polemic, the fact that I am in the position of locally depreciating what may to some extent be regarded as a commercial article is extremely distasteful to me. At the same time, I should be the last to fail to appreciate that M. Calmette's production of antitoxin is the outcome of pure enthusiasm for science and humanity. The tiresomeness, expense, and great patience required to produce a serum of any considerable antitoxic power against snake venom I know from personal experience, and I can only congratulate M. Calmette on having shown that it was possible to do this, and on having gained some measure of success. I doubt not that he will soon succeed in procuring a serum possessed of greater potency, and I assure him that I shall be delighted to hear of his success, and to do what may be in my power to encourage its use in Australia.

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MALARIA: IMMUNITY: ABSENCE OF NEGRO IMMUNITY: VARIETY.

AS ILLUSTRATED BY THE INCIDENCE OF THE DISEASE ON VARIOUS RACES IN SIERRA LEONE.

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A SHORT experience (barely six months) during one rainy season of malarial fever in Sherboro Island and the hinterland of Sierra Leone has afforded an opportunity of observing the incidence of the disease on a newly arrived negro regiment as compared with the native population. The following is a brief account of the observed effects of the disease on different races in so far as they seem to bear on the debated question of immunity and on the existence of varieties of malarial organisms. The facts may be taken to show that there is such a thing as immunity, though only of a relative kind; that the immunity is an acquired one; that the negro possesses no special immunity and that there is some ground for believing in the existence of more than one variety of malarial organism.

The negro natives of Sierra Leone appear to suffer in a mild degree only from the fever; not alone that they are not frequently attacked, but that the attacks are not often fatal and that the illness in their case is of a comparatively benign nature even when not treated with quinine. But in the soldiers of the West India Regiment—negroes from Jamaica, Barbados, St. Lucia, etc.—the fever is of a very severe and often fatal character, requiring prompt and careful treatment by European methods. Indeed, judging by the extent of sickness in the afore-mentioned regiment, West Indians are little if any better able to stand this climate than are the white officers and sergeants who command them. The contrast between West Indians and the natives composing the Sierra Leone Frontier Police when serving in the field in the same column was most marked; the former much troubled by fever, the latter having none.

Most writers—even to the author of the latest work on tropical diseases—ascribe an especial immunity to the negro race generally; but the behaviour of the disease in respect to the West Indian negro, as set forth above, does not support this idea. Yet the latter are the descendants of negro slaves imported into the West Indies from West Africa. The right interpretation of this seems to be that negro races generally have acquired an immunity by long residence in malarious places, but that the exemption is not a racial attribute, and that the West Indian negroes have lost the immunity originally acquired by their forefathers. It is popularly supposed on the coast that they do soon acquire a comparative freedom from malaria—that is to say, that after serving for a year or so in West Africa, they cease to be troubled much by fever. Observations covering so short a period as that under review scarcely warrant any opinion as to whether this is a trace of their ancestral immunity remaining to the West

Indians or is merely the same tolerance which is sometimes said to be acquired by European "coasters"; for the matter of that it is admitted on all hands, wherever malaria prevails, even by those who deny the existence of acquired malarial immunity, that the newcomer is not such a good "life" as is the man who has got safely over his first attack of malarial fever.

A study of the disease in West Indians again leads us to the inference that either the West Coast fever is not malarial, or it is a special variety. But numerous observers have reported the discovery in the blood of persons suffering from West African fever of plasmodia similar to those found in malarial disease in other parts of the world; and we may therefore take it for granted that our fever is a malarial one. Among other places we find that malaria flourishes in the West Indies, and it follows that the West Indian negroes have been more or less subjected to its influence all their lives. It might then be reasonably expected that these people would be to some extent malaria-proof as compared with Europeans; but, as before stated, it is not clear that they possess any advantage over the white races (in West Africa at any rate) beyond that due to their being accustomed to a hot climate. The explanation of this may be that the malarial organism of the West Coast is of a different variety to the plasmodium of the West Indies, and that immunity acquired to the first mentioned confers no protection from the second. It might of course be argued that the interpretation lies in the greater virulence of the African organism. Or, again, that other than malarial factors in the Coast climate reduce the West Indian to such an extent as to render him vulnerable to an organism against which he had obtained sufficient immunity to enable him to withstand it in his own country. To this it may be replied that if it were merely a matter of differing virulence, the less virulent would have conferred some measure of protection; and as to the Coast climate, it is, in the matter of physiological comfort, said to be not inferior to that of the West Indies.

A parallel case to that of the West Indians in Africa may be found in that of the Chinese in Borneo. When in Borneo the writer had an opportunity of seeing that Southern Chinamen employed on the tobacco estates suffered very severely indeed from malaria, their habituation to paludal fevers in their own country being apparently of no value to them in Borneo.

INFECTIVE SARCOMATA IN DOGS.*

BY

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In a previous paper¹ we described a series of tumours on the genitals of dogs which spread from animal to animal as the result of coitus. These tumours, which were of various shapes and sizes—sometimes large enough to completely block up the vagina—originated in the mucous membrane of the vagina and penis. In some cases the walls of the vagina were deeply infiltrated, and the tumours frequently ulcerated. Death sometimes ensued, either from cachexia, or from kidney disease the result of obstruction of the ureters, or from septic poisoning owing to sloughing of the growth. In one instance, a secondary deposit was found in the inguinal lymphatic glands. The structure of the tumours, of which we gave a description illustrated by photographs, was that of a round-celled sarcoma. We were enabled to successfully inoculate the tumours on the penis of one dog and into the subcutaneous tissue of two other dogs, the resulting tumours having the same structure as the original ones.

We gave an account of certain experiments made by Wehr, Geissler, and Duplay and Cazin, and we came to the conclusion that, although these authors gave a different interpretation of the microscopical structure, the tumours described by them were identical with those described by us. Geissler

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