

To the...

MARITIME MINING RECORD

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THE HEALTH OF THE MINER.

It may be of interest to enquire how far coal miners are afflicted by pulmonary diseases.

Dr. Thomas Oliver writes: 'Fifty years ago coal miners' phthisis or anthracosis, was a well known disease; to-day, thanks to the well ventilated condition of our coal mines, the malady has largely diminished in Great Britain. It will be found that taking ages up to 55 the death rate amongst all occupied males from lung diseases is 21.75 per 1,000 whilst that of coal miners is 16.3 per 1,000. Not only in this country but also in the United States coal miners appear to be less prone to diseases of the lungs than the rest of the industrial community, for a census taken there shows that whilst pulmonary consumption was responsible for 16.2 per cent. of the deaths of all occupied males, only 10.6 per cent. of the deaths of coal miners and quarrymen were due to that cause.

'De Crocq speaks of the rarity of phthisis among Belgian miners. Arnold reports that in Germany tuberculous diseases are rare among coal miners.'

Although the miner spends a considerable portion of his time underground, there is some reason to think that the conditions under which he pursues his calling procure for him a certain immunity from lung disease, not shared by the majority of occupied males. The prevalence, two decades ago, of coal miners' phthisis was most probably due, in some measure, to the faulty ventilation of the mines of the time, but quite as much, probably more, to the unhealthy dwellings that many of them had to occupy. The improvement in the ventilation of mines has done a great deal, both to reduce the unhealthy conditions of labour that old miners had to work under, and to contribute to the relative immunity of miners of to-day from lung diseases. The air, as it passes onward through the mine, becomes rid of bacteria and reaches the miner at his work in a purer state than the air breathed in the streets of a large town.

In some quarters the opinion is held that coal dust acts as an antiseptic and exercises a favorable influence on tuberculous processes already established. It is the common experience of surgeons that flesh wounds suffered by coal miners, although black and gangrenous looking at first, heal remarkably well, which would suggest some protective influence exercised by the coal dust. It is interesting to remember that coal is a vegetable product, and the result of microbial agency, yet coal dust, when subject to bacteriological examination, is sterile and free from micro-organisms. The coal dust on wounds suffered by coal miners is, therefore, sterile, and as it is not an irritant it does no harm. But whether it really does any good is a matter on

which some doctors have not quite made their minds. There are pros and cons to the case, but further investigation seems necessary to adequately decide the matter. It is on record that guinea pigs have first been exposed to coal dust, long enough for the lungs to be charged with a considerable amount of it, and then a pure culture of tubercle bacilli has been injected into the windpipe. Whilst the glands and abdominal viscera showed signs of tuberculosis, the lungs remained free. Other guinea pigs into which similar bacilli were injected, but which had not previously been immersed in an atmosphere containing coal dust, all became subjects of tuberculosis of the lungs. This experiment shows that a certain amount of protection from pulmonary tuberculosis had been given by the coal dust. Surgical experience of miners' wounds and these experiments appear to show that the coal dust prevents the germination of bacilli, yet when micro-organisms including the tubercle bacilli, are treated with coal dust, no germicidal effect is produced. To the lay mind it appears that if coal dust in the lungs prevents the germination of tuberculous germs, then if coal dust is added to such germs they should be destroyed, yet such is not the case. Dr. Oliver, the eminent Newcastle-on-Tyne surgeon, is not satisfied on the point. It may be remarked, however, that fifty or sixty years ago tuberculous disease of the lungs carried off large numbers of coal miners, yet the coal dust of those days was as sterile as that of to-day, and would exercise quite as great an antiseptic influence, if such influence is exercised by coal dust.

PREVENTION OF MINE ACCIDENTS.

Mr. H. O. Prytherck, one of the U. S. Anthracite Mine Inspectors, thinks that many accidents are due to the fact that the employees are not versed in their duties as set forth in the mines law and other rules. In the U. S. the Mines Department distributed copies of the Mines Act printed in the several languages spoken by the workmen. This did not effect improvement on account it is assumed, of the difficulty the workmen experienced in getting at the portions that applied to the different occupations or their particular calling. To help them over this difficulty the Inspector suggests that the following 'Don't's' be printed on cards in clear type:

THE MINER.

Don't hurry to the face until the smoke has cleared away.

Don't forget to sound the roof after each blast.

Don't undermine top coal or top rock more than to the extent of one row of shots.