

cussion of school problems in geography and comparison from a wide range of experience.

It is expected that the school will be continued in 1904 with the same faculty. All the courses given this year, and some additional work, will be offered. A. P. B.

THE MALARIA EXPEDITION TO THE GAMBIA.

AN abstract in *Nature* states that the Liverpool School of Tropical Medicine has issued a report on the prevention of malaria in the tropics with reference to the Gambia. Dr. Dutton, who conducted the expedition shows how a great deal of disease is due to the want of knowledge of the nature of malaria, and that during the dry season the residents are largely to blame for the appearance of the disease. The object of the expedition was to investigate the conditions under which mosquitoes were propagated in the town of Bathurst and at the principal stations of the colony, and to suggest methods of destroying these insects. Malaria was found to be prevalent in the colony; 80 per cent. of the native children examined harbored malaria parasites in their blood. The liability to infection of the Europeans commences soon after the rains are established, lasting up to the end of November. The various breeding places of mosquitoes are described in detail in chapter IV. of the report, particular mention being made of the wells, canoes, boats, lighters, cutters on the foreshore, and of the grass-clogged trenches in many of the streets, which together supply Bathurst with the majority of its mosquitoes during the wet season and for part of the dry season. The number of mosquito breeding places present in compounds was found to vary with the social position of the occupier. They increased in extent and number in proportion to the wealth and position of the occupier.

In one factory yard were found six barrels, and in the garden there were seventeen tubs and eight small wells, all breeding quantities of *Culex*, *Stegomyia*, and *Anopheles* mosquitoes. Besides these dry season breeding places, discarded domestic utensils were scattered about the yard and garden which, in the

wet season, would have acted as breeding places. It is pointed out that during the dry season, from November to May, natural breeding places for mosquitoes in Bathurst cease to exist, and from this period the people breed mosquitoes solely in their own compounds.

In chapter V., which deals with the prevention of malaria in Bathurst, a campaign against the mosquito is advocated; the town is judged especially suitable for its success. Thus Bathurst is situated on a practically isolated piece of land surrounded on nearly all sides by a broad expanse of sea water. The amount of land to be dealt with is comparatively small, viz., about a square mile. The surface is fairly level, sandy, absorbing water readily. In this area the breeding places of mosquitoes are a known quantity, the artificial, or those made by man, being in excess of the natural. The rainfall is very small, and rain occurs only during four out of the twelve months of the year.

The probability of the introduction into Bathurst of yellow fever from Senegal is pointed out as another reason for attacking the mosquito. The expedition was informed by His Excellency, the acting Governor, H. M. Brandford Griffith, of the intention on the part of the Colonial Government to enter upon a crusade against the mosquito, and on November 18 the preliminary removal of rubbish from houses and compounds began; a sanitary inspector was appointed, and received special instruction in the work. Under him worked a gang of laborers, and at the time of the departure of the expedition (January 10) 363 houses and compounds had been inspected. From these 131 cartloads of old tin pots and other rubbish were removed. On the return of His Excellency the Governor, Sir George C. Denton, the inspector and a sufficient staff of laborers were appointed permanently, and a grant of £200 per annum was given for the special anti-mosquito work. Anti-mosquito regulations have been drawn up by the Colonial Government.

An appendix, by Mr. F. V. Theobald, is attached to the report; in it are described the various species of mosquitoes collected by the expedition, many of which were new to science.