

The unbearable lightness of baking

In the credit crunch year to April 2009, Britons bought very slightly more bread than the year before, halting a 50 year decline. Still over two thirds of it is made with highly refined white flour and it remains among the cheapest in Europe. It elicits routine derision from visiting Continentals and some locals have abandoned it altogether on the grounds that it doesn't agree with them. Andrew Whitley, author of Bread Matters and co-founder of the Real Bread Campaign, ponders British bread past, present and future.

In 1758 the Assize of Bread, first promulgated in 1266 to control prices and stop bakers selling underweight loaves, was altered, making white bread more profitable to bake than brown. This defied economic logic: after all, to make white flour involved discarding at least 25 per cent of the whole grain. From earliest times, lighter, whiter bread had been a luxury most accessible to those able and willing to partake. "I like white bread, but white bread doesn't like me," wrote wealthy Roman playwright Seneca, an early observer of the perils of confusing an occasional indulgence with your staple diet. But in the emerging capitalist economy of eighteenth century Britain, aided by a government seeking to curry public favour at a time of poor harvests, high prices and bread riots, millers and bakers sought competitive advantage by responding to – and stimulating – a growing desire to turn the special into the everyday. Most people knew nothing about nutrition and though the mansions, carriages and clothes of the well-to-do were well beyond reach, white bread was one facet of the good life that the poor could sometimes share.

Not everyone was oblivious to the health consequences of the growing desire for white bread, especially among the poor. In 1771, Tobias Smollett encapsulated an interplay of economic forces and consumer preference whose features sound surprisingly familiar:

The bread I eat in London is a deleterious paste, mixed up with chalk, alum and bone-ashes; insipid to the taste and destructive to the constitution. The good people are not ignorant of this adulteration; but they prefer it to wholesome bread, because it is whiter... Thus they sacrifice their taste and their health, and the lives of their tender infants, to a most absurd gratification of a misjudging eye; and the miller or the baker is obliged to poison them and their families, in order to live by his profession. (The Expedition of Humphry Clinker)

By the second half of the eighteenth century agricultural modernisation, population growth and land enclosures were pushing self-sufficient cottagers off the land into towns where low wages ensured that they could survive only on the cheapest food. As industrialisation took hold, commentators reported on the high proportion of income that the poor spent on bread, a situation made virtually inevitable since, in the words of a Factory Commission report in 1833,

'too often the dwelling of the factory family is no home; it is sometimes a cellar, which includes no cookery, no washing, no making, no mending, no decencies of life, no invitations to the fireside'.

Cash-poor and time-poor from fifteen-hour mill shifts, the 'factory family' subsisted on the world's first industrial convenience food: British white bread.

Roller milling replaced stone grinding in the 1870s, enabling an even more complete removal of the most nutritious parts of the grain from white flour. Leading nutritionist Jack Drummond wrote in 1939,

'from that time to the present day a large part of the population of England has been subsisting on diets containing considerably less vitamin B₁ than is physiologically required'.

The health effects of the industrial working class diet impinged on official consciousness only when the British Army, having reduced its minimum height requirement from five foot six in 1800 to five foot, still had to reject 40% of recruits to the South African War (1899-1902) because they were physically unfit to serve.

A growing consensus among nutritionists and wartime supply problems led to the fortification of white flour with chalk (calcium carbonate) in 1941 and the creation of the 85 per cent extraction rate (i.e. more branny) National Loaf in 1942. Despite evidence of the latter's role in improved public health, the millers and bakers lobbied hard for a return to white bread (now fortified with iron and two B vitamins) which was finally permitted in 1953. For a brief period, Britain saw how the assumed national preference for very white bread could be modified by the simplest of regulatory expedients. According to Elizabeth David, between 1953 and 1956 white bread, costing 19 pence against the National Loaf's subsidised 12 pence commanded less than one per cent of the market. But in 1956 the National Loaf was abolished and an opportunity was lost to entrench the advantages to public health produced by a subsidy on more nutritious bread.

The scientific consensus on the superiority of wholemeal flour withered; diets in general seemed to benefit from the greater variety of foods available as post-war austerity gave way to the modern era of subsidised agriculture and international trade. Green revolution plant breeding delivered high-yielding wheat varieties, responsive to intensive chemical inputs and selected for improved baking performance, not nutrition. The final stage in the industrialisation of bread came with the invention in 1961 of the Chorleywood Bread Process. British wheat could now be substituted for expensive imported grain and turned into cheap, light, white bread using high-speed mixing, an array of chemical additives & processing aids, greatly increased amounts of yeast and zero fermentation time. Rapid concentration in the industry saw the number of small and medium-sized bakeries fall rapidly. Craft bakeries now have a three per cent market share in Britain, compared to 65 per cent in France and Germany, 80 per cent in Austria and 90 per cent in Italy.

The emergence in the last twenty years of wheat-related digestive disorders has revealed the true price of British baking 'efficiency'. Modern wheat varieties are 30-40 per cent lower in key minerals and, grown with chemical fertilisers, contain elevated levels of proteins (the omega-gliadins) that trigger auto-immune responses such as coeliac disease. Cutting fermentation time to zero locks up nutrients like calcium, iron and folate, increases glycaemic index and prevents beneficial lactic acid bacteria from making bread more digestible. Worst of all, a host of industrial enzymes, replacing now-banned chemical additives, deliver that cloying texture and nature-defying perma-softness that epitomises our national bread. A regulatory stitch-up defines these enzymes (one of which

- fungal amylase - is a known allergen) as 'processing aids' and therefore off-label: what hope for the latter-day 'mis-judging eye'?

Despite its long-term decline, bread is still an important part of the British diet, especially in benefit households. If each mouthful now contains less nutrients, the effect on personal consumption, and hence perhaps on obesity, is obvious. And while many of the negative changes in our bread have been inadvertent, some practices, such as millers extracting wheat germ with its vital vitamin E to sell for twice the price of flour, amounts to blatant theft by an industry that is happy to charge higher prices for 'healthier' options that have a few of the trendier nutrients put back, often in synthetic form.

A Real Bread Campaign, hosted by Sustain: the alliance for better food and farming, has recently emerged to put all this right. Cherishing what Ruskin called 'local associations and hereditary skill', it defines real bread as made without additives, ideally from local grain grown to maximise its vitality, and fermented long enough for good digestive and nutritional things to happen. It asks for honesty in labelling so that people know what they are being sold. It wants to harness the latest scientific research to find out why, for instance, fast-made bread sits on our stomachs and why grains like spelt seem to offer hope to people who thought they would never enjoy a loaf again. Above all, it seeks to rebuild our bread culture from the ground up, encouraging everyone to make, share, celebrate and enjoy good bread, supporting fulfilling jobs in neighbourhood bakeries whose lower energy intensity and shortened supply chains make them fitter for the future than today's purveyors of prettily packaged pap. Will our descendants survey those ingenious factories, as we marvel at the monuments on Easter Island, and wonder what it was that their masters worshipped even as their ecological niche crumbled?

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