

all practical purposes only met with in parasyphilis—viz., the Argyll-Robertson pupil. No coarse random lesion would explain the constancy of this phenomenon; besides, this condition, although a sign of syphilitic infection, did not occur in true syphilitic disease. There were many reasons why the views of Lesser, Bose, and others could not be entertained. It might be supposed that there was an *inherent* aptitude for the cells of the body of certain individuals to adapt themselves readily to defence against the action of the virus in a race which had been widely syphilised for generations, and consequently a larger number would have a mild form of the disease. Cases of tabes and general paralysis occasionally arose within three years of the primary sore; possibly this might be due to an inherent hypersensibility to react to the poison. The nerve-cells were perpetual elements incapable of regeneration, and when decay set in the regressive process attacked first the fine twigs and branches, the dendrites and dendrons and the rootlets. When metabolic equilibrium was disturbed and decay set in the cholesterin complexes were thrown off in increasing numbers. This seemed probable from the fact that in general paralysis and in tabes the quantities increased with the progress of the decay. In the earliest stages this process of decay would manifest itself by an increased irritability and functional activity of the nervous structures, often manifesting itself in a hyperæsthesia sexualis and not infrequently in striking intellectual activity, followed in each case by exhaustion and loss of function.

The lectures were attentively listened to by a large audience and at the conclusion a hearty vote of thanks was accorded to Dr. Mott.

## THE FOOD OF ELEMENTARY SCHOOL CHILDREN.

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IN a very large measure our methods of feeding are archaic. We eat much the same food as our forefathers, it is cooked in much the same way, and in many instances we commit the same errors. This comes about because we pick up our methods of feeding at our parents' table and few have any idea why it is that they eat certain kinds of food under certain conditions. As a matter of fact, we are all prone to eat what we like rather than what is good for us, and as a rule there is an utter disregard of all food values.

Surely in these days when so much attention is given to other hygienic subjects the time has arrived when the knowledge of food values, both from a nutritive and economic point of view, should be regarded as one of the conditions of elementary education. Haphazard methods of gaining knowledge are never good and do not tend to make for progress. There can be little doubt that as a nation we feed badly, which, however, is not the same thing as being badly fed, and this applies more especially to the poorer and working classes. For the purpose of obtaining some definite information on the kinds of food taken by the poorer classes some 1000 breakfasts and 1000 dinners were examined. The constituents of these meals were obtained by the teachers at different schools asking the children to write down what they had for dinner and breakfast each day. The number of individuals questioned was close upon 500, as in some cases a series of meals was taken during a whole week. The children interrogated ranged from six to nine years of age. The schools selected were in the north, east, and central London areas. The period of the year was February. Although too much reliance cannot be placed upon the statements of children, yet the analysis of the material collected gave at least some insight into the food and method of feeding used by the working classes.

Looking at the breakfasts first, it was found that whilst 61·2 per cent. of the children have bread and butter, and butter includes margarine, only 9 per cent. have bread and dripping. Bread and jam or marmalade, or material of that character, was taken by 12 per cent., and cake by 6 per cent. Bread alone was the sole breakfast food of 1 per cent.

Some form of animal proteid was taken by 14·5 per cent., bread and milk by 2 per cent., and only 3 per cent. partook of cereal food. With regard to beverages taken, tea constitutes 84 per cent., coffee 4 per cent., cocoa 9 per cent., and milk 2·8 per cent. The analysis of these breakfasts brings out clearly one or two points. It is evident that the mother does not appreciate that bread and dripping is as nutritious as bread and butter, and much cheaper, for dripping must be to hand in more than nine out of every hundred homes, especially in these days of cheap meat. The utility of sugar as a substitute for fat is in some measure realised but its use is somewhat restricted on the ground of cost. The influence of cost is shown, too, in the limited use of bread and milk, milk being a dear food. The chief point which is brought out, however, is that cereals are not in favour with the working classes as a breakfast food. This can be accounted for on several grounds. First, the English matron cannot, as a rule, cook oatmeal in such a way as to produce a palatable dish. Secondly, good nutty flavoured oatmeal is not easily obtained in the poorer districts of London, for by being kept it often has a bitter taste. Thirdly, it is not generally known that oatmeal contains a large proportion of fat, and with milk forms an almost complete diet. It is evident, too, from the above figures that breakfast is not regarded as a proteid meal, though the reason for this is difficult to explain save on the ground of cost.

On examining the dinners it was found that 88 per cent. had an animal proteid constituent, or if cheese and batter pudding be excluded 84 per cent. Potatoes were taken by 63 per cent., and 22 per cent. had in addition one or more vegetables. Cereals in some form were taken by 10 per cent., the pulses by 2·3 per cent., and tart or pudding by 20 per cent.; pickles by 2·5 per cent. With regard to beverages, tea or coffee was taken by 8·5 per cent. There was an absence of proteid in the case of 7 per cent. These figures appear to indicate that on the whole there is little deficiency of nitrogenous food, but some of the individual dinners show pretty conclusively that there is little or no conception as to the part played by proteid. Cheese is taken about as often as the pulses. The former is looked upon as an adjunct or something to fall back upon, and it is open to doubt whether the suggestion that cheese might often replace meat would be met with anything but ridicule. The pulses are nearly always taken in addition to animal proteid and not as a sparer. The cereals are usually taken as some sort of pudding or after dish. The chief source of carbohydrate appears to be the potato which is in some measure supplemented by bread. Tea and coffee is in some measure replacing beer which in the whole series was not once mentioned. The disappearance of beer is good but the benefit is depreciated by the substitution of tea and coffee. On subjecting the non-vegetable proteid to further analysis, meat and egg constitute 72 per cent.; soup or stew, 22 per cent.; fish, 8 per cent.; and cheese, 2 per cent.. Of the different kinds of meat, 24 per cent. consisted of beef in the form of joint, and 12 per cent. chop or steak; sausage, 6 per cent.; rabbit, 9 per cent.; pork, 9 per cent.; bacon, 2 per cent.; liver and bacon, 2 per cent.; mutton as joint, 15 per cent., and meat pudding or pie, 8 per cent. Brawn, ham, and tripe together constitute about 5 per cent. of the meat.

There can be little doubt that the great mass of our population is entirely ignorant of even a fundamental knowledge of the meaning of the term "food." The majority look upon the meal as something to eat, and indeed often express themselves in such terms. The statistics given above give some evidence of this but it is brought out more clearly by some of the actual meals selected at random from the collection. Such dinners as meat, biscuits, pudding and milk; pea-soup and custard; potatoes and rice; two eggs, bread and butter—all point in the direction of lack of knowledge rather than in that of insufficiency of material. Haricot beans and bread and butter, which was the dinner of one child, constituted a cheap but dietetically sound meal if given in proper proportions. So, too, where the diet is more abundant. The same evidence of lack of knowledge is to be seen as in such a meal as the following: ham, beef, tongue, bread-pudding, bananas, and tea. Hereby all the lists of dinners given by the children show strong evidence of Sunday being regarded as the weekly feast. The Sunday dinner is invariably the one with the greater variety of food, with the largest proportion of animal proteid, and is nearly always hot.

Though the above figures are open to several objections, such as the questionable veracity of children and the comparatively small number of meals, yet they are able to show in some measure that the poorer constituents of our population require better knowledge of the meaning of food and food values. It is necessary that the worker should know that whilst he is able to buy a meal it can nearly always be physiologically complete. That is to say, if he can give his children bread and jam for dinner he can give them bread and a small quantity of cheese which is better. He should know, of course, why it is better. The only way in which this knowledge can be imparted is by giving elder scholars a course of instruction in elementary dietetics. As in all such cases, it is futile to attempt to induce parents to alter the methods they have employed for years. The proper place for such instruction is in our elementary schools, which are beginning to be regarded as places where the young may be founded in knowledge which shall equip them in the life struggle and not solely as a means to help them to rise in life.

Such knowledge of food and feeding should be of great benefit to the individual and the matron from the point of view of both economy and physical development. It would be far better to teach children what to eat and why they should eat it rather than how to cook dishes they will never taste.

### THE THIRD INTERIM REPORT OF THE ROYAL COMMISSION ON HUMAN AND ANIMAL TUBERCULOSIS.

THE Royal Commission which was appointed in 1901 to inquire into the relations of human and animal tuberculosis has issued its third interim report, dated January, 1909. We may recall that the first report appeared in 1904 and served as a timely warning against any relaxation of administrative precautions in regard to tuberculosis in animals used for the milk- or food-supply, in view of Professor Koch's pronouncement that human and bovine tuberculosis were unrelated infections. The report was signed by the late Sir Michael Foster, who was the original chairman of the Commission, Professor G. Sims Woodhead, Dr. Sidney H. C. Martin, Sir John McFadyean, and Dr. E. J. Steegmann, the secretary of the Commission. The same Commissioners were responsible for the second interim report which appeared in 1907 and which expressed the conviction that human beings, and especially children, can be infected with bovine tuberculosis, and that in the majority of such cases the infection takes place through the medium of cow's milk. We print the present report in full and it will be seen that it is signed by the same gentlemen, except that Sir W. H. Power, K.C.B., has been appointed chairman in place of the late Sir Michael Foster.

#### REPORT.

We, your Majesty's Commissioners, appointed to inquire and report with respect to Tuberculosis:—

1. Whether the disease in animals and man is one and the same;
2. Whether animals and man can be reciprocally infected with it;
3. Under what conditions, if at all, the transmission of the disease from animals to man takes place, and what are the circumstances favourable or unfavourable to such transmission;

humbly submit the following Further Report containing an account of certain experiments we have carried out regarding the Infectivity of the Milk and Fæces of Naturally Infected Tuberculous Cows, that is, Cows that had contracted the disease in the ordinary way.

We wish to take this opportunity of expressing our deep sense of the great loss caused not only to ourselves but also to the whole country by the lamented death of Sir Michael Foster, the late Chairman of this Commission.

Since the date of our Second Interim Report the work of the Commission has been mainly directed to determining the special characters of the bacilli which are the cause of tuberculosis in animals other than the cow, and the relationships of the different types of tubercle bacilli which we have encountered in man and certain of the lower animals. The

investigations bearing on these and other matters referred to in that Report as engaging our attention are not yet complete and the publication of the results obtained must therefore be postponed.

In the meantime we have thought it advisable to describe the results of a series of experiments which have been carried out by us with a view of obtaining information regarding the excretion or discharge of tubercle bacilli in the Milk and Fæces of tuberculous cattle.

In our Second Interim Report we expressed the opinion, as a result of our investigations, that a very considerable amount of disease and loss of life, especially among infants and children, must be attributed to the consumption of cow's milk containing tubercle bacilli.

Tuberculosis involving the udder is comparatively common in cows, and in such cases their milk always contains tubercle bacilli and is therefore dangerous for human beings consuming it. It was, however, undecided what is the danger, if any, attaching to the milk of tuberculous cows in which the udder presents no evidence of disease. We therefore took the opportunity of making a number of observations and experiments bearing on this point. The experiments were made with the milk of cows which had contracted the disease in the natural way.

In natural tuberculosis in the cow, cases which show such obvious symptoms of the disease as emaciation and cough should be considered separately from the cases in which there are no such signs and in which the disease is to be recognised during life only by means of the injection of tuberculin.

None of the cows investigated showed any sign of disease of the udder during life, and in all, after slaughtering, the udder was carefully examined for tuberculous lesions and tubercle bacilli. No tuberculosis was found except in one case (Cow F) in which one quarter of the udder showed four small nodules. These could not possibly have been detected during life.

We found that the milk of the cows obviously suffering from tuberculosis (see Appendix; Cows B, C, and F) contained tubercle bacilli whether the milk was obtained in the ordinary way or was withdrawn from the teat by means of a sterilised catheter. The presence of tubercle bacilli in the milk of cows clinically recognisable as tuberculous confirms the opinion we expressed in our Second Interim Report that the milk of such cows must be considered dangerous for human beings.

The experiments which we have carried out with regard to the infectivity of the fæces of tuberculous cows were dictated by knowledge of the fact that dirt of various kinds from cows and the cow-shed is almost constantly present in milk as it reaches the consumer. Cows suffering from extensive tuberculosis of the lungs must discharge considerable numbers of bacilli from the air passages in the act of coughing, and some of the bacilli thus expelled may find their way into the milk. But our experiments indicate that the excrement of cows obviously suffering from tuberculosis of the lungs or alimentary canal must be regarded as much more dangerous than the matter discharged from the mouth or nostrils. We have found that even in the case of cows with slight tuberculous lesions tubercle bacilli in small numbers are discharged in the fæces, while as regards cows clinically tuberculous our experiments show that the fæces contain large numbers of living and virulent tubercle bacilli.

The presence of tuberculous cows such as B, C, and F in company with healthy cows in the cow-shed is therefore distinctly dangerous, as some of the tubercle bacilli which escape from their bodies in the excrement are almost certain to find their way into the milk.

The experiments are described in detail in the Appendix attached to this Report. They were carried out by Dr. F. Griffith under our supervision, and we desire to express our high appreciation of the skill and care devoted by him to the work.

(Signed) W. H. POWER, Chairman.  
G. SIMS WOODHEAD.  
SIDNEY MARTIN.  
J. MCFADYEAN.  
RUBERT BOYCE.

EDWARD J. STEEGMANN, Secretary.  
January, 1909.

Following this report is an Appendix which describes the results of inoculation and feeding experiments made with the