

School of Science Excursion

What has come to be regarded of recent years as the annual excursion of the School of Science was run this year to Niagara, on Saturday, the 22nd inst., some three hundred and thirty students participating. It is doubtful if any other area of equal size on this or any other continent presents so much of interest to students of all branches of engineering science as does the district on both sides of the river adjacent to the great waterfall. Mr. Smith, of the Canadian Niagara Power Company, once tersely expressed this in the following, "Our tunnelling operations are the work of the miner, our development of water power is of special interest to the engineer of hydraulics, our generating and transmission systems represent modern progress in electrical science, and our buildings above ground we hope when completed will be architectural."

The excursionists, including a number of the members of the faculty, left Union Station by G. T. R. special at 7.30 a. m., arriving at Niagara Falls some three hours later. The first point of interest visited was the distributing station of the Canadian Niagara Power Company, on the old Portage Road, where monster step-up transformers are being installed. From here the party proceeded to the intake of the Ontario Power Company, where rock drilling and rock blasting operations were in full swing and where an opportunity of inspecting the large diverting dam recently constructed by that company was afforded. A feature of the work is the method of conveying the water from the intake to the power house, this, unlike the others in operation or in process of construction, being done by steel conduits eighteen feet in diameter, laid just beneath the ground, and leading to the generating station some three quarters of a mile below.

The wheel pit of the Toronto Niagara Power Company and the large concrete diverting dam in process of completion by the same company were visited in turn, the complete and economical method of mixing and distributing the concrete evoking general and favorable comment.

From here, the excursionists proceeded to the power house of the Canadian Niagara Company, where the large turbines and generators in place or being erected were the cause of many an interested question and much admiring remark. Through the kindness of the superintending engineer, many availed themselves of an opportunity of descending into and inspecting the completed portion of the wheel pit.

In the afternoon a party visited Queenston via the scenic route and were delighted with a very entertaining exposition by Mr. McMillan, of the geological history of the locality as illustrated in the exposed strata of the gorge. Another party took in the DeCew Falls hydraulic work, where they had an exemplification of a compact and almost perfect system of power development and electrical generation on a moderately large scale. Others were afforded a visit to the tunnel of the Electrical Development Company. This necessitated a descent in the shaft by cage a depth of one hundred and fifty feet to the subsidiary tunnel, which has been drifted underneath the river to the outlet of the main tunnel immediately behind the great sheet of falling water near the centre of the horseshoe. The process of excavat-

ing the lower bench of this tunnel is well under way, the rock being hauled to the outlet and discharged through a chute into the turbulent waters beyond. The roaring of the cataract, the angry swish of the spray and the booming of the miners' shots made a combination somewhat thrilling and weird to the uninitiated visitor. Not a little sympathy was expressed for the dark and cheerless existence of the mules that are stabled in the tunnel, are employed for hauling purposes, and whose life underground is not varied by even occasional glimpses of daylight.

A trip over the Ontario Power Company's generating station and a visit to the American side and its places of interest to the industrial chemist and the engineer completed the day's programme. The returning train left Niagara Falls at 9.30 p. m.

The uniform kindness of the engineering staffs in escorting the visitors was very generally appreciated. In this connection must be mentioned Messrs. Smith, Mitchell, Goodwin, Rust, Sauer, Harcourt, Allan, Brandon, Thorne and Gardner.

Among the guests were Mr. Somerville, Resident Engineer, G. T. R. western division, and Captain Gamble, president of the Engineers' Club of Toronto.

The committee of arrangements was Prof. C. H. C. Wright and Messrs. James, Shirriff, Barber and Caldwell.



Second Section Company, Canadian Engineers

The first of the season's work of the Toronto corps was carried out on the lake shore, Exhibition Park, on Saturday, October the 15th. About forty of the corps left the armouries, Queen's Park, at 10 a. m., and marched to the old fort, where the pontoon wagons were man-handled to the shore. An infantry pontoon bridge was built out a distance of 75 feet and an artillery bridge about 40 feet, after which the men were drilled in company formations, returning to the armouries about 5 p. m.

The corps is at present very active, preparing for fall inspection on November 12th. Practice in drill and engineering is given every Tuesday and rifle practice and bridging on alternate Saturdays.

Prizes are being offered for recruiting, knowledge of drill and engineering, and efficiency of sections at examination.

Promotions: Sapper A. B. Silcox to be corporal; appointed to No. A Section.

Efficiency Allowance

Efficiency allowance at the following rates will be paid to each member of the company (except those who attended camp at Niagara) who turns out regularly to the fall drills, week days and Saturdays, when ordered, and who passes a practical examination before the commanding officer in drill and engineering duties in which he has been instructed. Attendance at musketry must also be put in. Rates: Recruits, \$2.40; 2nd year men, \$4.80; 3rd year and over, \$6.

Parades

Company will parade, dress mufty, on Tuesday, October 25, 5 p. m., and Thursday, October 27, 8 p. m., for engineering instruction, and on Saturday, October 29, at 10 a. m., for pontoon bridge work.