

Editorial & Publishing Offices :

MACMILLAN & Co., LTD.
ST. MARTIN'S STREET
LONDON, W.C.2



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No. 3441

SATURDAY, OCTOBER 12, 1935

Vol. 136

Food, Farmer and Future

"Considering *Punch* as the expression of the popular voice . . . is it not also surely some overruling power in the nature of things, quite other than the desire of his readers, which compels him, when the squire, the colonel and the admiral are to be at once expressed, together with all that they legislate or fight for, in the symbolic figure of the nation, to represent the incarnate John Bull always as a farmer—never as a manufacturer or shopkeeper and to conceive and exhibit him rather as paymaster for the faults of his neighbours, than as watching for opportunity to gain out of their follies."—John Ruskin. Lecture at Oxford. Nov. 1883. (Cook and Wedderburn ed. Vol. 33, p. 365.)

SIGNS are everywhere to-day that the desire is growing in us to put the house social more under considered control : we see that the happy-go-lucky individualism of the past must give way to a well-thought-out system, which will be to the greater good of a greater number ; we see the need to infuse a greater share of human sympathy into commerce and industry, in place of the unbridled spirit of competition that has too long prevailed : in other words, there is an obvious desire to introduce scientific practice into our affairs, so that we may work with calculated effect.

Life is so complex that we have forgotten how entirely food is its foundation and mainstay. We have taken what is provided as a matter of course, with little thought for the stomach : too easily assuming that nothing unwholesome would be offered, scant allowance has been made for commercial greed. The use of crude fuels, such as coal and oil, has led us to overlook our own need of carefully chosen fuels of altogether special quality : in fact, twenty years ago, when the War began, we had but a few rough rules to guide us. The rapidly growing science of dietetics has been developed almost entirely since the War. We now know that Nature exerts her control by homeopathic means : that our gross foods are

assimilated under the influence of indispensable very small proportions of a large number of accessory agents, in balance, each of which apparently serves the special ends of some one or other of the many separate, departmental activities of the human system. A trace of iodine may shift the balance from idiocy to sanity. No factory is in any way an approach to our bodies in complexity and perfection of organisation. Not a few of us look forward with comfortable assurance to a time when present-day curative medicine will give way to a preventive medicine which will all but insure health, through proper feeding. An Erewhonian situation will then prevail : disease will be punishable—because it will be admitted that it is mainly due to misfeeding and malnutrition.

Once established, this attitude towards health must affect our policy in every direction. In asking for a national stock-taking, Mr. Lloyd George has shown that he already has a dim notion of the coming state of affairs—when official ignorance will be overcome by constructive knowledge, broadly spread throughout the community, not localised in a bureaucratic service. We have to define an agricultural policy without further delay.

Milk will be our mainstay and primary care, being Nature's ideal food, the food of infancy. As a nation, we have yet to recognise the general value of milk ; that the Milk Marketing Board should feel called upon to press it upon the attention of the medical profession, by a weekly advertisement in the *Lancet*, is not merely farcical but little short of a tragedy. We have to create a milk conscience in all concerned with its production. Proper conditions of cow-keeping must be enforced, throughout the country ; we must not allow the trade to be in ignorant hands. If rigid count can be kept of publicans, control of dairymen should not be impossible. Maybe, if it

were taxed, as dear as beer, milk would be more valued and more popular. Everything has yet to be learnt about milk. Certain deficiencies are to be recognised even in the best product. Whether these are innate or the consequence of long continued malnutrition, due to exhaustion of our soils, is a question.

If cows came "from out the East", originally they will have been exposed to a fuller measure of sunlight than are our cows to-day; if so, their output of the much belauded D advitant may have been greater, particularly if better feeding put more ergot-sterol into the hides of the Eden herd. Eve, noticing that the animals generally ate it, may have been led to give a bite of grass or of some water weed to her infants with her milk; civilisation has made modern mothers less considerate, though I hear of my Californian great-grandson being given spinach from early infancy. In fact, we do not yet know what milk is, might be or should be. A vast field of scientifically directed, experimental inquiry lies open—real inquiry, not randomised re-search.

The inquiry into milk will involve no mere study of milk but also of the animals producing it and of the foods from which it is made. We may say already, that we know—some few of us feel it in our bones—that, like ourselves, when properly fed, cattle will be free from disease. Grass hitherto has scarcely been a cultivated crop—we have to study its cultivation, under the various conditions of soil and climate which prevail in our islands; this applies equally to other crops used in feeding farm animals. Milk will surely be found to vary in quality—eventually the districts producing it will be graded and specially named, as vineyards are in France and Germany: *Liebfraumilch* will not be the only brand: *Milch, Weib und Gesang* will be our modern *Spruchwort*. Our Wine and Food Society will have its milk tasters who will vie with Mr. André Simon as a wine taster; a Marcel Boulestin-Ambrose Heath combine will act as grass tasters to cow herds, as well as in testing our salads.

A problem to be inquired into is the cyclic variation with the year in grass and other green foods supplied to cattle. The plant must change its character in passing up to the climax of its growth and thence down to maturity. Milk must be correspondingly affected. At present, all that we know is, that some of the shortcomings in winter food may be met by rationing cattle with summer-grown grass, cut young and immediately dried with special care. In an experiment which I was

instrumental in starting at Christ's Hospital, three winters ago, six cows out of a herd of thirty-six were fed with such grass, grown, cut and dried under the superintendence of Sir Frederick Keeble, at the Jealotts' Hill Farm of Imperial Chemical Industries, Ltd. Throughout the winter, the six remained sleek and gave a milk of summer character, whilst the rest of the herd fell off as usual, giving an ordinary poor winter milk. Similar results have since been obtained elsewhere. We may hope that, some day, winter conditions may be overcome by justifying the practice of the Laputan philosophers.

To produce grass of the right quality, the growing plant must be sprayed with water and even with fertilising solutions, at the expedient moment. The supply of water, therefore, must be taken into account and due provision made. Ultimately, it will be found that only certain districts are suitable for the production of a standard article—these will be definitely earmarked for the purpose and supply regulated to meet the demand.

In connexion with milk, butter and cheese will need special consideration—to what extent we are to supply ourselves with these. We are so ill-supplied now that the public is losing all sense of quality in cheese—the gullible housewife will take anything, provided it be in wedges wrapped in tinfoil, paying through the nose for it. Each county should have a cream cheese of note: dairymaids generally should be called upon to show that they have the imagination to produce distinctive articles: of what use are the bacteriologists if they cannot provide each county with its special cheese-bug, to be brandished against all comers from outside?

Our milk production should be strictly correlated with and regulate our output of meat—of veal, beef and pork, even of poultry and eggs. Butter involves butter-milk and its use in pig and poultry keeping: not an ounce should be wasted. That Rothamsted should spend time and money in showing how it may be made harmless before turning it into a stream is nothing short of criminal condonation of manufacturers' ignorance. Verily is milk a dainty dish to set before king and nation!

Sugar may come next. We shall have to take this seriously, not as mere sweetness. In Europe it can only be produced at an economic loss; it has always been bounty fed. It may have agricultural advantages and suit our farmers under present conditions—but Peter is robbed to pay Paul, the community bears the brunt. Sugar can be made from sugar cane, at half the cost of

beet sugar, in the West Indies, Java, etc. We cannot but purchase some foreign goods in exchange for our manufactured goods—is not sugar one of the articles we should agree to purchase, on this account? There is no question of sweated labour to be considered: sunlight and the associated conditions in tropical countries all prevail against the economic cultivation of sugar here.

Maybe we shall soon be led to discourage the consumption of sugar and reduce its use to a minimum. Evidence is accumulating that it is an undesirable, if not a bad food, except when used to meet the strain of extreme muscular exertion, as in racing or climbing. The rise in the consumption of sugar, in modern times, is remarkable, especially in the United States; coincidentally, there has been a marked fall in the amount of bread eaten. Americans are directing attention to a surprising change in national type—to the growth of obesity and even flabbiness in character. Are we not also losing character and becoming sugary in outlook? Sugar definitely spares fat—women are right in avoiding it, on this account. Worst of all, we starve ourselves in eating sugar in any quantity: it carries nothing with it—no mineral matter, nothing that is body-building. On this account it is bad for children. Finally, it is probable that resistance of infectious disease is lowered by an excess of sugar in the blood.

Follows bread. Society has a heavy indictment to bring against the medical profession in particular, in that it has so long allowed the use of white wheaten flour as bread—that it has not insisted on as much as possible of the whole grain being eaten. The faults of white flour are those of sugar—it is mainly of use as fuel and has little nutritive value. It is truly a whited sepulchre! Nearly the whole of the mineral matter and the vital components—the germ—are removed in the bran, which is not eaten but sold as offal, for use by animals; these get the best of the bargain. The use of such flour is traceable to American laziness, to the desire to avoid hard labour by the use of machinery, also the desire to do big business and supply the world—without counting the loss to American soil or European farmers. Whole-meal flour cannot be kept more than a few weeks, as the oil in the germ becomes rancid; white flour, being free from the germ, may be stored over long periods—it therefore suits the milling and baking trades. Canadian hard wheats have also an unfair advantage, in that the flour will carry more water: the baker can make more loaves

from the sackful. Bread to-day is made *en bloc*—by machine: it is crustless and uninviting, as well as of minimum nutritive value. We need to go back to the local mill and the local baker—who together can give us a seemly loaf, of a bread containing as much of the cereal grain as may be eaten profitably. Maybe as good, if not better, breads may be made from home-grown than from imported wheats—putting aside all question of their water-carrying power.

Although Rothamsted has grown wheat on the same land, under like conditions, during more than ninety years, with great show of statistics, nothing has been learnt of the nutritive value of the grain. In any case, not a sack of flour should be allowed to come into the country—only grain, to be ground here. Our present fiscal policy will need drastic revision, if our knowledge of food be allowed to play any part in determining its character and scope. So will our agricultural research.

Last, but not least, “’tis but the means to do ill deeds that makes deeds ill done”. This applies equally to the good deed of growing high quality crops: to water and manures, without which, in due season, nothing is possible. Agriculture has two great problems to consider—that of water-supply and that of waste-disposal. Neither can be discussed here. Suffice it to say, we cannot afford, any longer, to waste organic matter: we must have humus manures, if we are to put quality into agricultural produce, especially into table vegetables. All town waste must be collected and specially treated: Sir Albert Howard and others, working in India, have shown how this can be accomplished. Our people will perish, not from lack of knowledge but of organic manure, if this be not soon done. In addition, we cannot any longer allow sewage to go to sea: we must in some way recover from it both potash and phosphate, of which the natural stores are very limited. China calls to us, offering an example of thriftiness that we shall be compelled to follow. Our agricultural research stations fail us, not only in this particular but generally in matters of food production. They offer us only bare figures. Man unfortunately lives not by statistics.

A great renaissance awaits us. We have to brush the pedant aside and make our universities of avail in the service of the nation. Education at the present day is worthless for all practical purposes; its fulcrum, in future, must be the belly through favour of the farmer.

HENRY E. ARMSTRONG.