

Our Daily Bread

*The first principle of democracy is this: that the things common to all men are more important than the things peculiar to any men. . . . The democratic contention is that government (helping to run the tribe) is a thing like falling in love, and not a thing like dropping into poetry. . . . It is, on the contrary, a thing analogous to writing one's own love letters or blowing one's own nose. These things we want a man to do for himself even if he does them badly. . . . In short, the democratic faith is this: that the most terribly important things must be left to ordinary men themselves, — the mating of the sexes, the rearing of the young, the laws of the state.**

And the baking of the bread! Bread-making, though on a lower scale of values, is a perfect type of those things which must be left to ordinary men themselves—to amateurs. For the strange paradox is this: while we would want a family to bake its own bread even if it does so badly, the fact is that having each family bake its own bread is the one solid guarantee of its being baked well. This is only one more proof that the good human life is a consistent whole, that when we have established that life in its fundamentals, everything else falls into place. It is characteristic of a superficial reform of life that it solves only special problems, and may even create new problems in other departments of life. But it is characteristic of a radical reform, one which is in accord with man's nature and his supernatural destiny, that it should solve a whole host of problems, often in the most unexpected ways.

It turns out to be the case, then, that a free human life and a healthy, vigorous human life are two aspects of the same thing. There is a real, essential connection between the two, because both go back to a fundamental reality in human psychology.

It is too obvious to need stressing here that a free human life implies each family's ability to supply its own immediate wants (of which water and bread are the chief) by its own efforts. The history of non-domestic bread-making is the history of tyranny and oppression using the staff of life as a scepter of power. There is no need to labor here the point which any decentralist can prove: that the essential functions of life, the mating of the sexes, the rearing of the young, the laws of the state, the baking of the bread, must be left in the hands of amateurs. The decen-

* Chesterton, G.K., *Orthodoxy*.

tralist is even inclined to say, with an air of resignation, that this must be so even if the amateur does them badly. What I want to maintain is that only the amateur will do them well.

I use bread-making as a typical example. The rearing of the young would serve equally well as an example of the principle, except that other people have already used it. What I want to show by the example of bread-making is this: that the essential functions of life will be done well only when they are done by those who love, that is, by amateurs, and that will never be done consistently well by those who only profess knowledge, that is, by professionals. The non-essential functions of life can be left to professionals because we do not have to take what they give us of non-essentials, we can make them meet our standards. But when we have once let the essentials out of our own hands, so that we become totally dependent on others for the things we cannot do without, then we must take what they give us. They can make us accept their standards. And those standards will be different, because they will be set by the end of trade, rather than by the end of use.

When I use the term *amateur*, I use it to mean not only one who loves the making of a thing, but more especially to mean one who loves the person for whom the thing is made. But I want the term to mean both things in their proper proportions, else the two aspects of that love can be at odds with one another. The father grinding wheat for his family, the mother baking it into bread for them, are moved to action by love for those persons whose health and strength it serves. Still, if their attention is focussed entirely on the persons served by that bread, without an understanding of the purpose of bread in itself, then they may work merely to please the eye or palate or social pride of those they love. In so doing, they may unconsciously distort the art of bread-making to that end, producing what does not nourish. There you have love without knowledge.

But the very same end result can come from knowledge without love. The miller or baker can become completely absorbed in his art, thinking only of how to make his product with more efficiency, with nicer appearance, with better ability to ship and store. Even when he knows the effect of his new product on the health of the human person, he can become quite oblivious to those human persons whose life should be nourished by that bread, who should find in that bread a source of strength for the work which God has given them to do. There you have knowledge without love.

The tragic history of bread-making, and of human health, in the last century and a half, owes its origin to the collusion between two forces: knowledge without love on the part of the producer, love without knowledge on the part of the consumer. We have had millers and bakers working with great ingenuity for their own end, the perfection of bread as an article of trade. And we have had mothers of families, placing upon their tables, with great love, a product fit only for trade and not for human consumption, but still a product which they had been led to believe was better for their families than anything they could make themselves.

"The children of this world are wiser in their generation than the children of light." While acting for the wrong ends, the milling industry brought to those ends tremendous ingenuity and prudence. It started with a material, whole wheat flour, which had, for many centuries, been a staff of life to large segments of the human family. Despite its obvious adaptation to the end of human health, whole wheat flour was far from being well adapted to serve the ends of trade. In the first place, it took too much power to grind all the hard parts of wheat to usable size. But more importantly, whole wheat flour did not keep well. It was too readily attacked by the lower forms of life, which clearly found it as attractive and healthful as did man. It contained, also, certain oils, whose importance was unknown at the time, which tended to become rancid.

From the commercial baker's viewpoint, there were further disadvantages. Whole wheat contained enzymes whose action on the gluten of bread made baking very unpredictable, so that the texture and size of loaves could rarely be duplicated. A man who made his living at bread-making had to worry about such things, even if the mother of a family could take them in stride, end even enjoy the continual variation in her product. Besides, the baker wanted something that would appear different from home-baked bread, so that he could call his product superior whether it was or not, and cater to that human pride which might make bought bread a symbol of affluence.

For the family that baked its own bread, grinding the flour fresh as needed, these disadvantages of whole wheat flour were unimportant. Neither the ordinary people nor the millers and bakers realized in 1800 that the apparent disadvantages of whole wheat flour were really the source of its nutritional advantages. We now realize that its inability to keep, its palatability to insects, its possession of heat-unstable elements like enzymes, were proof

of the presence of something vital to human nutrition. But the early rationalizers of milling and baking did not know this. They were men bent on improving their art. Given the end of their art—to convert wheat into an item of trade—they succeeded so magnificently that they were able to undermine the health not only of their fellow-countrymen, but of people all over the globe.

In the beginning of the last century, the silk-bolting of flour gave a light-colored product which the miller or baker could offer as proof of the superiority of the professional product. In those days, change was synonymous with progress. The partial removal of bran and wheat germ by this process meant a partial loss of the most important vitamins, minerals, and high-grade proteins. But this was only a beginning. The use of an air current to separate flour and bran, a development which followed the Civil War, meant further impoverishment of the wheat. Worse still, it demonstrated that the closer flour could be made to approximate pure starch, the longer it would keep, and the better it would bake.

The really revolutionary invention, however, was that of the steel roller mill. From being a product tediously ground and separated, flour could now be simply popped out from within its covering of bran and wheat-germ, leaving these latter two essentials for the lucky livestock and producing a light-colored product in one single operation. The result of this invention is well-described by James Rorty and N. Philip Norman, M.D., in the book *Tomorrow's Food*:

Because of its tremendous speed and output, the steam-powered roller mill was precisely the invention needed to complete the centralization of the American milling industry. And because of the serious devitalization and impoverishment of the flour it produced, it played a major part in piling up the dietary deficiencies with which the nutritionists of World War II were obliged to deal.

The average roller mill flour represented an extraction from the wheat berry of from 60 to 70 per cent of its original content, the remaining "offals" being used chiefly for stock feed. Nutritionally, it was inferior to whole wheat flour not on one but on many counts. The value of its protein content was much reduced, being low in the amino acids, lysine and tryptophane, which are essential to growth. The difference was just this—in 1840, one ounce of genuine unspoiled whole

wheat bread made of whole stone-ground wheat meal (not flour) contained thirty units of Vitamin B¹. One hundred years later one ounce of white bread contained not thirty, but FIVE units of Vitamin B¹. Seven hundred units of Vitamin B¹ per day are considered necessary for the maintenance of good health. The daily consumption of whole wheat bread in 1840 assured 1,200 units of natural Vitamin B¹—while our average daily intake today assures only 200 units, mostly synthetic.

With respect to minerals, the refined product of the roller mill contained on the average a fourth as much iron, calcium, phosphorous, potassium, copper and manganese as whole wheat flour.

But it was by its all but complete elimination of essential vitamins that the roller mill dealt its most devastating blow at the American diet. Whereas the silk-bolted flour against which Graham and his medical allies had inveighed contained 60 per cent of the thiamin present in the wheat berry, the "straight run" product of the roller mill contained only 16 per cent and the dead white patent flour as little as 6 per cent. Similar though varying losses occurred with respect to riboflavin, nicotine acid, pyridoxine, biotin, and presumably other as yet undetermined members of the Vitamin B complex present in the outer coatings of the wheat.

During this time, whiteness had been made synonymous with goodness, through a cleverly-planned program of advertising aimed at the destruction of home milling and baking. Actually, white flour was good only from the point of view of the trade—it kept well because it could not support the life of insects which had multiplied in whole wheat flour; it baked well because it was almost pure starch and gluten, a highly reproducible product. It is fairly easy to understand how the housewife could have become convinced that what was good for the trades was good for the family's health. Nutritional education on a popular level was practically non-existent. What is amazing is the way in which public health authorities, nutritionists of high standing, who had consistently pointed out in no uncertain terms the nutritional deficiencies of white bread, and its deleterious effect on human health, should have suddenly retreated into a barbed-wire entanglement of weasel words when asked to commit

themselves against white flour for the sake of government action during the two world wars. In 1916, for example, the U. S. Public Health Service issued a bulletin on the effects of milled wheat upon experimental animals. In the experiments reported, milled-wheat diets killed the animals in several months, whereas they could thrive indefinitely on whole wheat. After protests from the milling industry, the Public Health Service issued a "correcting" bulletin to the effect that white bread was a wholesome food if balanced by an adequate consumption of high vitamin and mineral foods. Yet they knew, as they said it, that only the rich could supply by other and fancier foods for the vitamins and minerals which nature provided cheaply in whole wheat, and which had been removed by the milling industry purely for its own convenience. Such combinations of bold stands and weak retractions have been typical of government circles in the last three decades, as the book quoted above shows in highly illuminating examples.

The whole history of the "enrichment" program shows the same abject subservience of government nutritionists to the pressure of big industry. The completely ridiculous idea of taking out the best parts of the wheat berry, and then adding a few of them back in synthetic form, was only a stall of the milling industry to keep from being forced into the production of a decent whole wheat flour during the time when food fought for freedom. When such a program is called "enrichment," it is as if a thug should hold you up, take twenty dollars from your purse, and then hand you back a dollar of his own, saying, "Congratulations, chum, you're enriched." *Nutrition Reviews* remarked:

It is a curious fact that the enrichment of white flour and white bread was promulgated with little direct experimental evidence to demonstrate the value of such a proposal for the nourishment of human beings.

The same kind of curious fact has become manifest during the last year in the bleaching process which is used for over ninety per cent of American flour. To improve the keeping qualities of flour, and to add to that whiteness which advertising had made synonymous with quality, the milling industry used nitrogen trichloride as a bleaching agent. It fulfilled these two ends of the trade very effectively, and yet it was years before anyone decided to investigate experimentally the possible effects of such bleaching on human nutrition. The first experiment, on dogs and cats, were decidedly alarming. The animals developed fits, and some eventually died, when maintained on a high intake of flour bleached