

## ABSTRACT OF PROCEEDINGS, JULY, 1905.

The monthly meeting of the Royal Society was held at the Museum on Monday evening, July 10, the President, His Excellency Sir Gerald Strickland, K.C.M.G., presiding. Among those present were.—Bishop Mercer, Mr. A. G. Webster (chairman of the council), Sir Elliott Lewis, Hon. G. H. Butler, Sir Adye Douglas, Messrs. G. E. Moore, M.H.A., Russell Young, and several lady and gentleman members of the society.

Mr. Morton, secretary, apologised for the absence of Mr. R. M. Johnston, I.S.O.

His Excellency said he had been invited—as president—to represent the feelings of the Royal Society in offering very hearty congratulations to Mr. Bernard Shaw on the occasion of His Majesty the King having conferred on him the recognition of his long services by making him a member of the Imperial Service Order. In looking at the report of the honours conferred on the whole of Australia and Tasmania on the last occasion, it had been a matter of satisfaction to him to observe that Tasmania had not been forgotten, but that she had received comparatively a fair share. Mr. Bernard Shaw's services were remarkable as having commenced at the age of 17, so long ago as 1833, in which year he entered the Public Service of Tasmania as clerk in the office of the police magistrate, Swansea. The office was abolished by the introduction of local municipal government in 1869. He re-entered the service in 1866 as acting police magistrate, Devonport. He held successively the offices of Clerk Assistant, House of Assembly, police magistrate at George Town, Commissioner for Mines, Secretary for Mines, Commissioner of Goldfields, Commissioner of Police and Sheriff, Police Magistrate and Commissioner Court of Requests, trustee of the Tasmanian Museum and Botanical Gardens, and a member of the Council of the Royal Society of Tasmania, also Commissioner of Fisheries of Tasmania. Mr. Shaw retired from the service on August 28, 1904, and was granted a pension by special Act of Parliament.

Mr. Bernard Shaw, I.S.O., thanked His Excellency for the kindly way in which he had referred to his services. It was very gratifying to receive such a token of appreciation and goodwill. (Applause.)

His Excellency said that two important papers had been prepared for their consideration that evening, each of which contained ample matter for at least two sittings and for prolonged discussion. He thought the best way would be to have the two papers read first, and leave the discussion of the paper on coal to a future meeting. Dr. Elkington's paper might, perhaps, be discussed that evening.

Mr. K. L. Murray, C.E., then read a

somewhat technical paper on "Coal and a Coal Mine," which was illustrated by specimens from the Sandfly colliery and other coal mines, both in and outside of Tasmania. The most valuable constituent of coal was fixed carbon, of which the Sandfly colliery product contained satisfactory amount. It was generally acknowledged that semi-bituminous coals were the best. The two leading instances of this class of coal in the south were the Tasmanian Sandfly and the Victorian Jumbunna. The latter was recognised in Melbourne as the best obtainable. It sold at from 4s. to 6s. higher than any other coal, including the Newcastle coal. The Sandfly coal was similar in character to the Jumbunna coal, and even the fossils were similar. The lecturer drew a comparison between bituminous and semi-bituminous coal, and showed that the use of the latter would to a large extent do away with the smoke nuisance. The speaker then described the way in which coal was formed hundreds of millions of years ago, when the earth was in a far different condition to what it was now, pointing out that nature never was in a hurry, and that for millions of years no use had been found for these coal measures, till at last a creature was formed who discovered that coal would burn. Fossils were found in these measures which belonged to the mesozoic period from which they could gather some idea at what a distant period some of the coal had been formed. The difference in the density of coal was owing in a great measure to the different periods at which it was formed, some being very much earlier than others. Anthracite coal, for instance, was much denser than any other coal, of which he produced samples that evening. It was the lowest in the Sandfly colliery, and was the oldest formed. In conclusion, he said that it had been proved that a field of very great importance and value existed over a wide area and under the same conditions near Hobart consisting of anthracite and semi-bituminous coal. (Applause.)

His Excellency regretted that Mr. Murray could not be present that day month when his paper would be discussed, but it was so important that it might command the attention of the society for a whole evening. He now called upon Dr. Elkington to read his paper.

Dr. Elkington (Chief Medical Officer) then read an exhaustive paper on "Some Social and Economic Aspects of Public Health Work." This was generally regarded as the youngest daughter of medical science, but it had flourished among the ancient Jews. The Mosaic system of sanitary law impressed upon every individual the fact that he was his

brother's sanitary keeper, it forced him to conform to sanitary rules, and afforded an example of public health legislation which in many important respects was not surpassed anywhere in the world at the present day. In addition to formulating hygienic laws these ancient sanitarians went in for large sanitary works. Jerusalem had an excellent water supply, a well administered system of removal of organic waste, and probably a destructor in the Valley of Hinnom. Nineveh installed a drainage system many thousands of years ago. In the King's Palace in Crete an excellent system of water carriage removal of excreta had been quite recently found. Rome undertook gigantic and successful civic works of water supply and sewerage (much of which was still in use), formulated laws relating to nuisances, and enforced them through medical officers of health and sanitary inspectors. In the middle ages the absence of sanitary laws produced the plague and the Black Death, which were practically the same as the epidemic which afflicted India and troubled Sydney and Brisbane. A quarter of the population of Europe was swept away in three years as the result of the plague in the middle ages. After detailing the terrible results of the plague at that period, the lecturer said that it finally went away owing to a change in the trade routes from the East rather than to any change in the sanitary laws. Small-pox had committed tremendous ravages till it was curbed by the discoveries of Jenner. The progress of public sanitary legislation depended to some extent on the amount of public money available for the purpose. Each individual member of the State had a certain money value, provided he was a productive worker, and it should be a point of national economy to prolong his life, and to make the conditions such as would prevent him from falling ill and becoming a burden to his family or the State. Typhoid fever destroyed a number of lives, and was yet a perfectly preventable disease. "If it is preventable," the King said on one occasion, "why not prevent it?" The standard of a community's progress could be gauged by its sanitary administration, and by the proportional fund allotted for the purpose. The attitude of the public towards sanitary reform was an important factor, as on that would depend the amount that would be voted towards it. It was of the utmost importance that the public should be educated on this subject. The lecturer then gave numerous instances where diseases had been prevented by sanitary measures.

Coming to Tasmania, the lecturer said that during the 12 months ending on June 30 of the present year there had

been notified in this State 193 cases of typhoid, 147 of scarlet fever, 160 of diphtheria, in addition to consumption, which was not a notifiable disease, but in 1904 there had been 114 deaths reported from it. Consumption and typhoid were among the easiest to deal with by organised efforts in the direction of prevention and limitation. They were typically preventable diseases, and there was no reason why they should not be dealt with in Tasmania as effectively and thoroughly as malaria had been dealt with in Klang. Our vital statistics compared excellently with those of other States, but our returns of preventable disease pointed to the need for early and effective action if we were to retain our reputation as a sanatorium, not only for Australia, but for countries far beyond Australia.

Public health was never likely to become a burden upon the community, but its neglect would always be one. At present its State administration in Tasmania cost 2.16 pence per head of the population per annum. He did not say that effective central sanitary administration could be got for 2.16 pence per head of the population, but he had no hesitation in stating that if the individual share were increased to the portentous sum of sixpence per head per year, real efficiency could be within our reach. Ninepence per head per year would be absolute luxury, providing for sanatoria and other badly-needed structural appurtenances, enabling the State to relieve and assist local bodies and their officers, and rendering any repetition of the Launceston affair of 1903, which cost the taxpayers nearly £20,000, to all intents and purposes impossible, so far as human endeavour could prevail. Victoria spent 4.2 pence per head per annum; New South Wales 5.8 pence; and New Zealand—a country which, like ourselves, had a special interest in the attraction of visitors—9.6 pence per head per annum. Even the daring ninepence would not, therefore, render Tasmania a dreadful example of acute sanitary taxation, particularly when her special circumstances were taken into account.

Similarly the burden imposed upon local taxation for public health purposes could never be very heavy. At present we had the spectacle of certain rural municipalities without any local taxation whatever, although their combined annual rateable value was nearly £60,000. The cities and most of the larger and more progressive centres were showing an increasing tendency to recognise the benefits of applied sanitation, with satisfactory results, but the greater part of the State was barbaric in its primeval insanitation. The total annual rateable value of the local government districts of the State

amounted to about a million of money, and no reasonable system of local sanitary rating eked out by combination of adjoining districts for purposes of inspection, etc., could be expected to hit the ratepayer at all heavily. It would thus be apparent that the country was in no danger of being ruined by wild sanitarians, either now or in the future. On the other hand, however, there was a good deal of evidence to show that continued apathy and neglect were likely to cost us a great deal more, individually and collectively, than the most advanced system of central and local sanitary administration can ever cost.

His Excellency said the paper just read was so important that he would suggest the advisability of making it the sole subject of discussion at the next monthly meeting of the society.

Bishop Mercer said it would help matters if Dr. Elkington's paper were placed before them in print before the next meeting. Perhaps the Government might print it for the society.

A resolution was passed, asking the Government to print the paper, as suggested.

His Excellency then called for ques-

tions or remarks on Mr. Murray's paper, but none being put,

Mr. Murray said his original intention had been to speak as to the fuel values of coal generally, and the different ways of treating each one to get the most out of it. He mentioned an instance in which there were 14 different veins of coal, one above the other, with hundreds of feet of sandstone and shale in between. If one thought of the time required for 14 forests to grow, and for a deposition of sandstone over all these different seams, it almost took one's breath away. In working the lowest of these seams the miner passed in a few minutes from the bottom to the top; the period traversed representing millions of years.

His Excellency moved a vote of thanks to Mr. Murray and to Dr. Elkington for the papers read. For literary skill, conscientious ability, and for interest, it would be very difficult to find two papers of such merit. He thought the greatest compliment he could pay to the authors was not to draw any comparison between them. He asked the audience to thank them for the intellectual treat they had afforded their listeners.

The applause which followed was most cordial, after which the proceedings terminated.

