

## SOME FACTORS IN MUNICIPAL ENGINEERING.

A PAPER of considerable merit and interest to municipal engineers was presented to the American Society of Mechanical Engineers at its annual meeting in December and published in the February issue of the Journal. The author, Mr. M. L. Cooke, of Philadelphia, calls attention to the wide opportunity for the activity of engineers in municipal work and to the fact that at the present time a large part of this field is either not covered at all or covered by non-technical men. He emphasizes, however, the necessity for the cultivation on the part of the profession of a broader and more collective interest in public affairs. There is a note of warning that with the growing consolidation of manufacturing and other enterprises, especially in the utility field, there is danger that the cities of the country will be left without proper engineering advice in certain of their engineering questions. The author points out that the matter of viewpoint and a genuine public interest are as essential in the engineer who is to advise a city as ability and experience.

An important part of the paper is the reference to the function of advertising, both as affecting the professional activities of the engineer and in the movement to educate the public to the necessity for having public work done on an engineering basis. He holds that certain kinds of municipal engineering, street cleaning for instance, are based on a growing appreciation on the part of the public of the factors of the problem, and that this can only be developed through systematic and aggressive advertising methods.

The effectiveness of the engineer in public employ is very largely dependent upon the support given to him by his profession in the education of the public to proper policies of administration. The engineer holding a public position is not "in politics," and to be a success must have the collective support and advice of his profession. There are too many matters that should be determined by technical and scientific considerations now decided by vote. Attention is called for instance to the archaic systems of appropriation and control of the budget now in general use in our municipalities with suggestions for remedies.

Civil service as it applies to filling the higher technical positions is referred to and a note of warning sounded as to the growing complexity of all governmental problems. Lines along which municipal agencies may be simplified are indicated, and a suggestion is made for a municipal reference library as a branch of the Engineering Societies' library.

Quotations follow from different sections of the paper:—

The test by which the role of the engineer is to be determined will be the development in our profession of a genuine spirit of public service. The community is apparently ready to accord the engineer a leading, perhaps a controlling part, if the engineer will consider that in every decision and act there shall be the clearest possible recognition of the public interest. We should remember that democracy can use the engineer without giving him either a leading or a controlling hand in affairs. This use of engineers has been conclusively demonstrated by public utilities companies, especially during the last thirty years. In most of our larger cities during this period there have been operating one or more so-called "big business" men, who have built large fortunes and a certain kind of fame in the development of enterprises in which engineering was an important factor and in which it should have been the paramount and

controlling factor. In these enterprises engineers have necessarily been used, but not in a leading or controlling capacity.

That profession which considers only its own and its clients' interests without a proper regard for those of the general public will be accorded the same position which history has always given those who are led by no higher star than self-interest, however enlightened that self-interest may be. I firmly believe that the engineering profession is rising to meet its broader responsibilities with perhaps an even more quickened pace than that which during recent years has wrought such sweeping changes in the medical profession and that of architecture. There are certain kinds of engineering in which financial and almost all other kinds of preferment depend on an attitude of mind which, while not necessarily anti-social does not provide sufficient opportunity for entertaining a virile public point of view.

As a representative of public, rather than private interest, it is my duty in choosing the advisers of the city, which I have the honor of serving, to satisfy myself not only as to the ability of those we employ, but also as to their disinterested—yes, their public point of view.

No matter how able a man may be, how broad his experience nor how high his standing, his service to those who employ him must at all times be consistent with the public interest if, from my point of view, he is to be available for public employment.

Judged by this standard, there are in certain fields of engineering almost no engineers who are at present available for the service of the public and who at the same time have had sufficient experience for large undertakings. In the past few years we have had unusual opportunities for seeing at close range the professional attitude of those equipped with the technical knowledge required in advisers to cities on utility matters. It has been practically impossible to secure the services of those with reputations already made in the electrical field. Some of our experiences could be considered on the whole rather amusing were it not for the fact that we are left under the obvious conclusion that for the average city official to get good advice on these matters is well nigh impossible. What is more objectionable is that this condition is one quite generally recognized as true by city officials.

I must be careful to emphasize the fact that no criticism of any individual is embraced in these remarks, and that I am simply pointing out a danger almost necessarily confronting the engineering of an industry dominated by financiers having no knowledge and little appreciation of such professional standards as engineers are supposed to have.

The same tendency is to be noted in other branches of our profession. An eminent authority on concrete, who is in intimate touch with the men who are practising in this line, was recently asked for the name of an engineer who was not in any way affiliated with the large manufacturers of this material, and after considerable study was able to think of only one man. There is nothing necessarily improper in this situation—it may simply mean that all the competent men in this line receive retainers from manufacturers. Some months ago I wanted to retain an engineer fully posted on the details of a certain sub-division of railroad operation. It was extremely difficult to find a man without recognized affiliations which would preclude his retention. Again, I am informed that there are no asphalt experts who do not receive retainers from the manufacturers. It is a condition which should be provocative of thought by engineers.