

But a dietary prescription is useless if it is not translated into food which is enjoyed. This does no one any good if it is left on the plate. Much attention has accordingly been devoted to fostering good standards of cookery, and by the terms of the 1945 Education Act, authorities are obliged to appoint organizers of school meals qualified, amongst other things, to maintain a high standard of cookery. A standard set of menus has not been recommended, not only because of difficulties of local supply but also because the absence of regional variations in dishes would be a real loss.

Conclusion

How far the Government's recommendations are being achieved in the schools will be shown by subsequent speakers. I shall only say that we feel that the recommended standard is a high one, but that it is attainable and has been reached in some quarters, though not yet in others.

I cannot close without paying a tribute to that excellent body of men and women, the teachers. Meals have appeared in schools where the dining arrangements have perhaps been perforce far from ideal. Needing a respite in the lunch hour from the dynamic pressure of a class of children, they have, nevertheless, undertaken, in most cases willingly, and in many instances with enthusiasm, the supervision of the children during the dinner hour. This has been and continues to be of the utmost importance, for the school meal is not only a dietary treatment, but also a training ground of a unique kind, where social graces and virtues of unselfishness and consideration can be very readily implanted. William Wykeham said 'manners makyth man', and where can they be more suitably and unobtrusively taught than in the dining-room? The pupil's respect for his teacher is a very real thing, and for this important aspect of a great new social service the support of the teachers is essential. They have given it with great generosity.

The school meals scheme is still an infant service with many faults and failings, but there is no doubt that, with the enthusiasm and devoted service it evokes from the organizing and executive staff who work for it, it will grow to full stature as a great work of preventive medicine and a social benefit to all children.

REFERENCE

Scottish Education Department (1941). *School Meals*, circular no. 209. Edinburgh: H.M. Stationery Office.

Nutritional Aims versus Habit and Custom

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I appreciate the opportunity of giving some account of what is involved in the putting into effect of scientific discoveries in the realm of nutrition. The process is far from simple, because it involves that variable factor, the human being with all his likes and dislikes, prejudices and enthusiasms.

The purpose of the school meals scheme is to secure the adequate nutrition of the child, and to educate him in good social habits. The Scottish Education Department has laid down that the average meal provided should supply 1000 Cal. and contain certain amounts of protein and fat. In addition, we have been provided with a list of the foodstuffs which should be used to attain the standard set, and if the children were free of fads and fancies and set habits the whole scheme would be very simple. Standards of staffing in connexion with school meals have also been laid down. There has also been supplied to us a list of menus suggested as being suitable and in accordance with the nutritional standards laid down; but this, I must say, was premature. There are too many psychological difficulties. The average schoolchild lacks experience in variety of food, and tends to be suspicious of what he has not seen before. The spirit of adventure is lacking in connexion with food up to about the age of 14 years.

I would submit that we have in the school meals scheme the most effective force towards improvement in Scots dietary standards. Through this scheme children can have their experience of varieties of food widened, and I am hopeful that in the course of years we shall see the fruits of our labours in a keener awareness in connexion with food. It is important that the children should enjoy it, and everything should be done to see that they do. It is regrettable that at the present time we are busily engaged in supplying a prescription of calories, protein and the like to small absorbers of nutriment, but I am hopeful that ere long we shall be supplying meals to budding gastronomists.

Among the main difficulties at present, rationing and the shortage of kitchens, dining-rooms and suitable staff prevent immediate progress. In Ayrshire we supply about 20,200 meals a day and we have long waiting lists. The meals are supplied to children of ages ranging from 2 to 17 years, who come from very varied homes, to teachers, and to members of the school meals staff. The school meals staff present fewest difficulties; they see the food at different stages, see the trouble that is taken with it, and are enthusiastic about it. This enthusiasm is infectious, and convinces all and sundry that the job is worth while.

School meals have also had to live down a certain prejudice arising from the traditions of the old-fashioned soup kitchens for the needy, but these, I am glad to say, are now things of the past. Difficulties less easily overcome are the habits and customs persisting from our old Scots way of life. They are found in country districts and in some urban districts too, although there are patches here and there where food habits are good.

The food eaten in a district depends on its soil, its climate, its transport and the type of cooker usually found in working-class homes. The cooker especially has had a great influence on the kind of food eaten. Originally there was the fire on the hearth, first with a stand to hang a pan on, then the fireplace of metal construction with the 'swee'* but no oven. Consequently everything was cooked in iron pots, e.g. Scotch broth, porridge, haggis, all soft, with oatcakes baked on a girdle as the only crisp food. Desirable as these foods are, they are not sufficient to provide a satisfactory diet. When meat was served, it was usually in stew form; father got the meat and the children

* Also spelt swye or sway. A flat iron rod, generally working on a pivot, suspended in the chimney, on which pots and kettles are hung.

got the gravy. This idea that children do not require meat is difficult to kill. With the necessity for simple cooking was associated the necessity for simple service, as the utensils we now know were rare. The meals were served by placing the pot or a large bowl in the middle of the room while the family, each provided with a horn spoon, sat round and supped. This continued until the pot was empty, or the diner, if young, fell asleep, or, if older, found his belt become tight. There was no difficulty in dividing out the food and no difficulty with a fork and knife. The next refinement was promotion to a table, the next, individual plates and portions, and last of all the fork and knife. The earlier alternative to the use of a spoon was the use of the fingers. The fingers were necessary when the meat was on the bone, though in poorer homes this was not often.

We have thus had handed down to us a tradition of soft foods which had as their chief virtues that they were easily divided and easily supped. The majority of the children in schools have been reared in this tradition. As a result, foods which require to be chewed are avoided and the use of a fork and knife has to be tactfully taught. We occasionally get children into school whose only experience with food has been with the product of the chip shop and with the baker's pie. They do not know the use of a spoon, and even soup is an adventure for them. We also have children from homes where the standard of meals is good, and family income does not always explain the difference.

It has been my experience that if food is to be attractive to children, it should smell good; it should taste good; it should be filling; and it should be familiar. It will be noted there is no mention of appearance; this is of less importance than many people think, for, as in all children's interests, 'beauty is in the eye of the beholder'. There is no reason to believe that Ayrshire children are different from other Scots children, and we have found that one of the favourite dishes there is hot-pot, Scots fashion, i.e. made in a pan, in effect a kind of glorified Irish stew. Its colour is not attractive, but its appeal to the children is such as to ensure clean plates everywhere and, though its food value is not very satisfactory, the children get full benefit of what there is because there is no waste. On the other hand, roast beef or mutton and boiled or baked ham have much less appeal. I attribute this attitude of the children to the effect of use and wont.

Nutritionists will, however, be glad to know that the appeal of salads is now very different from what it was in the early days. By craft and cunning this has been achieved. At first there was something approaching open warfare in the matter of salads, particularly in country districts, and the waste was shocking. After making it known that we would not be officious in the matter of salads, we began sending raw vegetables, attractively prepared, only one at a time. Gradually they came to be accepted. We then mixed two vegetables, and then came to the point where we dared to include a lettuce leaf with the already familiar vegetables. Lastly we introduced the dressing, and we now find ourselves using art and guile to make it acceptable. We find that it is more likely to be appreciated served from a bottle than from a sauce-boat. We are quite proud of having made such progress with salads, and it makes me hopeful that through the school meals scheme the dietary of Scotland can be improved more quickly and effectively than through any other agency. This is real education, sub-

mitting the children to improving experience. Many of the old Scots habits were bad; they tend to persist, but with optimistic endeavour we shall eventually achieve results which will surprise even us.

I refrain from referring to the distributive method of supplying school meals. We deplore it but recognize its necessity, and I think we should regard it simply as the beginnings of a much better system.

An immediate need is more enlightened opinion in our teachers and the main body of the school meals staff. They have been reared in old Scots food traditions, and old habits die hard. At the beginning of our Ayrshire scheme I had many amusing encounters, nearly all on the topic of soup. *Alice in Wonderland* contains nothing to equal the enthusiasm of headmasters for soup, especially when made with what they termed 'a good bone', and with wonderful uniformity they boasted 'I was brought up on soup and porridge and oatcakes, and look at me'. In many cases I looked and was silent. Then members of education sub-committees have to have their say, and my lack of enthusiasm for soup has led to many interesting and revealing discussions. A vegetarian on such a committee may sometimes try to influence the trend of the menus, but so far it has been possible to insist that normal children have normal meals. We do also cater for the abnormal child, such as a diabetic, but we are not concerned with this here.

In the serving and eating of food much progress has been made, but much remains to be done. The battle of having hot food served hot, and the fork-and-knife battle, are prolonged by poor dining conditions in many schools. The simplicity of the spoon is one of the minor worries; some children, only children as a rule, come to school unable to feed themselves. The psychological influence of maternal possessiveness is also demonstrated in other ways. A small boy went home one day and enthused to his mother about the pudding he had in school that day, and his mother retorted 'Do you not get good pudding at home?' The boy replied 'Yes, and this was nearly as good as yours'. These, however, are problems outside our control. Times being what they are, we must take cognisance of the preferences of the children if waste is to be avoided. A 1000 Cal. meal only partly consumed, or consumed with reluctance, will be less nutritious than, say, an 800 Cal. meal wholly consumed with gusto. The study of childish preferences is, therefore, as important as the study of food values.

The meat allocation does not permit of our serving it with bone, and it is not possible to say what the operation of carving would be like. I do not want to disgust anybody, but I should like to think that such meat would be eaten by 'Henry VIII' methods, and with gusto. For those who are interested in food traditions I recommend two books which deal with English fare: *The Englishman's Food, Five Centuries of English Diet*, by J. C. Drummond and Anne Wilbraham, and *The Origin of Food Habits*, by H. D. Renner, which is a more recent publication. To quote profusely from either would be unfair in these days of shortages, but I cannot resist a single extract from the last-mentioned book. 'Gastronomists are still inclined to gnaw the bones of fowl. I knew one who happened to be a professor of philosophy. He used to do it even in a restaurant and was not aware of the effect described above (keener perception of odour when meat is held directly under the nostrils) but claimed that the action of

gnawing prolonged his pleasure. When he came home, he said, he could still recollect the pleasant feelings by taking an occasional sniff at the fingers.' To true vegetarians I tender apologies for the quotation. Does this not point to the possibility that while it is desirable to wash hands before meals, it is inadvisable after?

That, however, in passing. To sum up I would submit that, in spite of sentimental utterings, Scotland's food traditions are not all good, that old customs and habits tend to persist, and that the school meals scheme is the most efficient way of improving the dietary of Scotland. Credit is due to the Scottish Education Department for the standards it has set, and we may be proud that so much has been achieved.

The Composition of School Meals

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I present this short paper rather apologetically, for my own direct analyses of school meals were done mainly during the years 1942-4 and my knowledge of more recent work is secondhand. Some of the old figures, however, may still be of value, for the problems which, in the war years, confronted those charged with the task of providing school dinners have not all been solved, and the supply position has deteriorated rather than improved.

Originally it was suggested that the proper target for a school dinner was 1000 Cal., with most of the daily requirement of first-class protein and much of the fat, these latter recommendations being interpreted as meaning 20-25 g. first-class protein and about 30 g. fat. A meal of this kind contains a minimum of 215 g. dry matter which, allowing for roughage and water, means a gross weight of over 450 g. (1 lb.). Such an amount of food cannot comfortably be consumed by small children, though doubtless voracious 'teen-agers' can dispose of it without undue trouble. It has, therefore, always been accepted that the desirable calorie value for a school meal must depend on the age of the child for whom it is intended. The estimate of 1000 Cal. is based on the assumption that 2500 Cal. is the desirable daily allowance, and this applies to children of 10-12 years, according to the standards of the U.S.A. National Research Council, Committee on Food and Nutrition (1941). For children of 7-9 years, requiring 2000 Cal. daily, the dinner should, on the same basis, supply 800 Cal., and for children below that age, requiring 1600 Cal. daily, the dinner allowance should be 640 Cal. These calculations, however, can provide no more than rough guides, indicating that the 1000 Cal. target must be subject to some modification.

During the war years, it was arguable that the calorie value of a school meal was really of secondary importance and that attention should be more closely directed to the provision of protein, important inorganic elements and those vitamins which were likely to be insufficiently supplied in the other meals of the day. Now, with increased restrictions in the supply of energy foods, calories have increased in importance. Where, before, one might regard as satisfactory a meal of small bulk rich in protein, minerals and vitamins, and trust the home meals to provide adequate calories, it is