found the time too limited for proper discussion of those important matters. We would, however, recommend that this committee be continued, and that the scope be broadened to more clearly include water supply and water purification and problems of interest to sanitary engineers."

James White said that the Ottawa branch is in favor of engineers being on the boards of health, and that medical men on such boards had admitted that the engineers should have places on the boards. He referred to the recommendations that had been made along this line by the town-planning adviser to the Commission of Conservation.

Award of Medals

The Gzowski medal committee reported its findings and awarded the medal for this year to William Francis Tye, past president of the society, for his able paper on "Canada's Railway Problem and Its Solution." The student's prize was awarded to W. R. Way for a paper on insulated power cables. The Monday afternoon session was then adjourned.

The Fuel Situation

A dinner was tendered the visiting members on Monday evening at the University Club, followed by a smoker and entertainment at the society's headquarters which was attended by a large number of Montreal members and all of the visiting members.

The members reassembled at 10.35 a.m., Tuesday, to hear an address on "Fuels," by B. F. Haanel, B.Sc. Arthur St. Laurent, vice-president of the society, presided. The registration, which had been 68 at the end of the first day, had grown to 101, and the session was well attended. After Mr. Haanel had finished reading his paper, which is printed in full in another part of this issue, Mr. St. Laurent called for discussion.

Walter J. Francis explained that C. A. Magrath, who had intended to be present to take part in the discussion, had been called to Ottawa, and that Mr. Surveyer, of the Research Council, was also unable to be present. Mr. Francis referred to the memorandum on industrial preparedness, which, he said, was responsible for the subsequent appointment of the Research Council, and announced that his confrere in the preparation of that memorandum, Mr. Ross, who was also a member of the Research Council, was present and would take part in the discussion.

J. W. Harkom said that he had been a member of the society since its establishment, and that in his opinion the society had never been presented with a paper of such value and importance as that by Mr. Haanel. From ¹⁸74-6, peat fuel from the St. Hubert bogs was used on the C.P.R. It was found perfectly practical to run on that fuel. The peat was pressed into briquettes. It kept the firemen very busy, however, and constantly fell to pieces when shovelled, so it was found advisable to revert to wood, which was used until supplanted by coal. But peat is fuel of value, and more use should be made of it in some districts. The conservation of fuel is the most important problem before Canada to-day. Waste has been the curse of the country from the farmer's woodpile to using coking coal for fuel purposes. By-product plants should be encouraged. One blast furnace he had visited on the Clyde had established a by-product recovery plant which had paid for itself in five years and which shipped tar, creosote, ammonia and other products, in astonishing quantities, to the West Indies and elsewhere.

Mr. Haanel said that the state railroads in Sweden run on peat powder and have found that one and four-tenths tons of peat powder equal one ton of good Welsh coal.

R. A. Ross, member of the Honorary Advisory Council for Scientific and Industrial Research, showed a large map on which was indicated the fuel and water power resources of Canada. He said that when coal is selling at \$130 a ton in Italy and \$60 a ton in Paris, and when we are shivering on the brink of possible stoppage of imports of coal from the United States, we begin to realize how much our civilization depends upon energy. Mr. Haanel's paper shows what a big job the Canadian engineers have to face.

Develop Water Power Resources

Only 12% or 13% of our imported coal, said Mr. Ross, is used for domestic purposes. The remainder is for the production of power. The problem is therefore not solely one of fuels, but one of energy resources, and our "white coal," or water powers, must be taken into consideration.

"The United States has 'treated us white,' " said Mr. Ross. "Next winter, I fancy, we are going to be up against it hard if we do not do what we can to supply our own energy requirements and not lie down supinely. Ontario has no coal but abundant water power for all power needs. The only fuel imports Ontario should need are for heating. No coal should be needed for manufacturing purposes, broadly speaking."

Water powers and fuel resources should be developed jointly, said Mr. Ross, adopting different policy of developments in different districts to meet the different requirements of the districts. Saskatchewan and Alberta, lacking water power, will have to develop their own fuel resources.

By-products cannot be overproduced with economic results. It is an engineering problem to determine when to recover by-products and whether peats and lignites should be burned under steam boilers or made use of by means of gas producers and gas engines.

Pressure should be brought to bear upon the government from every possible source. The whole matter is in the hands of the government and governments rarely act excepting under pressure of public opinion or pressure exerted by private interests. Scientists in the employ of the government have collected an immense mass of information which has been embalmed in green or blue covers and filed on shelves. These scientists and engineers in government service want to put their work to some useful purpose, but they often cannot arouse interest by their own efforts and, said Mr. Ross, "it is up to the Canadian Society of Civil Engineers to help them."

The Research Council has been urging the government to establish a briquetting plant in Saskatchewan, to handle lignite, but so far the government has taken no action. Satisfactory briquettes can be made and a full size commercial plant should be established to see how cheaply they can be made upon a commercial basis. Possibly byproducts of the plant could be obtained to cheapen the binder used in the experimental briquettes.

"The fuel situation is an engineering problem," said Mr. Ross, "and the engineers should get into it. If it were a medical problem, the doctors would be in it at once; if it were a legal problem, the lawyers would be there; and if the engineers don't tackle the fuel problem, the lawyers will!"

Possible a ministry of power and fuel might be needed to administer the solution of the problem, said Mr. Ross. The Dominion government, provincial governments and private interests are involved. Some sort of a super-