THE NATION'S LARDER IN WARTIME

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FOOD AND THE HOUSEWIFE

BY

V. H. MOTTRAM, M.A.

Even if the scientists knew the whole truth about the work that foods do in the body and the way in which they do it, it would be almost impossible for the housewife to cater scientifically. She would have to cater for many different daily needs of calories, of two types of proteins, of at least four inorganic substances—two metals and two non-metals—and of seven different vitamins. It is probable that no person could carry in his head the calorie values of the fifty or sixty different foods which we eat, their percentage compositions as regards first- and second-class proteins, the amounts of calcium, iron, iodine, and phosphorus in those foods, and the distribution of the various vitamins among them. It is therefore unwise for the housewife to attempt to do so and, indeed, unwise for her to trouble herself much, if at all, about calories, proteins, inorganic elements, and vitamins. For were she to try to memorize such data it is likely that one or another of the necessary food elements would absorb her attention to the exclusion of all others.

Nor is the study of dietetics anywhere near finality. The last word has not been said about the vitamins, and it may be that there are more to be discovered. Nor can we yet tell how many calories a child or adult needs simply by measuring his height and weight and taking his age. There is still a large measure of incalculability about the food needs of a person, and so instead of counting on a certainty it is necessary to make shift with probability. But the probability of our makeshift is high. We can be almost certain that if we took an East-End child and put him on a midday meal of cheese, vitaminized margarine, wholemeal bread, milk, a raw carrot or so, and an orange he would, at the end of three months, look fitter and be clearer skinned—and possibly more vivacious and naughty—than one who had regularly his cut from the joint and two vegetables followed by a pudding.

The Three Classes of Foods

The housewife buys her food at six different shops or, possibly, departments in the departmental stores—the baker and confectioner, the butcher, the dairyman, the fishmonger, the greengrocer, and the grocer. A modern tendency is to group together all the things which keep easily under grocery, and so we buy nowadays condensed milk, bacon, and cheese, and even pasteurized milk in cartons from the grocer, leaving the perishable foods, which need a different treatment, each to be attended by its own specialist. These easily kept foods belong almost entirely to the class of foods from which we derive energy and warmth in large amounts and but little else. As these foods keep well and are on the whole inexpensive for what they give, wartime tends to make us consume more of these energy- and warmth-producing foods than of the other quite as essential foods. One effect of war and emergency is to unbalance our diet. We eat too much of the energy- and warmth-producing foods and too little of those which build up the body and of those which protect it.

The body-building foods—namely, milk, cheese, fish, meat, and eggs—are those which consist of much the same

fundamental stuff as the body. It is true that some other foods, such as bread and pulses, contain body-building material, but there are practically no physiologists or dietitians who consider those two foods as good as the first named. The term “body-building” is simple and understandable. It has an obvious meaning as regards the child; and even in the adult, parts of the body are seen continually to grow, parts wear out or get damaged and must be replaced and made good.

The body-protecting foods are those which contain the vitamins and the essential inorganic elements. They obtained this name because they protect the body against sickness in a very special way.

The foods which the housewife buys according to what they do in the body may be grouped in the following way:

Group I.—The warmth- and energy-producing foods:

Bread, cake, pastry, scones, etc.

Sugar, jam, syrup, treacle, flour, biscuits, dried fruit, pulses, lard, margarine, and bacon.

Group II.—The body-building foods:

Milk, cheese, eggs.

Meat, offal, sausages, poultry, and game.

Fish.

Group III.—The protective foods:

Class I: The dairy foods: milk, cheese, eggs, butter, cream, vitaminized margarine.

Class II: Greengroceries.

Class III: The fat fish.

The warmth- and energy-producing foods are good for little besides warmth and energy, and they should not, and cannot, replace the body-building foods or the protective foods. On the other hand, it is extravagant to use the body-building foods as energy foods, and it is impossible to use all the body-building foods as protective foods. Similarly the protective foods often cannot be used to produce energy, and many are almost devoid of body-building power. The three groups therefore cannot replace each other in the diet.

In the above classification Group III has been divided into three classes, whereas Group II has not. This is because each food mentioned in Group II can replace any of the others. Thus milk may replace meat or fish and cheese may replace the same foods. But in Group III the dairy foods cannot take the place of the greengroceries or of the fat fish. All three classes of the protective foods must be represented in the diet. This is practically the only feat of memory which is asked of the housewife who wishes to cater according to dietetic principles.

A Word of Caution about Fruits and Vegetables

It is usual to say “fruits and vegetables,” and indeed that is a fairly satisfactory statement in the ordinary middle-class home where the vegetables are not overlooked and are eaten as soon as they are cooked and where the fruit will include oranges, grapefruit, and bananas in winter and plenty of summer fruits in summer. But we have to admit that it is possible to choose fruits and vegetables which possess next to nothing of the materials for which we are bidden to eat those foods. A man could by choosing grapes, cherries, plums, pears, and apples among the fruits, and lettuce, celery, onions, and carrots among the salads and vegetables, steer himself almost clear of calcium, iron, and vitamin C. So we must be a little more specific concerning which fruits and vegetables contain that vitamin and how to obviate the fact that we lose some of it in the process of cooking.

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The very prevalent idea that cooking destroys the vitamins is false. But two of the vitamins are somewhat susceptible to heat and oxidation, particularly the latter, so that there is a question whether cooking may not destroy those two. It is only vitamin C about which we need to be at all careful. When greens or potatoes or black currants are boiled some of the vitamin C passes out into the water and some is also destroyed. When therefore we throw away the water from the greens we throw away about half the vitamin C content. With black currants and fruit compotes stewing does not matter, because we eat the juice with the fruit. There is further destruction of vitamin C, however, if the cooked fruits and vegetables are kept for a long time or are re-heated. So-called hay-box cookery is a suspect process so far as vitamin C is concerned, but it is a perfectly satisfactory method so long as one is aware of that fact. Vegetables served in restaurants or institutions or Army canteens or camps are almost certain to have lost much of their vitamin C.

Foods containing Vitamin C

As there is this uncertainty about vitamin C, and green-groceries are placed among the protective foods mainly, though not entirely, because of their possession of large amounts of this vitamin, the following table is given of those fruits and vegetables which are best in this respect. Each row is approximately in order of value in supplying vitamin C.

FRUITS AND VEGETABLES WITH LARGE AMOUNTS OF VITAMIN C

Home-grown fruits:

Black currants, strawberries, red and white currants, raspberries, loganberries, and gooseberries.

Foreign fruits:

Oranges, lemons, grapefruits, and bananas.

Home-grown salads:

Watercress, tomatoes, radishes, mustard and cress.

Home-grown vegetables:

Sprouts, cabbage, swede turnip, spinach, white turnip, and potatoes.

FRUIT AND VEGETABLES WITH LITTLE OR NO VITAMIN C

Apples (with the exception of the Bramley seedling)	Bean (runner)
Cherries	Carrots
Grapes.	Lettuce
Pears.	Onions (with the exception of the leek)
Plums	Parsnips

It is evident that the housewife has to be a little careful in choosing her fruits and vegetables among protective foods. But the difficulty is not so great as it appears at first sight. It can easily be solved in one or other quite simple ways. One is the routine service of half a grapefruit or an orange, or the juice of these, every day. The tomato cocktail, even if it comes from a can or a bottle, may help in this direction, though complete reliance should not be placed upon it. Another method is to serve a raw salad every day, chosen from the salads and vegetables mentioned above; or in summer-time a compote of raw or stewed fruits. When extreme economy has to be practised raw salads of sprouts, cabbage, or swede turnip may be taken.

The Average Diet

Probably the best way to make one's diet sound from the point of view of modern dietetics is to take one's own diet, examine it in the light of the above statements, and then to replace if necessary some foods by others known to be more advantageous.

[Professor Mottram here gave a sample of the normal business man's menus for the day, putting beside the items E for energy foods, B for body-building foods, and PI, PII, and PIII for the three classes of protective foods.

He then suggested how such a diet might be slightly modified so as to make certain of the class PII, which was deficient in the diet he had just given. The result was the following daily menu.]

Breakfast:

Grapefruit	PII
Grilled herring	B and PIII
Toast	E
Marmalade	E
Butter	E and PI
Coffee	nil
Milk	B and PI

Mid-morning:

Milk	B and PI
Banana	E and PII

Lunch:

Meat	B
Potatoes	E
Greens	? PII
Steamed pudding	E

Tea:

Cup of tea	nil
Cress sandwich	E and PII

Dinner:

Orange or tomato cocktail	PII
Joint	B
Potatoes	E and possibly PII
Peas	possibly PII
Apple pie	E and possibly PII
Cheese	B and PI
Biscuits	E
Butter	E and PI

In such menus there is no doubt of the addition of PII and PIII, and there is nothing in this diet that the average person would object to unless it be the herring. It is not necessary that the fat fish should form part of everyday menus. There is no need for it to appear more than once or twice a week, though there is evidence that people living on a fish diet and treating the fish liver as a highly prized luxury have finer teeth than the majority of us.

Food in Wartime

So far we have been writing as if there were no restriction in our foods, either by rationing or by the rise of price. It would be well now to consider a sane plan of drawing up a diet from first principles, and it is as follows:

1. As every survey of British diets shows, it is the protective foods which are lacking, therefore it is well to begin with them and include a sufficiency. Such a sufficiency is obtained if we have:

Class i:

- 1 pint of milk per day.
- 1-2 oz. of cheese.
- 1-2 oz. of vitaminized margarine or butter.
- 1 egg (though this is not essential).

Class ii:

- One helping per day of the special fruits and salads of Table I.

Class iii:

- One helping of fat fish once (or, better, twice) a week.

2. On fish days practically enough body-building material has been obtained, but most people would like to add, say, 2 oz. meat, and with this would be served two vegetables. The best would be potatoes with either green vegetables or carrots. Such procedure would make sure of the right amount of body-building material and also add vitamin A and some iron.
3. For the rest, appetite and one's purse can be consulted: appetite will determine how much, and one's purse determine what, shall be eaten.

As the energy foods form by far the largest bulk of what we eat it is upon these that money can best and most easily be saved. The cheap foods for energy are bread, most cereals (when not put up in fancy packets), dried peas and beans, sugar, flour, treacle, syrup, margarine,

suet, and potatoes. Dried fruits and jams are not expensive. To use fish and meat for energy foods, as was the rule in schools and institutions, is extravagant, but if body-building foods are so used it is found that cheese and herrings are among the cheapest and that milk is cheaper than meat. Economy in diet includes substituting milk, herrings, and cheese for meat, because not only are they cheaper for body-building and for energy purposes, but they have body-protecting power as well, of which meat has little.

If we range foods purely by their energy value, which indeed is a reasonable starting-point, though a logical extreme is to be avoided, we find that next to the foods we have enumerated above come the fat fish, cheese, and bacon; then imported meats begin to appear (led by "scrag end" of Canterbury mutton); later appear the cheap joints of imported beef, and mingled with them the cheaper cuts of home-produced mutton. Expensive from the energy view are nearly all fresh fruits, most vegetables, and the white fish, though, of course, some are dearer than others.

Putting this in a less long-winded way may we suggest to the housewife troubled by rationing that she should:

1. Never on any account decrease the supply of milk to her family but actually increase it.
2. Replace any meat lost owing to rationing by milk, cheese, and fish (fat fish is best).
3. Use vitaminized margarine to replace any butter lost due to rationing.
4. Never omit one helping per day of one of the raw fruits and vegetables enumerated above.
5. Replace some of the white bread of the diet by wholemeal bread because of the loss from the diet of bacon and ham, due to rationing.
6. Use canned goods—fruit, vegetables, and fish—if they can be afforded and fresh supplies are short.

In this way she will certainly avoid any danger due to restriction of food through rationing.

FRACTURE CLINICS: PROPOSED NATIONAL SCHEME

The British Hospitals Association proposes, in a memorandum which has been submitted to the Ministry of Health, that the State should set up a special committee to promote a fracture scheme in conjunction with the existing hospitals. The State would be asked to make an initial grant of £250,000 towards the cost of the scheme, and the Association would draw up a plan to provide the nucleus of an organization and suggest the necessary personnel.

The Pre-war Plan

In 1936 the Home Office set up a Rehabilitation Committee to consider the facilities available for providing in peacetime the special treatment which fracture cases require. This body recommended in August, 1939, a scheme for setting up fracture services throughout the country, and made certain proposals which they hoped would enable the voluntary hospitals to finance them. The outbreak of war made this impossible so far as the hospitals were concerned, and the local authorities, to which it was suggested the hospitals should look for financial assistance, were fully occupied with other pressing problems. The likelihood of heavy casualties, both military and civil, is now considered to call for the direct intervention of the State in the setting up of such clinics.

It is pointed out, however, that it would be a mistake for the State to set up its own fracture clinics otherwise than in full co-operation with the voluntary hospitals. The voluntary hospitals treat nearly 90% of the fractures sustained in

peacetime, and all that would now be required of them would be a measure of reorganization and extension of existing services. Their fracture departments, covering surgical treatment, physiotherapy, and remedial exercises, would have to be placed under the control of a surgeon, preferably a specialist, with a team of assistants, radiographers, and nurses on full-time service. Special equipment would have to be provided, including mobile x-ray units. The only problem which the hospitals themselves could not solve would be that of finance.

Fracture Services at Key Hospitals

Assuming that suitable accommodation is available or could be requisitioned, it is considered that the cost of setting up the additional fracture services attached to existing hospitals would work out roughly at about £2 per case. This would not be the total cost of treating a fracture, but the cost of the improvement on present services which is so urgently required. The total number of fracture cases treated in peacetime in all hospitals, voluntary or municipal, was about 200,000. Allowing for the expected increase in industrial accidents under wartime conditions as well as for war casualties, it is considered necessary to calculate on a figure of not fewer than 500,000 fractures a year. Only eighty-six hospitals in Great Britain, apart from twenty-four orthopaedic hospitals, have fully organized fracture services. In seventy others the service is only partially organized. Probably only 100,000 cases a year could obtain treatment adequately in the fracture services as they function at present. The complete fracture scheme would therefore require the provision of clinics for the treatment of 400,000, the cost of which would be, inclusive of capital expenditure, nearly £1,000,000 for the first year and £600,000 for the second and subsequent years. The immediate aim should be to ensure that a fracture service is established at a key hospital in each area at once, and for this it is suggested that the State should make an initial grant of £250,000 to cover the first year's cost of providing fracture clinics at thirty of the larger and forty of the smaller hospitals. Two other needs are the provision of rehabilitation or vocational training centres and also of settlements where those who have been too seriously incapacitated to be able to resume their ordinary work can be housed and taught crafts. It is pointed out how largely industry would benefit from such a scheme, probably to the extent of £1,000,000 a year. Industry, therefore, might be asked to contribute a part of the fund. Other points made are the likely saving in State pensions by averting permanent disability and also the fact that by attaching the factory clinics to existing hospitals it would be possible to make a war emergency measure part of a long-range peacetime policy.

In 1933 the Council of the British Medical Association appointed a committee, which reported in 1935,¹ to consider the existing arrangements for the treatment of fractures. Among the recommendations which it laid down as essential conditions of a fracture service were the segregation of cases, continuity of treatment, after-care, and unity of control. It also made some practical suggestions for a model fracture unit, which included rehabilitation centres for the provision of graduated work. The B.M.A. committee did not enter into financial considerations.

¹ *British Medical Journal Supplement*, February 16, 1935.

As announced in the *Journal* of June 15 (p. 1001) the decision of the University of Cambridge to cease to grant the Diploma in Medical Radiology and Electrology after October, 1941, has been rescinded. Courses and examinations for the diploma will be continued during the period of national emergency and at least a year's notice of its discontinuance will be given. The next course of study will begin about October 3, and is open to registered medical men and women who satisfy the committee that they have had sufficient post-graduate clinical experience. Information may be had from Mr. G. Stead, M.A., secretary for the diploma, Cavendish Laboratory, Cambridge; or from the general secretary, British Institute of Radiology, 32, Welbeck Street, London, W.1.