

The conference abstracts and other information can be freely downloaded (see www.mantleplumes.org). This website was launched in March 2003 by Gillian Foulger, and its objective is to provide information and generate debate among the scientific community as to

whether plumes exist, what alternatives are possible, and whether they do better at explaining intraplate volcanism and geodynamics than the plume model. New contributions to the website are welcome, and applications should be directed to

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FROM THE ARCHIVES



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Malaria and antimalarials

Among the several diseases which afflict this country, malaria occupies the foremost place; it is the largest single disease endemic in India. Annually a third of the population of this sub-continent is said to suffer from malaria, and the percentage of deaths among them is appallingly high. Those who survive the attack suffer from its after-effects which often leave a permanent injury on the patient. The loss of economic man-power and human efficiency due to this disease in the British Empire has been estimated at 52 to 62 million pounds a year, more than half of which is shared by this country.

For decades this widespread disease has been allowed to go practically unchecked and no determined and sustained effort commensurate with the magnitude and seriousness of the problem, has been put forward. In this connection, special mention should be made of the Rockefeller Foundation for the valuable services rendered to the Provincial Governments in conducting malarial surveys in the several provinces, and for furnishing the necessary technical personnel.

Methods for combating this disease are well known and they have been widely and successfully adopted in other countries like

Italy and Greece. They consist of the destruction of larvae, the draining of swamps, mechanical protection against mosquitoes and prophylaxis by quinine or atebirin and plasmoquine. The problem in this country is complicated by the undernourished and poverty-stricken condition of its people. The *per capita* consumption of quinine in India as compared with other malaria-stricken countries is only three and a half grains as against the 16 and 24 grains respectively in Italy and Greece. The question of malaria control is, therefore, closely connected firstly, with an adequate supply of prophylactic drugs at prices which the average Indian can afford to pay, secondly with the speed and efficiency with which the sources of vectors could be minimised if not abolished and thirdly, with the raising of the standard of nourishment among the masses.

Cinchona was introduced in India and Java at about the same time; its propagation made considerable headway in this country and at one time it looked as though the country would not only satisfy its requirements but produce a surplus with which a prosperous but not a profiteering export trade could be built up. But Java which was backed up by intensive methods of scientific selection and propagation, evolved varieties which yielded richer percentages of the alkaloid. The Dutch are the foremost in the field of plant improvement and have successfully demonstrated their scientific talent and skill with regard to a number of other economic crops like the sugarcane and the tobacco. The valuable experience in these lines, was utilised for the improvement of cinchona which has been responsible for the supremacy of Java in the production of quinine. Over-production of this drug threatened to reduce the prices to an uneconomic

level but the 'Kina Bureau', a powerful syndicate, stepped in to control the world price of quinine.

So far as mass treatment of malaria is concerned, quinine still holds the field, since the drug can be safely administered and is even recommended for self-medication. But the price of quinine is too high. 'We cannot get away from the fact that quinine is the rich man's remedy, while malaria is the poor man's heritage; but let medicine once admit and practise the value of the other alkaloids and many Indian areas might then be turning out febrifuge at costs more suited to the poor.'

The loss of Java has increased the acuteness of the problem a thousandfold. The price of quinine, which was fixed at Rs 18 by the Kina Bureau has inflated to Rs 130 per lb. The synthetic antimalarials have practically vanished from the Indian market. It is high time that the Government realises the importance of taking immediate steps to make the country self-sufficient with regard to this most important drug. In addition to this, it is necessary that the antimalarial specifics of established reputation in the indigenous systems of medicine, should be investigated with the co-operation of the Pandits and the Hakims. Investigations on the breeding of hardier and richer strains of cinchona should be undertaken and these researches may be appropriately financed by the Imperial Council of Agricultural Research, while researches on synthetic antimalarials are to a certain extent being financed already by the Board of Scientific and Industrial Research. A Central Advisory Board to co-ordinate and direct these activities should be constituted. This is a matter which demands the earnest attention of the Central Government.