NOTES ON THE CLIMATE, HYGIENE, DISEASES, AND MEDICAL LIFE OF JOHANNESBURG.

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TOPOGRAPHY.

THE town of Johannesburg is placed at an altitude of 5,600 feet above sea level, and stands on the range of hills which forms the watershed of the Transvaal. The streams rising to the north of the range form the sources of the Crocodile, which, flowing through a luxuriant semitropical but malaria-infected country, empties itself into the Indian Ocean, while those rising to the south feed the Vaal, which after joining the Orange flows on through the wide-stretching arid plains of the west to the Atlantic. The streams feeding the Crocodile are, within forty miles of Johannesburg, infected with the bilharzia parasite; those to the south are almost, if not entirely, free from its presence.

The city, although just on the border of the tropics, has a summer climate which is unrivalled in South Africa. The nights are always cool, and even by day the heat is never excessive. The barometer ranges about 25 inches, so that there is only five-sixths of a normal atmosphere at sea level. This has an exhilarating and bracing effect which entirely prevents the feeling of languor so frequently experienced during the summer in the coast towns, and, combined with the clear brightness of the air, constitutes a climate which is as healthy as it is enjoyable. The two drawbacks are the thunder and hail storms in the summer and the dust storms in the winter.

SANITATION.

By Nature then Johannesburg has been well endowed; by art unfortunately she has not been so well treated. The water supply is inadequate, though fresh efforts are being made to increase it. The sanitary system—which is under the supervision of a Sanitary Board, a body with limited powers and resources at its command—is the same as that which obtains at Kimberley and other South African towns. The night soil is removed in buckets by the sanitary service at night, and this, if properly carried out, is at any rate a sound hygienic method of dealing with it. Unfortunately defects in minor details of w.c. construction and the administration of the work of removal frequently make it a great nuisance and at times a danger to health. Even when imperfectly worked it is, however, infinitely better and safer than the neglected latrines which only too frequently adjoin the native compounds or some of the mines along the line of reef. In addition to the night soil are the kitchen refuse tubs, which are also emptied by the sanitary service. For the rest waste water flows out pretty much where it will.

It must be admitted that this sanitary system used throughout South Africa is by no means an ideal one. But at the same time if only some care is exercised in carrying out details it is not so much a departure from the principles of sound hygiene as a description of it might lead one to suppose.

The substitution of underground water drains has often been considered, but with the scant water supply usually forthcoming in South African towns the difficulties would be very great, while the consequences of minor structural defects in a subtropical climate would be more dangerous than those produced by defects in the present system. The London householder has a very wholesome horror of the "dreadful drains," especially when they go wrong and have to be put right at his expense; what his feelings would be if to defects in his drains were added a water famine can only be conjectured.

PREVALENT DISEASES.

The diseases most prevalent and fatal are typhoid fever and pneumonia; diphtheria occurs but rarely, while malaria, though often met with, has almost invariably been contracted in the low country either to the north or towards the coast, Johannesburg itself being almost free from malarial infection. The typhoid fever is no doubt preventable disease, and is quite as largely contracted on the outlying mines as in Johannesburg. In several instances epidemics have been traced to polluted water drunk by the men in the mines

themselves. Mine managers, however, are now fully alive to the necessity for a properly protected and pure water supply, and it is to be hoped that no such wholesale epidemics will occur in future. Throughout South Africa there is no question that the rule should be to boil all drinking water before it is used. Filters, unless supplemented by boiling, do more harm than good, they clarify but do not purify the water. While on the subject it is perhaps worth noting that in South Africa—as apparently has been the case in India—typhoid fever is by some men believed to be a windborne as well as a waterborne disease, and personally I have seen more than one instance of an epidemic in which the water supply was apparently pure and there was a history of a prevailing wind blowing continuously over an old neglected latrine.

The etiology and preventability of pneumonia are less clear. This disease occurs usually in the winter, and is generally associated with a history of chill at the outset. The changes of temperature in the winter are sometimes very sudden and extreme. One of the commonest causes of attack among the miners is exposure in a heated sweating condition to cold air at the mouth of the shaft on emerging from the mine. Alcoholic subjects are most susceptible to attack. Other assigned causes for this disease are irritation and possibly a septic influence from dust—"dust pneumonia" as some men call it. Personally, I believe direct exposure to a severe chill to be by far the most common cause. Pneumonia, always a serious disease, is unusually so here. This I believe to be due entirely to the high altitude. The rationale of its effect in pneumonia seems tolerably clear. Bearing in mind that in Johannesburg there is only five-sixths of an atmosphere—or that, in other words, a cubic foot of Johannesburg atmosphere only contains five-sixths of the quantity of air (nitrogen, oxygen, and other constituents) contained by a cubic foot of atmosphere at sea level—it is evident that any impairment of the respiratory organs, which under ordinary circumstances have to do 20 per cent. more work than they are called upon to perform at sea level, is a serious complication, and attended with more than normal risks. For to the increased respiratory efforts always demanded by a rarefied atmosphere must also be added the increased blood pressure consequent upon the effect of these very mechanical movements of respiration upon the heart. Pneumonia under these conditions must be, and in Johannesburg is, attended by a high mortality.

HOSPITALS.

In addition to one or two private hospitals is a general hospital, practically under the control of the Government. In this hospital are wards for private patients, which can be sent in and attended to by their own medical attendants.

THE TRANSVAAL MEDICAL ASSOCIATION.

Johannesburg is the headquarters of a thriving medical association known as the Transvaal Medical Society. It numbers something over eighty members, and has a president, vice-president, and council. Its objects are to guard the interests of the profession, enforce a proper code of ethics among its members, and read and discuss papers on medical subjects. Its meetings are numerous and attended, and it has on several occasions induced the Government to modify or cancel legislative measures considered detrimental to the interests of the profession. It has, moreover, been the means of keeping up a spirit of camaraderie among the members, promoting harmony in work and amiable relationships in private life not invariably prevalent among rival members of the profession in new communities. There was once a desire among a large number of the members, the large majority of whom have British qualifications, to form themselves into a Branch of the British Medical Association, and they approached the Association with that view. They were, however, advised that this step was impracticable and without precedent. Why the British Medical Association thought it impracticable I do not know; and, as for the want of precedent, the position of the large body of British practitioners there is also unprecedented. However, be the demerits of the decision what they may, the fact remains that the Transvaal Medical Society is now established, and the British Medical Association is minus what would have been a very flourishing Branch.

PRACTICE IN JOHANNESBURG.

With regard to the prospects for new medical men in Johannesburg, about which I am not infrequently consulted, I think they may fairly be taken to be very much what they are in any other town of the same size elsewhere. Neither gold nor practices are picked up in the streets, and men who neither have nor obtain an established connection will find, I fear, that they have to wait in Johannesburg as well as say in Manchester or Melbourne.

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