Advice on Health (No. 121)

BLOOD and IRON

(Written for "The Listener" by DR. MURIEL BELL, Nutritionist to the Department of Health)

THOUGH the Bismarckian title suggests it, this is an account not of the military aspects of this metallic element, but of something which will continue to be fundamental to the human body even when our race has evolved enough to have beaten its swords into plough-shares.

There was an old tradition that if a sword were left to rust in water, and the water were used as a beverage, the warrior imbibed the strength from his old sword. No doubt this was a useful way of restoring the iron of the blood lost through previous combat, and thus the idea was quite a good one. As a rule, however, in peacetime living, there is not the need for drastic replenishment of the iron in the blood of the masculine section of the community. With the feminine section it is different—they have to draw on their stores of this element in the processes which are bound up with the initiation of life; they are drained for the sake of the future of the race. In peacetime when we think of iron in foodstuffs, we should think in terms of "women and children first;" children and adolescents are continually adding to their total volume of blood as they grow; hence the greater need for iron in the case of children as well as women.

When it comes to the amounts that are considered necessary per day, though it is only a minute amount in terms of weight, iron is not so very easy to acquire from foodstuffs. For some people it is certainly easier than others—because of the differences in our capacity to absorb iron. There are those whose gastric juice handicaps them by not being acid—for our gastric acid helps in the preparation of iron for absorption.

These minute amounts are as follows: 15 milligrams for adolescents and for expectant and nursing mothers; 12 milligrams for ordinary adults (sometimes men can do with half this amount); 6 milligrams for infants; 7-12 milligrams as the child progresses from 1 year to 12 years of age.

A doctor to whom I passed on the statements made to me by school doctors and nurses that there is a good deal of anaemia among women and children, particularly in the Maori section of our population, asked: "But how can that be when New Zealanders eat so much meat, and meat is so rich in iron?" He had apparently learnt his biochemistry before it was understood that there are some chemical compounds of iron which are not digested and assimilated by the body—in other words, the iron of some foods is said to be "not available" for absorption.

As far as our present imperfect understanding goes of the mechanism of absorption of iron from foodstuffs, it is like this: in the presence of the acid of the gastric juice, reducing substances like glutathione (present in bread and yeast, etc.), and vitamin C (in vegetables, citrus fruits, and tomatoes), reduce iron to the ferrous form which is then absorbed as long as the reaction is acid enough. Conditions for absorption are usually satisfactory only in the upper part of the intestine.