of tuberculin admittedly prolongs the stay of the patients in these sanatoria, its use becomes a proper subject for criticism.

The Committee have taken the opinion of three leading bacteriologists in the country upon the immunizing value of tuberculin. Their reports appear as an appendix. Suffice it to say here that experiment and observation the world over have produced little evidence in support of this theory. The consensus of expert opinion denies that tuberculin has any immunizing value, and certainly it has none as used in New Zealand. "All efforts at producing partial or complete immunity with the administration of tuberculin have utterly failed." (Fishberg.)*

At Cashmere Sanatorium also tuberculin is used as a routine treatment. The Director states that his purpose in using it is for its curative effects and for its psychic effect, and it is employed on every case in the institution who can tolerate a course of treatment—the early case. The duration of the course is twelve months, and patients are retained until the course is finished.

Tuberculin is no new remedy. It has been on trial since Koch first introduced it nearly forty years ago, and its value for treatment is regarded by a large number of eminent authorities as very questionable.

"If any form of treatment was really effective in all or the majority of cases, it would, within a very short time of its introduction, be used as a routine procedure in the treatment of pulmonary tuberculosis all over the world and in spite of any prejudice there might be against it. Its routine use would not be confined to a few enthusiasts, which is the position with regard to tuberculin to-day. In theory, properly prepared and properly administered, tuberculin should be a specific treatment capable of producing successful results in almost all forms of the disease. In practice it fails. Not even personal experience, much less figures, support its claim, and it should never be allowed to supersede other treatment." (Wingfield.)†

"The writer has given tuberculin therapy a fair trial in both his hospital and private practice, and found it either altogether wanting in therapeutic effects when used in infinitesimally small doses, as is advised by most of its contemporary advocates, or decidedly harmful when given in substantial doses. This opinion is shared by most of those engaged in the treatment of tuberculosis, excepting such as have themselves discovered some tuberculin, or who are in charge of sanatoriums. In this country" [America] "very little of tuberculin is used for therapeutic purposes. The vast majority of patients in these institutions are cared for by the old methods." (Fishberg.)‡

"In phthisis the ideal cases" [for tuberculin treatment] "are said to be those in the incipient stage of the disease. But when we recall that a really incipient case is one which has 'slight or no constitutional symptoms, including particularly gastric or intestinal disturbances or rapid loss of weight; slight or no elevation of temperature or accelerations of pulse at any time during the twenty-four hours,' we are not surprised that many recover with tuberculin treatment." (Fishberg.)§

"For my part, I have never seen a patient doing well under tuberculin without remaining in doubt whether he would not have done as well without tuberculin. Nor have I met with cases where the influence of tuberculin was so strikingly favourable that I could feel justified in letting them abandon the classical treatment and rely on tuberculin alone." (Rist.)‖

"The tuberculin did not favourably influence the course of the disease in the majority of cases; in some cases the effects were detrimental; and even in stationary and improved cases it was difficult to ascribe any distinct improvement to the injections which might not have been equally attained under the treatment ordinarily employed in the Brompton Hospital." (Sir James K. Fowler.¶)

Possibly authority could be quoted on the other side, but that does not affect the statement that tuberculin is a therapeutic agent of questionable value.

In none of the other sanatoria is tuberculin used as a routine treatment. In Otaki and Pukeora it is used as an inunction in a percentage of the cases; but the course of treatment is a short one, and no patient is detained solely for the purpose of completing the course. In Pleasant Valley and in Upper Sanatorium, Cashmere, its use is occasional, and in specially selected cases only. It has been made clear to the Committee that the utility of Cashmere and Waipiata sanatoria is impaired by the routine use of this questionable therapeutic agent.

It must be stated emphatically that criticism is levelled solely at the principle underlying selection, which fills these institutions with the earliest cases, and against the routine use of a questionable remedy, which unduly prolongs the stay of these patients in the institutions. In other respects the work done in these sanatoria is admirable, as the happiness and well-being of the patients testify. Cashmere Sanatorium, in particular, is a model of administrative ability. Inspection fills the visitor with admiration of and respect for the organizing and administrative genius that has brought this institution into being.

Of the other sanatoria little criticism can be made. In Pleasant Valley and Upper Sanatorium good work is being done, under difficulties, for all classes of cases, the buildings being planned to accommodate only ambulant cases.

At Otaki and Pukeora the Superintendents do not select their own cases, and so are absolved from criticism under this head. The Committee are of opinion that in some cases the duration of stay is too short relative to the class of case handled, and that sufficient judgment in the apportioning of rest and exercise is not always displayed. These faults were noticeable particularly at Otaki; but here the Superintendent is embarrassed by insufficient accommodation, and in her endeavours to cope with the difficulty that besets her in admitting patients she lays herself open to criticism.

---

* Fishberg: "Pulmonary Tuberculosis," 3rd ed., p. 763.
† R. C. Wingfield: "Modern Methods in the Diagnosis and Treatment of Pulmonary Tuberculosis," p. 71; 1927.
‡ Fishberg: "Pulmonary Tuberculosis," 3rd ed., p. 761.
§ *Ibid.* p. 765.
‖ E. Rist: *Pari Medical*, 1913, vol. 4, p. 241. (Quotation in Fishberg, 3rd ed., p. 767.)
¶ Sir James Fowler: Quotation in Fishberg, 3rd ed., p. 767.