Heredity.—Acute rheumatism is a family disease. The findings for the combined groups were: With family history of rheumatic fever, 58·9 per cent.; without same, 32·7 per cent.; unknown, 8·4 per cent. In the control group—positive histories, 22 per cent.; negative, 74 per cent.; unknown, 4 per cent. In rheumatic patients there was almost three times the positive family history as in the non-rheumatic controls.

Infectivity; Social Conditions.—Evidence of infectivity was sought, but not established. Similarly, nothing of importance was established connecting social conditions and liability to rheumatism.

Influence of Environment at First Attacks.—Dampness in dwellings (controls, 16 per cent.; rheumatic groups, 31·8 per cent.) was probably significant. A larger proportion of rheumatic homes were southerly in orientation (controls, 10 per cent.; rheumatics, 21·5 per cent.) and sunless in their rooms (controls, 8 per cent.; rheumatics, 14 per cent.).

Overcrowding in space was rarely evident, but three times the amount of overcrowding in rooms occurred in the combined groups (18·7 per cent.) as in the controls (6 per cent.).

Dampness of site was more than three times as prevalent in rheumatics (25 per cent.) as in controls (8 per cent.). Evidence of effect of elevation of section as regards road, nature of soil, altitude of site (hilltop, hillside, or valley), was inconclusive. Proximity to watercourses (within quarter of a mile of creeks, &c.) seemed to be of significance (controls, 4 per cent.; rheumatics, 26·2 per cent.).

Prevention.—No new preventive factor emerges from this study. Freedom from dampness and plenty of sunlight are indicated. The determination of the pre-rheumatic child is difficult, but a consideration of nervous symptoms (including clumsiness, fidgetiness, lack of concentration, &c.), anæmia, tonsillitis, and heredity should further this end and lead to the supremely important early diagnosis. The maximum obtainable rest still needs, preferably in institutions, emphasis in treatment.

PART 4.—ABSTRACT OF A REPORT UPON A SHORT INQUIRY INTO RHEUMATIC CONDITIONS IN AUCKLAND SCHOOL-CHILDREN.

By Dr. H. J. Wilkie, School Medical Officer.

This inquiry was carried out in twenty Auckland elementary State schools, two of which were junior high schools and the rest ordinary primary schools, and embraced 8,428 children of ages from five to fifteen years. Three of the schools, were in the city, seven in marine suburbs, and ten in inland suburbs. In one of the suburbs were brick-kilns, in another sugar-works, in a third glass-works, and in a fourth freezing-works and abattoirs.

The medical-record cards were examined, and the cases of all children said to have rheumatism or growing-pains investigated. A number of the latter were ruled out as not rheumatic, but persistently recurring pains in wet or cold weather, with sore throats or other rheumatic manifestation, were considered rheumatic. Such children were carefully examined, the parents interrogated when possible, and the majority of the homes visited by the school nurses, who have large experience in such work. The percentage of rheumatic manifestations was highest—5 per cent.—in a marine suburban school (clay soil, in neighbourhood of sugar-works) and lowest in the neighbouring school (on same soil). Locality and housing appear to play a much smaller part in the rheumatic picture in New Zealand than at Home, which can be accounted for by the nomadic habits of the majority of the people. The percentage of organic rheumatic heart-disease was highest in one of the city schools in a poor neighbourhood, and lowest in a suburban school, also in a poor district.

Out of 8,428 children 225 (2·7 per cent.) showed some form of rheumatic manifestation—heart-disease, joint pains, history of acute rheumatism or chorea, &c.

Fifty-five (24·4 per cent.) of these rheumatic children had some heart affection, forty-three showing permanently damaged hearts and twelve functional derangements.

The number of heart cases of all varieties—congenital, functional &c.—among the 8,428 children was ninety-two. Thus more than half of the heart abnormality found in this survey was due to rheumatism.

Forty-five (0·5 per cent.) of the 8,428 children had had acute rheumatism and twenty-three (0·27 per cent.) chorea.

Heredity.—Taking all the cases of rheumatic affections, there is a rheumatic family history—acute rheumatism, quinsy, heart-disease, &c.—in 62·72 of the cases. The hereditary nature of the complaint appears marked.

Status.—Father's work varies—professional, labouring, trade, clerical, &c.; all types of urban occupation. Only 2 per cent. were poor. Rheumatism is said to be a disease of "the poor but not the poorest," but this does not seem to apply in the small number investigated.

Housing.—The moving habits of the people make this a different problem in New Zealand from that in England. Forty-four per cent. were still in the house where they had their first attack, and 10 per cent. of these houses were described as damp by the school nurse visiting the home.

Note on Heating of Schools and Drying of Clothes.—In nearly all schools the arrangements for drying clothes are inadequate or nil, and this must have a bad effect on children with rheumatic tendencies.

Conclusions.—(1) Heredity is marked. (2) The number of organic heart cases who had merely a history of pains shows the importance of not neglecting "growing pains." (3) Enlarged tonsils appear to afford a point of entry for the disease. (4) The percentage of malnutrition is much greater in rheumatic children than in others. (5) Acute rheumatism and other rheumatic affections begin early in life—under five to six years; the commonest ages of onset of chorea are seven and eight years, when the strain of school life may begin to tell.