

ablest engineers are devoting their best talents and energies to the whole question. Literature of all kinds, urging the importance of the subject, and elaborately displaying and elucidating its details, issues broadcast from the Press. It is the accession of Sanitas; and that never was her reign more necessary is proved by the iniquities and abominations alike in the mansion, factory, residence, and slum tenement which are exposed daily.

Such a wave of opinion and action cannot fail to be reflected in all English-speaking communities; and it was one of the early proposals, on the institution of the department last year, to investigate gradually and thoroughly the sanitary condition of the public buildings of New Zealand. Steps were already being taken quietly in this direction when the unfortunate cases of typhoid fever at Government House—this disease being at the time almost epidemic in the City of Wellington—caused the subject of sanitation to assume unexpected prominence. In addition to the extensive operations at Government House, Wellington, and Government House, Auckland, undertaken and accomplished to thoroughly revise and modernise the whole sanitary systems of those mansions according to the principles now universally recognised and adopted.

There is good reason to believe that insanitary conditions characterize nearly all buildings in the large towns the erection of which took place more than a very few years ago, whether public or private. In smaller buildings and country places there is not the same room at present for the evils of insanitary conditions to attain to the same effect; but as these places grow, and establish systems of sewers, so will the evils grow, unless they are taken in hand. Within the last few years a grudging recognition has been given to those clear principles of sanitation which were laid down by the earlier writers on the subject a quarter of a century ago almost, but have never been practised, and have been ignored to an extent that has only one explanation. That explanation is that to establish proper sanitary conditions in a new building, whether large or small, demands an amount of skilled labour, first-rate work, and expensive material in the drainlayers' and plumbers' trades which at once adds a large percentage to the cost. People are quite ready to accept a fine new house without any certificate from a competent sanitarian that these works have been carried out faithfully and on reliable lines and system. Therefore the architect leaves them out, against his better judgment, to keep down the estimate to the proprietor's limit, or only half-heartedly specifies them. The contractor knows little and cares less about this part of his work, and it is done in any sort of a way, and left in all respects lamentably short of proper precaution, if not actually dangerous to life. That this is fully admitted by the profession has been already stated, and it is therefore, although a reproach, no accusation. It is one of the most hopeful and pronounced characteristics of the present unparalleled sanitary movement throughout England and America that the engineers, architects, and other professional persons responsible for buildings have been the first and the readiest to confess and acknowledge their own shortcomings and sins of omission and commission, while also the first and the readiest to help on and stimulate the movement.

In existing buildings, more particularly when of any age, the expense of establishing a proper sanitary condition is very much greater than in a new building, and is regarded by private individuals as prohibitive, except when enforced by law. As instances in point, it may be mentioned that, whereas the complete sanitary system, embodying all modern ideas and improvements, for a proposed new asylum in New Zealand will not cost more than £800, the revision and modernising of that at the Avondale Asylum will cost not less than £1,500. To put Sandringham right after the Prince of Wales's attack of typhoid fever cost over £20,000. The extensive operations at Government House, Wellington, including all its dependencies, cost in round numbers £1,000; at Government House, Auckland, which was estimated by a distinguished officer of the Royal Engineers, with much experience of similar work in dealing with barracks at home, to cost over £1,500, £500; at the Government Buildings, Wellington, £800. In Christchurch, where the subject is more widely understood than anywhere else in New Zealand, and where, consequently, tradesmen and others are well aware of requirements and prices, the estimate to sanitise four of the principal public buildings and connect them with the Drainage Board's sewers is over £2,500. The estimate to put the London Hospital in a sanitary condition is £7,000, and the work is in hand.

The branch of sanitation more particularly referred to above is that known as house-drainage, and is apart from, though intimately associated with, the larger branch of sewerage. With this latter the designer or contractor of a building has little to concern himself, except as a ratepayer or citizen. The municipality is responsible for whatever may be the state of affairs in regard to the public sewers; and as the only approved practice, whether that is good, bad, or indifferent, is to cut off direct connection by a proper interceptor at the end of the house-drain, it is not a matter of such moment as is sometimes supposed, although it must not be inferred that the most perfect sanitary precautions in house-drainage can in any way excuse defective sewers. These remarks, therefore, do not enter upon the province of the public drains, nor of the responsibilities of the bodies charged with their control, but illustrate the general conditions of house-sanitation.

It has been considered advisable to deal fully with this subject, because the moral responsibility of the State to ensure that all public buildings are erected—or placed—and maintained in a thoroughly sanitary condition is rapidly being accepted in England as an axiom. It is held that, both for the force of example and for the sake of the health and well-being of its immediate servants, this duty is paramount and unquestionable, especially in large towns, and where the number of officers is considerable, and of both sexes.

The free recognition of this by yourself, sir, has enabled the many works already alluded to to be undertaken, each step in the execution of which emphasized its pressing necessity. In all new buildings erected or commenced during the year, the perfection of the sanitary appliances throughout has been fully specified and rigidly insisted upon. Moreover, whenever and on whatever special duty a professional officer of this department travels he is instructed to examine exhaustively as many of the public buildings as possible on the line of his journeys from the special point of view