

tute, more especially because of the friendly relationship between the two organizations and the similarity of the ideal to which they were aspiring. He assured them that all the appurtenances of the Institute were at their disposal, and that its library and apartments were open to their accommodation. He recalled what the Institute members had done in the crisis of the strike extremity, referred to by the mayor, in donning their overalls to help the city through. No more vital blow could be made at the life of a city than to cripple its water supply. It constituted the solar plexus of the municipal system.

Mr. Carleton E. Davis, president of the association, voiced the pleasure that they felt in coming to Montreal and the consciousness that came to them when crossing the border that they were coming to an hospitable land. The delegates and ladies were then entertained by an orchestral concert, which with dancing and refreshments served to provide an enjoyable evening.

While the election of officers was not completed until later in the week, a certain number of them were chosen early in the week by postal ballot. Announcement of the election of the following gentlemen for the ensuing year was made on Tuesday: President, Beekman C. Little, Rochester, N.Y.; vice-president, Edward Bartow, Urbana, Illinois; treasurer, James M. Caird, Troy, N.Y.; trustee (second district), Harry F. Huy, Buffalo; (fifth district), Robert J. Harding, San Antonio, Texas.

Canadians Registered First Day

The Canadians registered up to Monday evening comprised those whose names appear below. Very many more registered later.

Charles P. Casgrain, manager, Waterworks, Quebec; Aime Cousineau, Health Department, Montreal; W. K. Dalglish, General Supply Co. of Canada, Ottawa; R. L. Dobbin, Waterworks Department, Peterborough; Ernest Drinkwater, town engineer, St. Lambert, Que.; J. A. Duchastel, city engineer and manager, Outremont, Que.

Frederick E. Field, Montreal West.

Geo. B. Greene, General Supply Co. of Canada, Ottawa; A. K. Grimmer, Temiskaming, Que.

Charles Hale, superintendent waterworks, Montreal; Francis Harkin, Francis Hankin & Co., Montreal; S. T. Hard, Neptune Meter Co., Ltd., Toronto; E. M. Hulbert, Jenkins Bros., Ltd., Montreal; H. G. Hunter, New York Continental Jewell Filtration Co., Montreal.

Ray Knight, Francis Hankin & Co., Montreal.

F. C. Laberge, Montreal; Albert A. Lafin, superintendent waterworks, St. Stephen, N.B.; Theo. J. Lafreniere, Montreal; Edward Laurie, Montreal; Pierre Leclerc, division superintendent waterworks, Montreal; Thos. Wm. Lesage, superintendent waterworks, Montreal; James Leslie, Canada Fire Underwriters' Association, Montreal.

W. E. Macdonald, city water works engineer, Ottawa; J. R. McCallum, Board of Water Commissioners, Welland; F. R. McKechnie, McKechnie & McLaren, Montreal; Alex. Milne, St. Catharines.

Horace Chas. Nixon, Sanitary Engineer, Saskatoon.

Joseph O'Neill, superintendent meter and inspection, Department of Water, Montreal; S. A. Ord, Preston Light and Water Co., Preston; Henry Ortiz, Grand Mere Water Board, Grand Mere, Que.

William Perry, hydraulic engineer, Montreal; F. H. Pitcher, Montreal Water & Power Co., Montreal; Adrien Plamondon, engineer and contractor, Montreal.

W. H. Randall, Neptune Meter Co., Ltd., Toronto.

Jas. J. Salmond, president and general manager, Canadian Engineer, Toronto; A. U. Sanderson, superintendent filtration plant, Toronto; C. W. Schiedel, water works, Waterloo; W. R. Stavert, Jenkins Bros., Ltd., Montreal; Lieut.-Comm. Chas. Stephen, Montreal.

Joseph Tremblay, manager water works, Montreal.

Charles Warder, superintendent water works, Niagara Falls; N. McL. Ramsay Wilson, Water Commissioners, Brantford; David L. Webster, Water Commissioners, Brantford.

THE MUNICIPAL WATER SUPPLY OF MONTREAL*

BY T. W. LESAGE

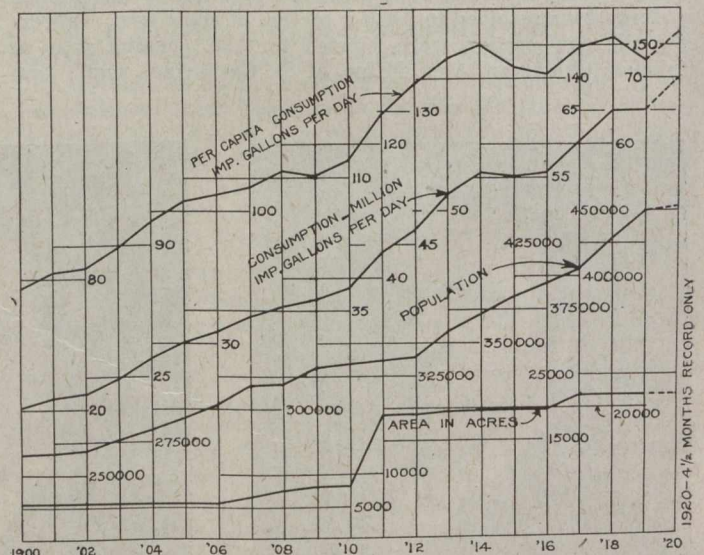
Engineer, Water Works Department, Montreal

MONTREAL, the commercial metropolis of Canada, has a population of close to 700,000 inhabitants, making it the sixth largest centre of population on the North American continent. Within its administrative limits proper, the city comprises an area of about 28,400 acres, and contains a population of 694,000.

There are in Montreal two water supply systems, the city municipal system supplying the main portion of the city, to the extent of about two-thirds of the above population, and a private water company, the Montreal Water & Power Company, supplying about one-third of the population, besides two towns outside the limits of the city.

Early Supply Systems

In 1852, after a serious fire had destroyed part of the city showing the inadequacy of the existing water supply, a report was prepared and submitted by T. C. Keefer to provide a supply from the head of the Lachine rapids, with an open canal 4½ mi. in length, with sufficient fall to supply the water and hydraulic power to pump 5 million Imperial gallons



MONTREAL WATER WORKS—AVERAGE DAILY AND PER CAPITA CONSUMPTION AND POPULATION AND AREA SERVED

per day to the proposed McTavish reservoir at an elevation of 204 ft. above the river. These works were carried out and put into operation in 1856.

The supply had to be supplemented by steam pumps in 1868, as the city's water consumption had outgrown the 5-million-gal. capacity of the hydraulic pumping supply.

Enlargement of the Aqueduct

Meantime, the project of enlarging the old aqueduct to utilize the power for pumping sufficient water in keeping with the city's wants, came up at various times. Finally, in 1905, estimates were prepared for widening the aqueduct to develop water power sufficient to pump 50 million gallons and to build an intake out from shore and a concrete supply conduit to bring water to the steam pumps, whilst the aqueduct was being widened. The works began and the concrete conduit put in operation in the fall of 1909, when the aqueduct was emptied and contracts let for its widening.

In 1910, and before the contractors had completed the first widening, a further change of plans was decided on. This contemplated a still greater increase in the dimensions of the aqueduct, to afford sufficient water power to supply

*From a paper presented at the Convention of the American Water Works Association, Montreal, June 21-25, 1920.