

survey, but is much better than a sketch, and has no distortions. There were no angles read and no lines measured, the points of control having been resected by graphic triangulation. Incidentally it may be remarked that those points were more secure than if fixed by ordinary transit and tape method; because, being closely resected in horizontal, the liability to error in chaining over uneven ground was eliminated. The point A was a kilometre post, and the second tenth (every tenth of a kilometre—328 ft.—is marked on the main roads in France) or 656 ft. north of A, supplied the base line, from the extremities of which B and C were located. From A and B the points D, E, F, G, H, and J were in turn resected, and the control was established. The detail was supplied by "productions," "cross shots" and pacing, and the whole completed in four hours' field work. The military information has been left out of Fig. 1 in order to make it clearer.

Government Control

A complete and comprehensive topographic survey of the Dominion would necessarily have to come under the supervision of the government. The organization of a staff could be effected without much difficulty. A system of primary triangulation could be entrusted to surveyors from the astronomical and geological branches; secondary triangulation could be linked up by men selected from the topographical surveys branch; and the topographic detail supplied by topographers working under the supervision of the Director of Military Surveys, Department of Militia and Defence. The latter department is probably the only one in the government which has had the experience of using trained topographers, for the production of the one-inch military map.

ONTARIO MUNICIPALITIES FAVOR HYDRO RADIALS

At a meeting of the Ontario Municipal Hydro-Electric Association held last week in Toronto, representatives of the various cities, towns and townships affected, unanimously expressed the opinion that the construction of hydro radials should be started without delay. During the war the provincial government prohibited any work on hydro radials, but the municipal representatives now desire that this prohibition should be withdrawn. One delegate inquired regarding possible increased cost of construction, and was informed by the secretary that the Hydro-Electric Power Commission is of the opinion that construction can be successfully completed without exceeding the money previously voted by more than 10%.

The delegates were granted an interview by members of the provincial cabinet and requested that the government should guarantee the bonds of the Bowmanville, Oshawa & Eastern section of the proposed radial railway. The bonds of the western section have already been guaranteed by the province.

The meeting also passed a resolution requesting the provincial government to empower the Hydro-Electric Power Commission to make a survey of the province to inquire into the possibility of a provincially owned telephone system.

At the third annual meeting of the Canadian Geodetic Society, held last week in Ottawa, the following officers were elected: President, W. M. Tobey; vice-president, J. D. Craig; secretary-treasurer, H. G. Rhoades; members of council, A. M. Grant, J. B. Cameron and H. P. Moulton.

The new \$7,000,000 structural steel mill now being built in Sault Ste. Marie—the first one in Canada—will be 1,650 ft. long, will give employment to 700 men in addition to the force now employed, and will turn out \$20,000,000 worth of steel each year. Pig iron, open hearth steel rails, billets slabs, merchant bars, light rails, angle bars, splice plates, tie plates and structural shapes, chrome vanadium and nickel, coke, tar and sulphate of ammonia are to be among its products. The new plant will require 1,250,000 tons of coal and 1,000,000 tons of ore annually.

AN ENGINEER'S LETTERS*

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THE letters of an engineer should differ somewhat from the letters written by the average business-man. Although there are, of course, many exceptions to the rule, the engineer is more likely to be a college man than is the business-man. The professional man is supposed to show in his letters the marks of his education, and generally to indicate a dignified "professional" bearing and a temperament influenced as much by a desire to add to the world's knowledge as by the pursuit of gain.

The professional man does more or less work in research and "pure science" for the good of his profession. He is, of course, not averse to making a profit, but he does not bend everything to that end as does the business-man. Incidentally, this is one of the reasons why the professional man has been relatively losing ground in the matter of compensation for his services during the last several years. It is the reason why teachers, editors, pharmacists, etc., are underpaid and overworked. It is the reason why college students have been parading in different parts of the country carrying such signs as "Feed the Prof." and "A Professor Works on his Stomach."

Cannot Be Too Commercial

Yet it would be a calamity indeed if professional men went too far in commercializing their efforts. It would lessen the discoveries in science, lower the confidence we like to feel in an engineer, and spoil the human element in the teacher and minister. There is something to be said for the ethics and traditions of the professions,—for the impracticableness of the researches and student. Imagine a physician who advertised in vivid colors on bill-boards, or an engineer who built a flimsy bridge to skimp a profit, or a minister always thinking of his remuneration for a funeral. It is obvious that a professional man should be swayed by a point of view somewhat different from that of the business-man "on the make," to whose activities Adam Smith's dictum of supply and demand and the itching palm still hold good.

Business-men have some of the finest qualities imaginable, are often unsung heroes, and deserve praise and appreciation that they do not always get. Yet the gingery, "get-there" attitude which the more extreme types assume is sometimes over-done. The "New York Times" recently printed the protest of a South American writer named Albuquerque against the more superficial and "slapdash" variety of North American advertising, which gives offense to the dignity and traditions of high-class Latins.

A European criticism of American business style complained that a letter from New York or Chicago is too likely to run in this vein:—

"You are a business-man; your time means money. You cannot afford to waste it by fooling around after low-grade stuff. It is up to you to get the best. You can get it, and get it quick, from Jones & Co. Why? Because Jones & Co. specialize in mind-saving. Jones & Co. have studied this thing out. They know that you need your brains for live work, not for worrying over back numbers."

The "Art" of Salesmanship

This style of letter is, of course, familiar to everyone; most of us have received waste-paper baskets of such "live-wire" exhortations and commands, frequently re-enforced by a picture of a vigorous man pointing his finger straight at the reader!

Another European stricture on American business methods bewailed the advance of the "art of salesmanship," because, with "the system in the saddle," complained this conservative, one eats imitation jam in which even the seeds have been made by machinery to give an appearance of naturalness to the product.

*From the Compressed Air Magazine.