

of sanitation, and report fully thereon. As these reports come to hand they only go to prove the more forcibly that the good work of sanitary reform should not, and must not, be stayed; and it is proposed to make its progress a feature in the operations of the present year.

VENTILATION.

Another matter closely akin to sanitation, as generally understood, but really included within its meaning, is ventilation. While, however, the tendency of all authorities on sanitation is markedly convergent towards one broadly-defined accepted system, that of all authorities on ventilation is almost as strikingly divergent. The number of systems, from intricately elaborate to severely primitive, is legion, and each has its enthusiastic band of advocates. It is on record of perhaps the most eminent scientific engineer of the day, who has evolved a special system of ventilation of his own, for which he claimed absolute completeness, that he had it applied in its full perfection to the large mansion which has recently been built for him on a newly-acquired estate in Scotland, with the result that no one could live in the place until that system was radically altered. Without proposing to embark on any such doubtful experiments, it is urged that many of our larger institutions and public buildings, though fairly well supplied with the simpler systems of ventilation, would be considerably benefited by a more careful application of recognised general principles; and this subject is kept carefully in view in all new works, while it is proposed to improve the conditions in existing buildings where most required. Fortunately, the climatic advantages of the colony to some extent obviate the defects of insufficient ventilation, though they do not excuse their existence.

GENERAL SERVICES.

Gas.—The annual gas-bill for public buildings amounts to considerably over £5,000, which is exclusive of the cost of the consumption of gas at Parliament House during the sitting of the General Assembly, provision for which is made in the legislative vote. This large item is increasing rapidly, not only as new buildings or additions are erected in the cities and towns where gas is already provided, but also as smaller places establish gasworks and call upon the Government to join with the citizens in the introduction of the new illuminant into the public offices. To the problem of how best to set to work for the reduction of this large bill without interfering with the exigencies of the public service much earnest attention has been devoted during the last year. The subject is one involved in no inconsiderable difficulties, and gas engineers and authorities are widely at variance as to the best methods. The primary consideration starts from the meter, and is whether the many forms of patent governors or appliances to control and regulate the quantity and pressure, or improve the quality, of the gas as it passes to the service-pipes, repay in constant effect and in decreased consumption and better light the expense of fixing them; and, if so, which of their number is thoroughly reliable and durable. This is not a matter of much moment to the individual shop-keeper or householder with one meter to his premises, as he is probably persuaded, if investing in a governor at all, to try one or the other more by accident than design; but when the number of meters owned has to be reckoned by hundreds the question of first cost of the installation of any particular governor becomes a very large matter, and may represent over a thousand pounds.

Obviously, therefore, the Government should first make quite sure that the appliance selected will warrant that outlay, and repay it in decreased consumption. The battle of the governors is still raging fiercely in England, while an influential party to the contest confidently affirms that governors are worse than useless, and that the whole matter of economy in gas lies in the class of burners adopted. As these exist in much greater varieties than governors, and new ones claiming perfection are being invented every day, the question of which to apply to many thousands of lights becomes an even more insoluble problem.

A large amount of special information, covering a considerable portion of the wide field opened up by the subject, has been steadily obtained, collated, and studied during the year, and a series of extended and carefully-noted experiments has been made on a large scale upon the merits of various governors and burners at Parliament House, where the main lantern lights of the Legislative Council Chamber, giving 120 jets on a trunk supply-pipe without branches, were selected as affording an exceptionally favourable field for them. The results of these trials afford much additional and practical information, but without enabling a working decision to be come to of such finality as would justify forthwith embarking upon the installation of any particular appliance throughout the colony, which is the object earnestly sought to be attained, in order that any outlay may be thoroughly warranted. The department has, however, come to a pretty definite conclusion on the whole matter; but before taking action upon it it has been decided to wait for replies to communications which have been sent to the Consulting Engineer for the Colony and to the Royal Engineers' office, the object of which is to have carefully ascertained what is the appliance advisedly most favoured and approved in England. It is hoped that these replies will enable the question to be settled, and put the department in a position to take action at once, with an assured hope of materially reducing the gas-bill.

In the meantime efforts have been made, by careful checking of accounts, by agreements with the gas associations, by overhauling services, and by circular advices, to in as great measure as possible put a check on consumption. Under the best of circumstances and all remonstrances, however, there is a natural but irrestrainable carelessness and disregard of economy displayed in lighting up many of the public offices by officers who use them at night, which they would be the first to avoid and condemn if they had to pay for the gas; and this is a most difficult, if not impossible, phase of the question to deal with, inasmuch as night-work is irregular, and consequently the periodical accounts are almost useless for comparative purposes.

The constant discovery of real or alleged improved and cheaper methods of producing gas, not alone from coal, but also from water, and many other sources, and the general expectation of the