is that the Bench think that chemists may vary pharmacopoeal preparations according to their fancy. This would hardly meet with the approval of a practitioner prescribing for his patient, and the results might be, to say the least, startling.

PRESERVATIVES IN FOOD.

BY

DR. BOSTOCK HILL, County Analyst for Warwickshire.

I HAVE examined all samples of milk submitted during the year for boracic acid, but in no case have I found it present in excessive quantity; indeed, its use seems to have been largely given up in favour of a newer and more certain preparation known as formalin. This is a solution of formic aldehyde, and on account of its power of inhibiting the lowest forms of life it is now used in some places as a disinfectant. Two or three drops of this solution to a pint of milk will keep it for several days, while its presence cannot be detected by the consumer. It is, of course, stated to be harmless in this quantity, but the evidence on this point, in my opinion, is not definite, and I strongly protest against the modern practice of drugging so many kinds of food. Doubtless, it is impossible to prove in any special case that the quantity added to milk consumed at a particular time is harmful, but, in a complicated physiological process like digestion, it is more than probable that this continued use of antiseptic drugs in foods is attended with danger, particularly to infants and invalids. I maintain, too, that the addition of a drug to a food, even in the minutest quantity, is an adulteration. If I ask for milk I want new milk—not stale milk plus preservative,—and I think that in new legislation it would be most desirable to prohibit the sale of foods to which foreign substances have been added, unless a notification of such an addition is made at the time of sale.—A.R. 1897.

LEPROSY IN HAWAII.*

DR. ASHBURTON THOMPSON, Chief Medical Officer of the Government of New South Wales, and an Honorary Fellow of the Incorporated Society of Medical Officers of Health, has recently published a critical inquiry into this subject, which is valuable as a piece of good historical work, and still more as illustrating the problems connected with the origin of the disease. The inquiry is based upon personal investigations on the spot, and upon a very careful study of all the official reports dealing with leprosy. The Hawaiian group consists of eight islands, the enumerated population of which has declined from 130,313 in 1832 to 89,900 in 1890. Of the last-mentioned

number, natives of the islands form only 40,622, the next most numerous groups in order of relative number being Chinese, Japanese, and Portuguese. The usually accepted theory is that the disease was introduced into the islands by the importation of Chinese lepers about 1855 or 1860. This theory appears, however, to be based on a misapprehension. Syphilis was rife at a much earlier period than this, and if, as appears quite certain, syphilis is not infrequently mistaken for leprosy, it is very likely that among the shockingly prevalent syphilis, some leprosy was overlooked in the earlier part of this century.

Although the isolation of lepers is legislatively enforced, it appears clear, according to Dr. Thompson, that the policy of isolation has never been pursued, and in detail has never been carried out with steadiness and thoroughness, nor, consequently, in a way at all likely to arrest the spread of a communicable disease. The fluctuations of the number of patients admitted to the leper settlements show greater or less executive energy, not fluctuations in the total amount of the disease in the islands.

Dr. Thompson concludes that there is no real evidence as to the beginning of the Hawaiian outbreak of leprosy. The importation (if possible) might have occurred any time 60 or 70 years before the presence of leprosy was recognised, and may have been conveyed by races other than the Chinese, among whom leprosy was endemic.

Further details are given in Dr. Thompson's interesting book on the incidence of the disease on whites, on the influence of vaccination, on the case of the *kokuas* or "helpers," and on the case of the *Kamaainas* or "old inhabitants." Between thirty or forty whites have been sent to the settlements, while others have left the country to avoid confinement. No exact numerical statement is, however, practicable.

No statistical comparison is possible between the incidence of vaccination and the incidence of leprosy; hence the alleged diffusion of leprosy by vaccination in the endemic area can neither be proved nor denied.

The *kokuas* or "helpers" consist of relatives of the lepers and others who voluntarily live with them. The evidence concerning them is somewhat conflicting, but on the whole it appears clear that they have not become lepers in a very much higher proportion than have those living in other parts of the country remote from the settlement, but within the endemic area of the disease.

The original possessors of the land in the island of Molokai on which the leper settlement is placed, have remained in intimate connection with the latter. The evidence, again, is scanty and imperfect; but Dr. Thompson concludes that "while it could only be said of the *kokuas* that probably they had not acquired leprosy in any remarkable proportion as compared with the

* LEPROSY IN HAWAII: A Critical Inquiry by J. ASHBURTON THOMPSON, M.D. Sydney: Wm. Gullick, 1898.