

immunity to further infection is acquired, is it transmissible?

We might conclude, though positive evidence is wanting, that man is constantly being infected and small reactions frequently follow, even in the same individual at different times, the general health not being seriously disturbed. The recovery is due more to the life history of the parasite than to active measures on the part of the host. The blood of animals which have recovered after experimental inoculation does not appear to contain any immunising bodies, nor does previous infection seem to have any detrimental effect on the vitality of bacilli subsequently introduced. If this brief summary correctly represents the reactions of the host to this parasite, we naturally ask: What is the relationship of dosage to reaction. It is with reference to this point that I wish to discuss some observations made in young adults. I make an assumption that I hardly think will be questioned, namely, that a person living with a consumptive clinically recognizable is more heavily dosed than one not so placed or what is known as open tuberculosis.

All are subject to infection and, as has been shown, most are infected, but some more heavily than others.

Thus, two classes are formed: firstly, those in whom infection is met in ordinary daily life. These are called non-contacts; and, second, those who have already lived with a person in whom there was a recognizable lesion, or had died of the complaint, and in whom experiment has shown that organisms are present in the ejecta.

The details of this enquiry will be found in the Medical Officer. A few of the more salient points only being given in the present instance. The types are divided into classes—those where an immediate relative—father, mother, brother or sister—has died of the complaint, and those where home environment has been free from such infection. In the first series, 2,362 children from the ages of 4 to 7 were examined and their histories obtained by question of guardians. In these there were 282, or approximately 10 per cent., amongst whom an immediate relative had died of phthisis. In 81 of these the contact was close and continued over a long

period of time. They were 39.48 inches high and 36.83 lbs. in weight. In 201 contact, according to the definition given, did not exist or was only slight, and elaborate precautions were taken. The average height was 40.94 inches and weight 38.04 lbs. Contact in this class made a difference of $1\frac{1}{2}$ inches in height and 2.8 lbs. in weight. An objection arises to the above as to the fairness of the comparison. The very fact that precautions are taken by the parents means that they are of a higher type, and the difference observed may to some extent reflect that peculiarity rather than the direct influence of excessive dosage with infection. Negligence to take simple hygienic precautions is associated with bad feeding and want of attention to the other fundamental details of life, which might be the source of the difference. To get absolutely comparable data is very difficult.

A second series, taken at the 13th year, gave similar results, especially with reference to the weight. They are as follows: Out of 1,478 examined 156 had an immediate family history of consumption. Of these 76 had the necessary degree of contact to satisfy the criteria—80 had not.

Boys—

	Mean Age.	Height.	Weight.
Non-contacts.	13.6	55.71	77.58
Contacts.	13.6	54.31	73.02

Girls—

	Mean Age.	Height.	Weight.
Non-contacts.	13.5	55.98	80.14
Contacts.	13.7	56.21	73.57

If we take the percentage number, amongst whom there was an easily recognizable lesion, we find that where close contact existed it was 23 per cent., and where the conditions were such as all are exposed to it fell to 2 per cent. At the later age period the percentages were 36 per cent. and 25 per cent., respectively.

The reverse aspect of the question is more difficult. In this case only those are taken where the family history, so far as is obtainable, is satisfactory and a class formed of those who, through force of circumstances, were brought into close relationship with infected persons.

In the first group (4 years), out of 2,000 enquiries only two satisfied the criteria