strongly that the members decided to leave the choice to the incoming council, but recommended to the council that either Toronto or Winnipeg be chosen as the place of the next annual meeting.

E. M. Proctor, Toronto, enquired what the council had done with the schedule of salaries proposed by the Toronto branch, and was informed by the secretary that it had not been discussed by council, but that he would put it on the agenda for discussion at an early date.

Col. Leonard read his retiring presidential address, discussing exhaustively the growth of Bolshevism and trade

unions, showing their menace not only to capital but to civilization itself. He also touched briefly upon certain engineering developments in Canada and other countries during the past year. Col. Leonard then introduced the new president, R. A. Ross, who thanked the members for the honor conferred upon him and declared the session adjourned.

Over 400 guests assembled in the Rose Room of the Windsor Hotel, Tuesday evening, for the annual reception and dance. The program consisted of 22 dances, including one steps, fox trots and waltzes. Dancing commenced at 9 p.m., and continued until nearly 3 a.m. At 11.30 a buffet supper was served. There were bridge tables for those who did not care to dance. J. L. Busfield was chairman of the men's reception committee, and Mrs. H. G. Hunter had charge of the arrangements for the dance.

At 10 o'clock Wednesday morning, January 28th, President Ross opened the first general professional meeting of the Montreal branch, which was combined with the annual convention of the institute. "The Gateway of the Profession" was the title given to the morning's proceedings, which were entirely in the hands of educators.

Dr. R. F. Ruttan, professor of chemistry and director of the chemical laboratories, McGill University, read a paper on the training of the chemical engineer. He reviewed the present status of this highly specialized branch of engineering, and urged that the Canadian universities be better equipped for research work. He advocated the extension of the course to five years, with the last year to be spent at research stations to be established with the co-operation of the industries concerned.

#### Physics in Engineering Education

Dr. A. S. Eve, professor of physics, McGill University, read a paper on the importance of physics in engineering education. He expressed the hope that in the future engineers would be better physicists, and physicists better engineers. He reviewed the work of the physicist in the war, and outlined their part in research. The engineer, said Dr. Eve, is an admirable buffer or link between the physicist and the business or financial man, as the engineer is a man of great practical sense who can best determine and give effect to the economic worth of the physicist's discoveries. However, there should in the future be more engineers who are sound physicists, said Dr. Eve, and more physicists who are great engineers.

Dean C. H. Mitchell opened the discussion on the papers by Dr. Ruttan and Dr. Eve. There are 810 students, he said, enrolled in Toronto's engineering faculty this year, of which 405 are first-year men, and 60% are returned soldiers. Of the 405, nearly one-quarter, or 87 to be exact, have chosen chemical engineering, which is one of the eight departments of the faculty. Electrical engineering is the second most popular choice, while civil engineering is a rather poor third, although there are certain special reasons for that, declared Dean Mitchell.

The popularity of the chemical engineering course, he said, merely reflects the opinion of the country that the development of Canada's natural resources is going to demand many trained chemical engineers. There will be room for them all eventually—but how are we going to absorb all these men in industry as soon as they are turned out by the university? As a start, said Dean Mitchell, the institute should back up his slogan, "Buy Canadian brains."

#### Relation of the University to Industry

There must be a growing understanding between the universities and industry, said Dean Mitchell. The universities must lead and must keep their ears to the ground. They must anticipate the demand for men of specialized training, and when industry calls for men of certain abilities, the universities must be in a position to say that they have already trained such men and that the men are available.

Dean Mitchell also reviewed the necessity for co-operation between industry and university in summer work, so that the students can gain practical knowledge of details of actual working problems.