

## 7. MARITIME QUARANTINE.

On a small island near Avarua there is a Native structure which has served in the past for a quarantine hospital. This is to be changed for a European structure. The location is convenient but well isolated.

## PART III.—HOOKWORM SURVEY.

## 1. HISTORY OF HOOKWORM INFECTION.

In February, 1924, ova of hookworms were found in the stools of patients at the Avarua Hospital, and worms were washed from their stools by Dr. Mackenzie, Assistant Medical Officer.

## 2. METHODS EMPLOYED IN THE PRESENT SURVEY.

The present survey has been a success because of the happy co-operation with us of all agencies. The Minister (Sir Maui Pomare), the Secretary for the Cook Islands (Mr. J. D. Gray), Judge H. F. Ayson (Resident Commissioner), and all other officials of the Government, as well as the Natives themselves and the trading community, combined to make our work pleasant.

During the first two weeks I lectured throughout Rarotonga in the schools from the standard hookworm charts, exhibiting specimens of hookworms and ascarides recovered in Rarotonga. After the lecture we distributed the small tin containers, and asked for specimens of bowel-motion to be returned in them, with the name, age, and sex of the donor. These were freely returned. Afterward we made a five-weeks trip through the Lower Group on the C.I.T.C. schooner "Tagua," on which Mr. J. P. Campbell of that company was making an annual stock-taking, which allowed us plenty of time on each island for our hookworm and filaria surveys. On each island we had many people who wanted to consult a doctor, so after Mangaia was finished, on the islands of Mauke, Mitiaro, and Atiu, with the kind assistance of the Resident Agents of these places, we went over the whole population at first for evident conditions, weeding out from the total those requiring special attention. These I saw, and gave special physical examinations on the following days. I found that most of the Maoris would depart perfectly happy if they had had their hearts and lungs gone over with a stethoscope; and, as this is good practice, I was quite willing, and was able to pick up good information. I was unable to do this on Aitutaki, as we arrived there during the holiday festivities, and our work had to be sandwiched between series of dances and sports in the old Native style, and feasts given in our honour, and which we could not in courtesy ignore. I decided that our work there would be a failure, but I got a satisfactory number of specimens, and, before I left, the nurse, Miss Walsh, said that I had examined over one thousand three hundred people physically. The interest taken in matters of health by the Polynesian is most striking. On each island, Malakai, my assistant, made numbers of day and night examinations of blood for microfilaria.

The standard hookworm charts of the International Health Board proved entirely satisfactory to these primitive people, who have not been made *blasé* by the modern cinema.

## 3. TECHNIQUE OF EXAMINATION.

We examined by the Willis technique of salt flotation. A small portion of the contents of the tin container is thoroughly mixed with a saturated solution of common salt. It is important that the salt solution should be saturated, and we are now making it well in advance. The container is then filled to the brim, and a glass slide is placed over it, covering the entire tin, and allowed to remain for at least fifteen minutes, when it is removed and placed under the low power of the microscope; and the eggs of hookworms are found floating on the adherent drops. We find it valuable to wipe each slide with a cloth wet with methylated spirit and to dry it before use, as our smear then spreads evenly.

## 4. DEGREE AND DISTRIBUTION OF HOOKWORM INFECTION.

There is not heavy infection of hookworms in the Cook Islands. The rate of infection is higher than in Tonga, which is in the same latitude, but not so heavy as in Samoa or Fiji—probably corresponding to the rainfall, which is higher than in Tonga but not so high as in Samoa or Fiji. The people wear shoes on special occasions only—not enough to affect the infection-rate.

Table 1 shows the infection-rates by islands:—

Table 1.—General Hookworm Infection by Islands.

					Examined.	Infected.	Per Cent.
Rarotonga	..	..	..	..	532	369	69
Mangaia	..	..	..	..	89	79	88
Mauke	..	..	..	..	129	88	68
Mitiaro	..	..	..	..	53	34	60
Atiu	..	..	..	..	104	74	71
Aitutaki	..	..	..	..	96	67	69
					1,003	711	70
Europeans	..	..	..	..	23	13	56
					1,026	724	70
		Total	..	..	1,026	724	70