

MUNICIPAL ENGINEERS, CONTRACTORS, AND MATERIALS.

MUNICIPAL DEPARTMENT.

MUNICIPAL ENGINEERING.

My remarks to-day will be confined to the advantages of our association, the relationship of the members to it, and to the authorities they serve; the duties and responsibilities of a municipal engineer to the community, and the duty of the representatives and the community towards the engineers. Pass to the importance of the duties and responsibilities of the sanitary engineer, these, if carried out aught, have a beneficial bearing upon the health and prosperity of the people. The demolition of insanitary property, the cleansing of slums, the removal of refuse from the vicinity of the dwellings, the introduction of pure air into our dwellings and workshops, the erection of baths and wash-houses; the provision of libraries, museums, art galleries, and places of public recreation all tend to the improvement of the community both physically and morally; and notwithstanding increased expenditure, improved pavements, new and better means of communication, improved methods of lighting, heating, and ventilating; the cheapening of the production of mechanical power, increasing the supply of fresh water, bring in their wake increased prosperity and means of happiness. To competently discharge the duties of his office, the engineer must have a suitable training. It is unnecessary to emphasize the claims of theoretical or technical instruction. The country is alive to the needs, and has met the want. At school or college, our younger men have only to desire and they gain the knowledge they seek; but a training essential to an engineer must be acquired after leaving school or college. No amount of lecturing will make the student proficient in filing and chipping; no correct knowledge of the nature of materials can be gained otherwise than by handling them. The knowledge of the component parts and arrangements of a steam engine, a boiler, a pump, a dynamo, or any other product of mechanism, is more completely acquired by one careful inspection of the article than by 50 lectures on its construction. No written description of concrete, mixing of puddle, preparation of foundation, whether in trench, tunnel, or excavation, of roadmaking or house refuse disposal is of half as much avail as an inspection during operation. The municipal engineer must also comprehend mind as well as matter, although the country is coming to the opinion that there is need of sanitary reform; still he will find prejudices to subdue, obstructions to surmount, and difficulties to overcome. There are members of sanitary authorities who are elected and accept the office for the sole purpose of reducing or "keeping down" the rates, and woe to the peace of mind of the engineer who is called upon to serve an authority composed of such men; men who, regardless of the health and comfort of the inhabitants, and unmindful of their duties as judicial expensors, seek by an ostentatious display of false economy to pose as the people's best friends. Such authorities as these are generally imbued with the sentiment that they have little or no need of a skilled engineer. Their principal ambition is but to evade the law and not to conform to it, by doing as little work and paying as little in salaries as possible. This idea, I am thankful to see, is weakening. Sanitary bodies are gradually recognising the force of the penny wise and pound foolish problem, and trained engineers of practical experience, of sound education and common sense, are increasing in demand. It is for us as an association to assist in fitting our younger engineers to meet this new order of things. Like Mr. Gilbert's policeman, the life of the surveyor to an

average sanitary authority cannot be called "a happy one"; the number and differences of temperament, the constant change of his board or council, renders his position oftentimes one of difficulty, doubt, and anxiety. It is said that the proper study of mankind is man. The sentiment I commend to the municipal and county engineer, who though he has all knowledge besides and does not know his fellowman is not likely to succeed. Passing now from the engineer to the authority and the community. We may have competent engineers able and willing to devote their energies to the carrying out of sanitary reforms, but if the community and their representatives do not truly understand their duties, the efforts of the engineer will be minimised, if not altogether lost. Why does a sanitary authority exist at all? Simply because by the springing up of the community the individual can no longer control his surroundings. Could he do this, he would in self defence look to the sanitary conditions about him, but since it is impossible that he can purify the atmosphere, or the river, or efficiently dispose of large quantities of sewerage and refuse, or carry out the thousand needs demanded where there is an aggregation of people, the Legislature has wisely determined that where this condition comes in the community collectively shall do what the individual cannot do—hence the formation of an "authority." It is conclusively established, though there are differences of climate, of habits, and surroundings that militate against the comfort of one district as compared with another, that the advancement of medical and sanitary science is such as to make it possible to have an increased health rate and a reduced death-rate.

(To be continued.)

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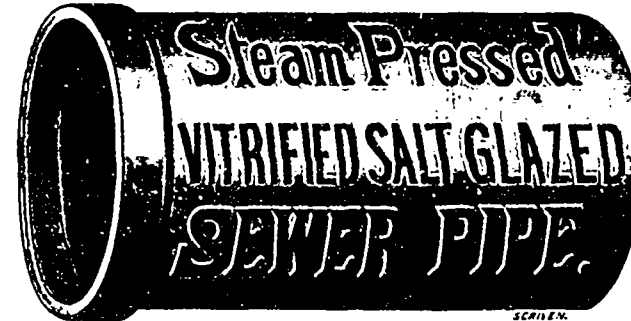
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*Abstract of inaugural address of the president of the Association of Municipal and County Engineers, England.