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SHOULD PROVINCIAL BOARDS OF HEALTH DESIGN SANITARY STRUCTURES?

MAY we anticipate that the engineering services of the provincial boards of health will become consultative bodies, especially as to the design of water-purification and sewage-disposal works? This question, asked by F. A. Dallyn, sanitary engineer of the Ontario Board of Health, in an article on another page of this issue, should be answered emphatically in the negative.

"There can be no doubt that . . . the state is capable of designing," says Mr. Dallyn. "More especially is this evident when the staff and organization of the municipal engineer may be used for detailing. . . . If the consulting sanitary engineer is to be superseded, there should be a definite forward movement of municipalities in favor of state offices assuming consultative capacities."

We strongly suspect that Mr. Dallyn is guilty of Shavian humor, and that he is merely having a little fun at the expense of his fellow sanitary engineers in Canada, otherwise he surely would not place himself in the position of appearing to advocate Bolshevistic doctrines of this sort. Surely no man who has been to Russia to fight Bolshevism, as has Mr. Dallyn, and no man who has acted as consulting sanitary engineer to any Ontario municipality of late years, would advocate seriously the superseding of consulting sanitary engineers and the acquiring by the state of a monopoly in sanitary design.

The office of provincial sanitary engineer would, indeed, be a very important one were he to be required actually to design all water works and sewage disposal plants. But we think that Mr. Dallyn would not care to remain in office long under such heavy responsibilities for a province the size of Ontario and without the benefit of the advice of any

consulting engineers—they would have been "superseded," of course, just as all private enterprise has been superseded in Russia. His clients, the municipalities, might require too much. They might expect a solution of the sewage sludge problem, or a cheap method of sterilizing water without the addition of chemicals, and Mr. Dallyn might wish that he were once again in the position of a judge of the engineering merits of others' designs rather than of one who was being held directly responsible for the designs.

It may be quite proper for a provincial board of health, or local government board, to give advice within certain definite limits, and to pass upon the efficiency and safety of any plans submitted to it, but it is certainly beyond its functions actually to design a water purification or sewage disposal plant for a municipality, either free of charge or by giving its sanitary engineer permission to do the job "on the side" as a personal venture. Such a program would, indeed, cause the consulting sanitary engineers to be superseded, and incidentally would retard progress in the sanitary art, for we challenge Mr. Dallyn to point out contributions to sanitary engineering which have been made by any engineers while in the employ of any state or provincial boards of health, that will compare with the advancements that have been due to private initiative.

The King can do no wrong, but this immunity from error does not extend to the King's servants. The state is a glorious institution,—when its servants serve the people, but not when they attempt to crush private initiative and become despots. Mr. Dallyn should recall his tentative invitation to the municipalities to join in a "forward movement" in favor of state offices assuming consultative capacities,—a movement in which the engineering service of the provincial board of health is to become the leader by "organizing the co-operative effort" by which the state is to acquire its sanitary knowledge. But again we state that we suspect that Mr. Dallyn, who is an able engineer and an energetic (though sadly underpaid) worker in the interests of sanitary progress, is having a little joke on the profession in appearing to sponsor such an invitation.

THE WATER-RATIO-SURFACE-AREA METHOD

RESULTS that show the value of the surface area method of proportioning concrete materials when that method is combined with the use of Prof. Abrams' water-cement ratio, have been obtained by the engineering and construction departments of the Hydro-Electric Power Commission of Ontario.

In his article upon another page of this issue, Roderick B. Young, of the Commission's laboratory staff, gives an interesting comparison of the results obtained in some work where the Commission built a structure by this method and another similar structure by the old methods of proportioning, the same materials being used in both structures. The tests showed greater strength in the concrete proportioned by the water-cement-ratio-surface-area method than in the concrete proportioned in the present usual manner, even when less cement was used in the Hydro's proportioning than was used in the work done under the outside specifications.

In work done at High Falls, the Hydro obtained strengths far in excess of those normally secured by the use of the same quantity of cement.

The formula for obtaining uniform mobility, at which Mr. Young hints, will be of great value if further tests prove its accuracy under a wide range of conditions, and it is hoped that the Commission will vigorously pursue its investigations along this line. The suggestions regarding proportioning by weight and saving fractional parts of bags of cement are also noteworthy, and no doubt the next few years may see some radical changes in construction methods when contractors and construction engineers fully realize the definite savings that will result from taking the guess-work out of concrete-making.