

Dietary Change and Cereal Consumption in Britain in the Nineteenth Century

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"Do not the people in the North of England, Scotland and Wales live even now upon oaten cakes?"

"Yes, and from habit prefer them to bread made of wheat." — *Mangal's Questions*, 1850

ONE of the major gaps in nineteenth-century British agricultural history is the lack, prior to the agricultural census of 1866, of a satisfactory index of national cereal production. So imperfect were the data on crop yields and area that many contemporaries sensibly preferred the consumption formula, consumption plus seed minus imports, as the better means for calculating output. As the lesser of the evils, it had the advantages of reasonably accurate statistics of horse and human populations, of imports and exports, and of grains used in malting and distilling. It was, however, less suitable for the coarser grains, barley and oats, of which large quantities were fed to livestock, whose numbers and dietaries were more fluctuating and less easily ascertainable than those of human beings. But even for wheat, which was given almost entirely to human consumption, there was an enormous potential for error. Contemporary estimates of wheat consumption per head were at best notional (being seldom based on first-hand knowledge or systematic inquiry), and ranged from between 6 and 8 bushels per annum.¹ As for the other variable, that of numbers of wheat consumers, it is by no means certain what proportion of the population of England and Wales, and of Great Britain overall, used that grain regularly and exclusively.

The conventional wisdom, which has not so far been seriously challenged, is that in 1800 more or less the entire population of England and Wales subsisted on wheat: Ashley, for example, put the fraction at 95 per cent, and Fussell at 90 per cent.² Hobsbawm, too, believed that the major change from brown bread to white had already taken place by 1800,³ while Salaman, conceding that the transition was not yet complete, saw the residue as "not very great or rather it was soon wiped out."⁴ On the other hand, little or no detailed work has been done on cereal-eating in

¹ For a general survey and discussion of contemporary estimates see G. E. Fussell, 'Population and Wheat Production in the Eighteenth Century', *History Teachers' Miscellany*, vii, 1929, pp. 66-7, 108-11; and S. Fairlie, 'The Corn Laws and British Wheat Production, 1829-76', *Econ. Hist. Rev.*, 2nd ser., xxii, 1969, pp. 109-16.

² Sir W. Ashley, *The Bread of our Forefathers*, Oxford, 1928, p. 8; Fussell, *loc. cit.*, p. 87. Fussell's datum was also utilized by P. Deane and W. A. Cole, *British Economic Growth, 1688-1959*, Cambridge, 2nd edn, 1967, pp. 62 ff.

³ E. J. Hobsbawm, 'The British Standard of Living, 1790-1850', in E. J. Hobsbawm (ed.), *Labouring Men*, 1968 edn, p. 85.

⁴ R. N. Salaman, *The History and Social Influence of the Potato*, Cambridge, 1949, pp. 614-17; J. Percival, on the other hand, believed the changeover complete about 1825-30 "or earlier." — *Wheat in Great Britain*, 2nd edn, 1948, p. 23.

Scotland and Ireland, which are assumed to have subsisted on oatmeal and potatoes until late in the nineteenth century, it being asserted recently that wheat consumption there was still "probably negligible" in 1870.¹

The purpose of this paper is to reopen the historical debate, which flickered briefly during the 1920's, concerning the composition of the national loaf. It will argue that in 1800 a still very substantial proportion of the population of England and Wales, and almost a majority of the population of Great Britain, lived on the "lesser-grains", barley, oats, pulse, and rye; and that a uniform national pattern of cereal-eating became a reality only in the present century. It will contend also that in 1800, and for some time after, the cross-price-income elasticity of demand for cereals was positive, and that in many households not just the quantity but also choice of cereal fluctuated with income and relative prices.

I

A convenient starting-point for our inquiry is the mid-seventeenth century when not wheat but barley, rye, oats, beans, and peas, or mixtures of grains such as maslin (wheat and rye) or muncorn (barley and oats) were the predominant cereals, even in the lowlands.² During Tudor and early Stuart times the wheat-eating fraction may have declined as Malthusian pressures forced many of the labouring poor into cheaper staples.³ Gregory King's estimate of cereal production suggests that wheat was still very much a minority cereal in England and Wales in the late seventeenth century.⁴ There is little to support either Thorold Rogers's assertion that "wheat was the customary food of the English people," or Fussell's claim that in 1700 it was already the staple grain of 80 per cent of the population.⁵ That the wheat-eating habit rapidly gained ground after 1650 is indisputable—Tooke suggests that "the resort to a higher diet" occurred mainly during the low-price years, 1715–65⁶—but the most authoritative eighteenth-century work on the subject, that of the Essex miller, Charles Smith, writing in the early 1760's, concluded: "bread made of wheat is become much more generally the food of the common

¹ Fairlie, *loc. cit.*, p. 102n.

² A. Everitt, 'Farm Labourers', in J. Thirsk (ed.), *Agrarian History of England and Wales*, IV, Cambridge, 1967, pp. 450–1. Wheat, it was concluded, was the predominant cereal only in Middlesex, Hertfordshire, marshland Lincolnshire, Holderness, Vale of Taunton, and the Kent downs. For other evidence see Ashley, *op. cit.*, chs II–III.

³ E.g. in Cornwall, where Richard Carew, writing in the early seventeenth century, related how "Barley is grown into great use of late years . . . and of this in the dear seasons past the poor found happy benefit . . . whereas otherwise the scarcity of wheat fell out so great that these must have made many hungry mouths, and those outright have starved."—*Survey of Cornwall*, 1769 edn, cited. A. L. Rowse, *Tudor Cornwall*, 1941, p. 40. There is the hint of a similar trend in parts of Leicestershire, Worcestershire, and Lincolnshire.—J. A. Yelling, 'Changes in Crop Production in East Worcestershire 1540–1867', *Agric. Hist. Rev.*, XXI, 1973, pp. 20 ff.; J. Thirsk, *English Peasant Farming*, 1957, chs. 1–8, *passim*.

⁴ Ashley, *op. cit.*, p. 8. King suggested a wheat output of 10 million bushels compared with 8 million bushels for rye. Ashley calculated that of the total supply of bread corn, wheat made up 38 per cent, rye 27 per cent, barley 19 per cent, and oats 16 per cent.—*Ibid.*, p. 8.

⁵ Fussell, *loc. cit.*, pp. 86–7; A. G. L. Rogers, 'Was Rye Ever the Ordinary Food of the English?', *Econ. Jnl.*, XXXII, 1922, pp. 119–24.

⁶ W. Ashley, 'The Place of Rye in the History of English Food' *Econ. Jnl.*, XXXI, 1921, p. 21. For other eighteenth-century evidence, see Ashley, *Bread of our Forefathers*, ch. 1, and Fussell, *loc. cit.*

people since 1689, but it is still very far from being the food of the people in general."¹

Smith calculated that 62.5 per cent of the population of England and Wales subsisted on wheat compared with 14.8 per cent on rye, 12.3 per cent on barley, and 10.4 per cent on oats. Wheat ranked as the predominant cereal, consumed in 90 per cent of households, in southern and eastern England, whereas north of the Trent, and in Wales, the proportion varied from 11 to 32 per cent. Less contentious, perhaps, was the switch from brown (wholemeal) to white (sifted) wheaten flour, which, according to Fay, had affected most areas of England by 1800, the "fashion" having originated in London in the seventeenth century and reached the larger provincial towns by 1750.²

The question is, how far had the wheat-eating revolution progressed by 1800? Admittedly, 1800 was itself an untypical year, when the normal pattern of consumption was distorted by grain shortages and high prices.³ But, even if 1800 is taken to mean broadly the whole Napoleonic War period, 1793-1815, it is still difficult to conceive of a "normal" consumption when in nine of the twenty-two years the harvest was deficient and many households were obliged either to reduce consumption or to resort to substitutes.⁴

Even so, the evidence, which is considerable, suggests that the wheat-eating fraction was then "normally" very much lower than has been conventionally assumed, and was unlikely to have exceeded 70 per cent in England and Wales and 60 per cent in Britain overall.

In 1800 wheat was regularly consumed only in that part of the Kingdom lying roughly south and east of the line, Hull-Shrewsbury-Cardiff-Taunton, and there is reason to suspect that even here it was not yet everywhere the exclusive bread corn. Such was the extent to which "wheat substitutes," especially barley, were employed in 1796 and 1800 that it is difficult to believe that some part of the population did not subsist, at least partially, on other grains, not just in difficult times but normally. Such was inferred by the vicar of Wilton, Wiltshire, who reported in 1796 that in the towns barley was a *substitute of wheat*; but that in the villages a great deal more barley was *eaten* than wheat.⁵ Around Leicester barley had "always been a principal ingredient in the Bread of the Labouring poor residing in villages," as against the towns where "white bread" was mostly used.⁶ Elsewhere in the east Midlands barley was similarly a common resort of the poor; in Peter-

¹ Charles Smith, *Tracts on the Corn Trade and Corn Laws* (1764), cited, together with accompanying map by Ashley (*Bread of our Forefathers*, pp. 4-8, 24-5), from the new edition of 1804. Smith was concerned only with England and Wales. In Scotland wheat was rarely if ever used "except as a dainty." H. G. Graham found no mention of wheat in use between 1680 and 1730 except among the wealthy.—*The Social Life of Scotland in the Eighteenth Century*, 1928, pp. 9-10. Here, as remarked by Johnson, oats which in England was "food for horses," was in Scotland "food for men". In Ireland in the late seventeenth century oatmeal and barley bread was commonest fare, and wheat a delicacy.—A. Lucas, 'Irish Food before the Potato', *Givernin*, III, pt 2, 1960, pp. 8-14.

² C. R. Fay, 'The Miller and the Baker: a Note on Commercial Transaction 1770-1837', *Camb. Hist. Jnl.*, I, 1923-5, p. 89. Fay probably exaggerated the extent of the switch in the eighteenth century because high-bran wheats were still common in some areas in 1800 and in some country districts in the 1820's.

³ In 1800 the price of wheat averaged over 110s. per quarter compared with less than 55s. in 1790-9.

⁴ The high-price years, indicative of bad harvests, were: 1795, 1796, 1800, 1801, 1805, 1809-13.

⁵ P.R.O., PC 1/33/A87-8. ⁶ P.R.O., H.O. 41/54.

borough it had "long been used" by them; in the Louth area of Lincolnshire it was the "general substitute" of farm labourers "not only this year [1800] but always"; while in Rutland barley bread was introduced into one workhouse on the grounds that its use was "customary" in the county.¹ Retrospective and other testimony from the 1830's and 1840's leaves little doubt that in country areas barley may often have supplemented wheat in the poorer households. One wonders, indeed, just how many of those Nottinghamshire labourers, alleged by Arthur Young to have lost their "rye teeth," had yet properly acquired the taste for wheat.²

In most other areas of Britain wheat was not only a much less important but also, very often, an insignificant item of dietary, so little used as to be regarded as a rarity. The pattern of cereal consumption in the non-wheat-eating areas was, however, extremely complex, and for want of more detailed local evidence difficult to plot. As a first generalization it can be said of the coarser grains that rye was used mainly in Yorkshire and north-eastern England, oats north of the line Liverpool to Filey Bay and in upland Wales, peas and beans in the Scottish border counties, and barley, the most ubiquitous cereal, in Wales and the Welsh border counties, the east Midlands, and south-western England.

We begin our regional survey in south-western England, where wheat predominated in the larger towns and among the higher income groups, while barley, as before, was the common food of the "more laborious classes," including farm workers and the smaller farmers.³ It was estimated that in 1795 wheat comprised less than 45 per cent, and barley over 55 per cent, of total cereal consumption in the peninsular counties.⁴

In Wales generally the pre-eminence of barley and oats was never seriously challenged. The Board of Agriculture reporter, Walter Davies, writing towards the end of the war, described the position in the Principality broadly thus. In the south of the country wheat was usual only in the Vale of Glamorgan, though in its higher and less cultivated parts muncorn (wheat and barley), or barley alone, were the common grains.⁵ Elsewhere, barley meal was the chief *dimentium peantis*, with oats in the mountain areas, some *sipris* (barley and oats) in the hill districts of the south-west, and in Cardiganshire a little rye.⁶ In Pembrokeshire even "substantial farmers" lived on barley and oaten bread.⁷ The Gower peninsula sold its wheat at Swansea market, and subsisted on barley meal.⁸ In north Wales wheat-eating was, if anything, more exceptional than in the south. It was more common in the low-land parts of the Marcher counties and the Vale of Clwyd, but elsewhere was

¹ P.R.O., PC 1/33/87-8; H.O. 42/54; Fussell, *loc. cit.*, p. 68.

² *Annals of Agriculture*, xxv, 1796, pp. 580-1.

³ C. Vancouver, *General View . . . Devon*, 1808, p. 149; G. B. Worgan, *General View . . . Cornwall*, 1811, pp. 65, 160; *Annals of Agriculture*, xxiv, 1795, p. 238; Ashley, *Bread of our Forefathers*, p. 23. Throughout this survey, for all areas of England and Wales much use has also been made of the 1796 and 1800 government inquiries: P.R.O., PC 1/33/A87-8; H.O. 42/54.

⁴ *Annals of Agriculture*, xxv, 1796, p. 511 ff.

⁵ W. Davies, *General View . . . South Wales*, 1815, II, pp. 291-2. ⁶ *Ibid.*, pp. 291-2.

⁷ *Annals of Agriculture*, xxiv, 1795, p. 262.

⁸ H. C. K. Henderson, 'Agriculture in England and Wales in 1801,' *Geog. Jnl.*, cxviii, 1952, p. 342.

almost entirely eclipsed by the spring corns, being confined to "genteel families, towns and inns upon the post roads." Anglesey ate mainly barley, and Merioneth and Caernarvon oatmeal, and sometimes rye.¹

In the English Midlands, the transitional zone between the two major cereal-eating divisions of the Kingdom, the pattern is confused. In the east Midlands, as already noted, barley enjoyed a measure of popularity in some country districts—around Leicester, on the Wolds, and probably too in north Nottinghamshire. In Herefordshire "other grains" must have featured in the Welsh border parts, but surprisingly, it was reported in 1796 that in the Hereford area the lower classes were eating the unaccustomed mixture of wheat and barley, where "in the better times" they had afforded wheat and rye.² Shropshire, if only because of its closer contingency to the barley-and-oat-eating districts of Cheshire, Montgomery, and north Staffordshire, would have owned a lower wheat fraction than neighbouring counties to the south and east, but here, too, wheat was probably the majority cereal.³ In Staffordshire the south and centre fed mainly on wheat while the north and Potteries relied mainly on oats.⁴ Derbyshire exhibited a similar, if less clear-cut, north-south dichotomy with wheaten bread the rule in Derby, Chesterfield, and most eastern parts, and "oat-cake" or "haver-cake" the usual alternatives elsewhere, especially in the Peak and among the "poorer inhabitants". In Dovedale, for example, as late as 1819, a white loaf was still a rare commodity; "oatcake was the chief food from day to day with black bread occasionally," while even gooseberry pie—the harvest treat—was made with an oatmeal crust.⁵ Cheshire ate almost entirely barley, except towards Merseyside and in the south where wheat was more generally employed,⁶ and in the north-west, towards Macclesfield, where oatbread came more into its own.

In the northern counties the different cereals, wheat, rye, barley, oats, peas, and beans, sometimes all competed with each other for pride of place in local dietaries. Eden and Roeder list a bewildering complexity of grain mixes and methods of food preparation, of double and triple combinations of meals and flours, of "crowdies," "flummerys," "riddle breads," "jannocks," "bannocks," "hasty puddings," "thar-cakes," and "clap-breads," to name but a few of the many dishes produced by the ovens and backstones of north-country kitchens.⁷

¹ Walter Davies, *General View . . . North Wales*, 1810, pp. 170, 357. For other Welsh comments see D. Thomas, *Agriculture in Wales during the Napoleonic Wars*, Cardiff, 1963, p. 46; *Farmers Magazine*, 1801, p. 235.

² P.R.O., H.O. 42/53.

³ According to the 1796 and 1800 inquiries wheat was the rule in Ludlow, Bridgnorth, and Shrewsbury itself, but substitutes more common to the north and west.

⁴ W. Pitt, *General View . . . Stafford*, 1813, p. 226.

⁵ F. M. Eden, *State of the Poor*, Rogers edn, 1928, pp. 168, 171; W. Farey, *General View . . . Derbyshire*, 1813-17, II, pp. 129-30, III, p. 624.

⁶ H. Holland, *General View . . . Cheshire*, 1808, pp. 299, 315. The 1796 and 1800 inquiries are quite emphatic about the secondary importance of wheat in the county, even during normal times.

⁷ For flour mixes and cereal dishes in the north see C. Roeder, 'Notes on Food and Drink in Lancashire and Other Northern Counties', *Trans. Lancs. & Cheshire Arch. Soc.*, xx, 1902, pp. 44 ff.; A. Edlin, *A Treatise on the Art of Bread Making*, 1805, *passim*; F. Atkinson, 'Oatbread of Northern England', *Gwerin*, III, no. 2, 1960, pp. 44-55; Eden, *op. cit.*, pp. 103-4; and A. Young, *Northern Tour*, 1770, *passim*. For Irish "breads" see C. O' Danachair, *Ulster Folklife*, IV, 1958, pp. 29-32.

In Lancashire, except in the south and around Liverpool and Manchester, wheat was little used. Indeed, it was claimed in 1796 that "more wheat is consumed in the manufacturing of cotton and muslin . . . than is used as food for the inhabitants."¹ Even in Manchester, where wheat-eating was by all accounts well established, the town guide for 1804 noted vast quantities of oatmeal on sale there at the Saturday market, such as would be "a matter of astonishment to persons from the southern counties."² Overwhelmingly, oatmeal was the chief support of the "great body of the more laborious classes," whose normal diet comprised oatmeal porridge and milk with an oaten bitter-cake or piece of cheese and oat-cake for breakfast and supper, and oat-cake at dinner and, where taken, afternoon tea.³ Moreover, the oat ruled not just the countryside but also the majority of manufacturing towns.⁴ At Rochdale, for example, 90 per cent of the population subsisted on oaten bread, as also did all "middle and lower ranks" at Bury, Blackburn, Wigan, and Clitheroe.⁵ Indicatively in 1806-8, Lancaster imported only 3,225 quarters of wheat compared with 16,478 quarters of oats.⁶ As in Lancashire so also in the West Riding of Yorkshire, where outside a few towns, such as Leeds and Sheffield, oatmeal was "the favourite food," and wheat a semi-luxury, brought out on "particular occasions."⁷ The East Riding was exceptional in that it was the only large area north of the Trent where wheat may have been the predominant cereal. In 1812 Strickland recalled the old days, probably before 1770, when rye and maslin bread were universal in Howdenshire, Ouse, and Derwent, barley-and-pea bread on the Wolds, and barley-and-bean bread on the clays, all of which, he claimed, were now gone entirely out of fashion, except among the "very poor"—who comprised perhaps 25 per cent of the population of the Riding.⁸ In the North Riding, on the other hand, and probably, too, in adjacent parts of the East Riding, wheat was a much rarer commodity: "families of every rank" in the countryside were said to rely on maslin, and in the Pennine districts, on oats.⁹

¹ P.R.O., H.O. 42/54.

² Roeder, *loc. cit.*, pp. 82-3.

³ *Ibid.*, pp. 90-1.

⁴ R. W. Dickson, *General View . . . Lancashire*, 1815, pp. 317, 325, 333, 627; Eden, *op. cit.*, p. 215.

⁵ P.R.O., PC 1/33/87-8; P.R.O. H.O. 42/54. Preston normally used c. 60 per cent oatmeal, otherwise wheat and barley, or wheat, barley, and rye mixtures. P.R.O., PC 1/33/87-8.

⁶ Dickson, *op. cit.*, p. 638; and in Poulton area, negligible quantities of wheat, but about 6,500 quarters of oats imported annually, 1806-8.—*Ibid.*, p. 637.

⁷ W. Marshall, *The Rural Economy of Yorkshire*, 1788, II, p. 22; J. Tuke, *General View . . . North Riding*, 1800, pp. 126, 291; Eden, *op. cit.*, pp. 352 ff.; Henderson, *loc. cit.*, p. 342; P.R.O., PC 1/33/87-8 (Halifax); P.R.O. H.O. 42/54 ("Oatmeal is the favourite food of the West Riding"); E. W. Gilboy, *Wages in the Eighteenth Century England*, Harvard, 1934, p. 199 (on wheaten bread in Leeds c. 1770-1800).

⁸ H. E. Strickland, *General View . . . East Riding*, 1812, pp. 123-6. It was reported from Malton that about "30 years ago," i.e. c. 1770, "the lower class of people upon the Wolds lived almost entirely upon barley. . ."—P.R.O., H.O. 42/54. Hull and neighbourhood was all wheaten bread.—*Annals of Agriculture*, XXXI, 1798, p. 79. However, maslin was probably still popular, especially in the north, as oats may have been to the west. The "oat-line" seems to have run north of Doncaster and west of Wakefield.—*Ibid.*

⁹ Tuke, *op. cit.*, pp. 117-18, 127. The same source refers to "formerly," when "a very black, heavy, sour bread made of rye" was much in use, and which was still sometimes eaten by "the lower orders of the country." Oat bread was usual in the Craven district.—Henderson, *loc. cit.*, p. 342. Marshall reported in 1788 that "masshelson" (maslin) bread was still common in the moorlands.—*Op. cit.*, II, pp. 14-15, while according to the 1801 Crop Returns much maslin was still grown in the county.—P. Churley, 'The Yorkshire Crop Returns of 1801', *York. Bull. Econ. Soc. Res.* v, 1953, p. 186.

Northumberland and Durham offer perhaps the most bizarre grain combinations. Along the coast and on Tyneside the preference was rye or maslin, and elsewhere, oats in the south, and oats and barley mixed sometimes with rye, grey peas, and beans in the north.¹ In one area of Northumberland farm labourers were allowed each year 32 bushels of oats, 24 of barley, 12 of peas, and 12 of wheat.² West of the Pennines in Cumberland and Westmorland, oats with barley, or further north, barley with oats, were general everywhere. Even in Kendal wheat comprised less than 25 per cent of total cereal consumption, and in most country households it was virtually unknown except at "the festive season of Christmas" when it was used for pastry.³

Scotland may be divided into three main dietary regions: (1) the border counties, with their oat-cake and barley-and-peas bannocks; (2) the central Lowlands, where, in Edinburgh and Glasgow, as well as some of the larger villages, wheaten bread was already an "infatuation" with the lower classes, although large quantities of oatmeal for cake and porridge, and of pot barley for soups, were also used; and (3) most of the rest of Scotland, where oat-cake, and to a lesser extent barley bread and bannocks, were "indispensable" foods.⁴

It has been suggested that a large minority of the population of England and Wales, and the overwhelming majority in Scotland, subsisted wholly or partially on grains other than wheat. However, a prime characteristic of pre-industrial diet was the extent to which choice of staple fluctuated from season to season according to the size of the harvest and the relative prices of the different cereals. In 1577 Holinshed observed how in times of dearth many were forced to content themselves with "bread made either of beans, peas or oats, or of all together and some acorns among," while in the next century Houghton reported the extensive use of turnip bread in Wales and, during the 1690's, also in Essex.⁵ It is sometimes assumed, however, that by the late eighteenth century the lower income groups were insensitive to price changes, and were unwilling to resort to cheaper foods even under the compulsion of dire scarcity. The Hammonds, for example, thought the poor too

¹ J. Bailey, *General View . . . Durham*, 1810, p. 358; J. Bailey and G. Culley, *General View . . . Northumberland*, 1805, p. 255; T. S. Ashton and S. Sykes, *The Coal Industry of the Eighteenth Century*, Manchester, 1929, p. 101; Eden, *op. cit.*, pp. 184-6, 271. The informant at Hexham Abbey stated in 1796 that barley mixed with grey pease, and sometimes beans, was the only bread of labouring poor, indoor servants, and farmers, and even townsmen, except in Newcastle where the chief breads were rye or maslin. P.R.O. PC 1/33/87-8.

² N. Curtis-Bennett, *The Food of the People*, 1949, p. 108.

³ J. Bailey and G. Culley, *General View . . . Northumberland, Cumberland and Westmorland*, 3rd edn, 1805, p. 220; *Annals of Agriculture*, 1795, xxiv, p. 313; Eden, *op. cit.*, pp. 334-7; Roeder (*loc. cit.*, pp. 92-3) records that in Westmorland they ate hasty pudding and clap bread (oats), in Cumberland barley, and on the borders barley and oat-cakes, scones, and bannocks.

⁴ 'The Dietary of the British Labourer', *Quart. Jnl. Agric.*, xxiv, 1863-5, p. 407; *Farmers Magazine*, 1801, p. 134; R. Douglas, *General View . . . Roxburgh and Selkirk*, 1798, p. 191; G. Robertson, *General View . . . Midlothian*, 1795, pp. 95-6, 101-2, 104-5, 172-3; R. Somerville, *General View . . . East Lothian*, 1800, pp. 117-18, 127; J. Trotter, *General View . . . West Lothian*, 1811, pp. 101-2; Roeder, *loc. cit.*, pp. 94-5; J. Colville, 'Lowland Scotland in the Eighteenth Century', *Blackwoods Magazine*, 1892, pp. 476-84. In the Scottish Highlands oatmeal had probably given way to potatoes, but certainly some wheat was eaten in Aberdeen.—*Farmers Magazine*, 1801, p. 216. According to Edlin (*op. cit.*, p. 129), pea bread was "very common" in parts of rural Scotland.

⁵ Cited Ashley, *Bread of our Forefathers*, p. 58.

"fine-mouthed" to eat any but the finest wheaten bread, with the result that in the mid-1790's "all attempts to popularize substitutes failed, and the poorer the labourer became the more stubbornly did he insist on [it]."¹

That choice of cereal was price and income elastic, and that pre-industrial patterns endured until at least the early nineteenth century is verified by the government inquiries of 1796 and 1800, which show not only a marked decline in *per capita* cereal consumption, but also a widespread substitution of barley, and to lesser extents, of oats, pulse, and rye, for wheat, and of browner for whiter flours.²

Positive aversion to the use of wheat substitutes was more apparent in 1796 than in 1800, but was in both years confined to a few southern and eastern counties, in particular, London and Middlesex, Berkshire, Buckinghamshire, Essex, Hampshire, Hertfordshire, Kent, Oxfordshire, Surrey, Sussex, and Wiltshire. Here it was probably true, as at Wootton Bassett, that the "lower orders" preferred "half a loaf of fine *Wheaten Bread*, to a pound of mixed with any substitute." The only important concession was a switch from first- to second- and third-quality flours.

Elsewhere in Britain, and even in parts of the above-mentioned counties, substitution was the general rule. In 1796 one-third of the population of Calne (Wiltshire) ate barley bread alone, and another third a two-to-one mixture of wheat and barley. In 1800, partly because cereal prices were higher and partly because the backbone of resistance was already broken by the earlier crisis, coarser grains were more extensively resorted to than in 1796. Of the almost 500 towns and villages replying to the government circular, most claimed a reduction in wheat consumption of between 30 and 50 per cent. The greater part of the "labouring population" of southern Britain then subsisted, largely if not completely, on barley, while in the north wheat lost most of the ground it had gained there since the mid-eighteenth century. Large quantities of rye were imported to help bridge the gap.³ In Barkway (Hertfordshire) a "wholesome nutritious [*sic*] Bread made of *Half Wheat and Half Rye*" was employed by the "poor People, many Farmers and the little Tradesmen." At Southwell (Nottinghamshire), the ratio of wheat to barley and rye milled locally fell from 39:1 in 1794 to 6:8:1 in 1795, and to 1:9 during the first three months of 1796. Young's Nottinghamshire labourers had presumably rediscovered their "rye teeth"! More would have been required of them at Uxbridge (Middlesex)⁴ where

¹ J. L. and B. Hammond, *The Village Labourer 1760-1832*, new edn, 1913, ch. 7.

² The 1796 replies, of which about 150 from different towns and villages in England and Wales survive, were in answer to a government circular of Dec. 1795 asking for measures to be taken to reduce wheat consumption by one-third.—P.R.O., PC 1/33/A87-8. The 1800 inquiry (P.R.O., H.O. 42/52-5) was more ambitious in both scale (over 400 replies) and scope. Through the bishops, parish clergy were asked, *inter alia*, the extent to which rice, barley, and oats had been used as substitutes for wheat. Though they mostly relate to particular measures taken there is often some indication of grain used in normal times. I am heavily indebted to Mr Ian Mitchell of Wadham College, Oxford, who referred me to these sources and supplied a detailed breakdown of the Cheshire evidence.

³ The use of rye is recorded in the following counties: Cheshire, Cumberland, Durham, Hants., Herts., Lancs., Northumberland, Notts., Rutland, Suffolk, Warwickshire, Westmorland, Worcs., and N.R. Yorks.; but mainly in the north-east and east Midlands.

⁴ Edlin, *op. cit.*, p. 127.

bean bread was "in daily use", and at Bristol, where (American?) maize was a temporary stand-by.¹ In northern England particularly, rye, barley, oats, and pulse were substituted, sometimes randomly one for another, depending on supply. Houghton-le-Spring (Durham) employed "every grain convertible to the use of Man," while, in some areas, because of local shortages of the usual grains, some families who could afford it may have turned even to wheat!

The events of 1795-6 and 1799-1800, repeated subsequently perhaps in 1809-12 when wheat prices reached new historic peaks, underline the difficulties of generalizing about, still more of being able to measure, "normal" cereal consumption during the war period. Some attempt at quantification seems called for, however, in order to establish the gross magnitudes of wheat and "other grain" consumption. In the table below cereal usage is measured in terms of "consumer equivalents;" population is derived from the 1801 census, and more arbitrarily, grain-eating proportions from the contemporary evidence.

"EQUIVALENT" PERCENTAGE OF THE POPULATION CONSUMING
DIFFERENT CEREALS, 1801

	<i>Wheat</i>	<i>Barley</i>	<i>Oats</i>	<i>Rye</i>	<i>Pulse</i>
London and Home Counties*	97	2	1	—1	—1
Southern England†	90	9	—1	1	—1
Eastern England‡	96	4	—1	—1	—1
South-western England§	45	55	—1	—1	—1
Midlands¶	70	17	12	1	—1
Northern England	25	18	50	6	1
Wales	15	60	20	5	—1
England and Wales	66.4	16.9	14.8	1.8	0.1
Scotland	10	10	72	—	8
Great Britain	57.8	15.5	23.6	1.5	1.3

* London, Essex, Herts., Kent, Middx., Surrey.

† Beds., Berks., Bucks., Dorset, Gloucs., Hants., Herefordshire, Oxon., Somerset, Sussex, Wilts., Worcs.

‡ Cambs., Hunts., Norfolk., Suffolk. § Devon, Cornwall.

¶ Cheshire, Derbys., Leics., Lincs., Northants., Notts., Rutland, Salop., Staffs., Worcs.

|| Cumberland, Durham, Lancs., Northumberland, Westmorland, Yorks.

It is suggested, therefore, that in 1800 only an equivalent 65-70 per cent of households in England and Wales, and 55-60 in Great Britain overall, lived on wheat. Such a low wheat-eating fraction is not altogether surprising if one remembers that in 1764 Charles Smith estimated it at 62.5 per cent—which is possibly an overstatement, the more so, as some of his contemporaries put the fraction much lower, at

¹ Rice was used in a small number of areas, mainly in southern England, though not necessarily for bread. Bread made of rice and wheat was recorded at Holywell, Flintshire, but despite much publicity such usage was never popular.—Thomas, *op. cit.*, p. 48.

only one-half.¹ Who was the more correct is a main point at issue, but a closer look at Smith's calculations suggests that he may not have been quite the "well-informed and judicious authority" he is often depicted. The agricultural evidence refutes the possibility of national rye production being large enough to sustain, as Smith asserts, an equivalent 880,000 persons, nor, as Britain was at this stage a net exporter of that grain, could the deficiency have been made good from outside sources. Similarly suspect is the claim that one-third of the population of northern England lived on wheat, when apart from seaward areas in the North Riding and north-east, which used wheat-and-rye mixtures, wheat was otherwise then still a great novelty, whose popularity increased significantly only after 1770.²

The more pertinent question, at least by this reckoning, is why historians have tended in the past to understate "other grain" consumption. On Ashley's part it may be attributed to his extreme preoccupation with rye, and his belief that the increase in wheat-eating after 1700 was the simple transition from the one winter corn to the other.³ He failed to detect important "intermediate" changes which occurred within and between the coarser grains, in particular a switch from rye, barley, and pulses into oatmeal in northern England and Scotland.⁴ On the other hand, Fussell's assertion that 80 per cent of households in England and Wales were already wheat-eaters in 1700 rests on the evidence of Celia Fiennes's tour, Clapham's incomplete list of counties where inferior grains were still in use in 1821-33, and doubtful assumptions about the relationship between income and choice of cereal.⁵ Detracting also from the possibility of a much wider use of "other grains," has been the tendency to conceive of cereal consumption in terms only of bread, whereas in northern and western Britain, cereals were eaten in a wide variety of other forms—wet and dry, hot and cold, baked and griddled—which appear often to have been overlooked by contemporary observers and by historians.⁶

II

The nineteenth century saw the continuation and culmination of the trend towards a nationally uniform pattern of cereal-eating based on the wheaten loaf. The degree to which regional differences were ironed out is indicated by the results, summarized below, of the national dietary surveys of 1902 and 1904.⁷

¹ Ashley, *Bread of our Forefathers*, pp. 5-6, "... some, who have considered the matter with great attention, and are better informed in regard thereto than most inquirers generally be, were inclined to think that in the year 1764 one half of the people could not be supposed to feed on such [wheaten] bread."

² A factor which may have contributed to the slowing-down of the growth of the wheat fraction after 1760 was the faster growth of population in the "other grain" than in the wheat-eating counties.—Deane and Cole, *op. cit.*, table 24, p. 103.

³ Ashley, *Bread of our Forefathers*; Ashley, 'The Place of Rye . . . Food'.

⁴ Colville, *loc. cit.*, pp. 476-84. In Scotland oats superseded barley and peas during the eighteenth century, while in some areas white peas displaced grey peas.

⁵ Fussell, *loc. cit.*, pp. 84-8.

⁶ Roeder, *loc. cit.*, *passim*. Other types of cereal foods—"jannocks," "bannocks," "havercake," made from barley and oats—were eaten in many parts of southern and eastern England in the medieval period but seem to have largely disappeared by the eighteenth century. *Ibid.*, map, p. 42.

⁷ Memoranda, *Statistical Tables and Charts*, Cd. 1761 (1903), pp. 209 ff.; Cd. 2337 (1904), p. 5.

AVERAGE WEEKLY CONSUMPTION OF CEREALS BY AGRICULTURAL LABOURERS'
FAMILIES (OF SIX PERSONS) IN ENGLAND IN 1902 (IN LB. PER FAMILY)

	<i>South and South-west</i>	<i>Midlands</i>	<i>Eastern</i>	<i>Northern</i>	<i>National average</i>
Wheaten bread	29.00	27.00	17.00	5.00	19.50
Wheaten flour	9.00	7.00	20.5	23.00	14.90
Oatmeal and rice	1.25	1.5	1.0	1.25	1.25

AVERAGE WEEKLY CONSUMPTION OF CEREALS BY URBAN WORKERS' FAMILIES
(OF 5.2-5.9 PERSONS) IN 1904 (IN LB. PER FAMILY)

	<i>London</i>	<i>Midlands</i>	<i>North</i>	<i>Rest of England and Wales</i>	<i>Scotland</i>
Wheaten bread and flour	33.13	32.44	29.14	31.86	31.14
Rice, tapioca and oatmeal	1.67	1.56	1.88	1.26	7.05

The most significant features are the regional uniformity of wheaten bread and flour consumption, and the small consumption of the "other cereals," rice, oatmeal, and tapioca. Even in Scotland the latter amounted to less than 1½ lb. per head per week, where in the 1840's oatmeal had been a principal foodstuff. Regional differences in the ratios of bread to flour reflect the greater preference in some areas for home-baked as against manufactured bread.

Apart from Dr Edward Smith's surveys conducted in the early 1860's,¹ there is surprisingly little systematic evidence on nineteenth-century diet, which severely limits the attempt to measure the rate and timing of change in cereal-eating habits. However, if we can identify the chief determining factors, these may serve as useful, if indirect, pointers to general trends.

As the most expensive cereal, wheat enjoyed a relatively high cross-price-income elasticity of demand. It should follow, therefore, that changes in the cereal mix ought, *ceteris paribus*, to be correlated with changes in the relative prices of the competing cereals and with changes in average real incomes. In the north and west in the eighteenth century, and in some areas until as late as the 1850's, wheat was regarded as something of a luxury, a "dainty" reserved for the more "respectable," more "genteel" tables. It was used otherwise only on special occasions, and more regularly only when trade and employment were good. After the Napoleonic Wars, but especially during and after the third quarter of the nineteenth century, the price differentials between wheat and the spring corns progressively narrowed, although in practice, because of their different milling extraction rates and weights

¹ Report of Dr Edward Smith to the Privy Council on the dietary of low-fed populations, especially in reference to the agricultural class, *Sixth Report of the Medical Officer of the Privy Council*, 1863. See also, *Fifth Report*, 1863, pp. 346 ff.

per bushel, these were considerably less than is implied by wholesale prices.¹ By the 1870's oatmeal was in many areas as expensive, if not more so, than wheaten flour.² While it is hazardous to generalize about real incomes, they undoubtedly improved over the eighteenth century; but, according to Gilboy, more so in the north than the south, where a deterioration may have set in after 1765 when the price of wheat began to rise again.³ After 1815 real incomes may have fallen in some agricultural districts in the south and east, but after an initial setback, and despite some violent short-term fluctuations, levelled off in Scotland and northern England to resume their upward trend in the 1830's. After 1850 the position is much clearer; higher wages, more continuous employment, and falling wheat prices made for a marked and sustained all-round improvement in standards of living. But equally if not more important, especially during the first half of the nineteenth century, was the effect on average purchasing power of the redistribution of the labour force between the lower- and higher-wage industries. The agricultural share of the national work-force declined from 50-60 per cent in 1750 to 30-40 per cent in 1800, and to 7-10 per cent in 1900, while the numbers employed in that other great low-income sector, domestic industry, also fell dramatically.⁴

The uptake of wheat-eating was correlated also with urbanization, especially in those regions where that cereal was little cultivated. Wheat gained a first foothold in the towns, which partly reflected their greater wealth and purchasing power, and partly also the effect of other less tangible forces, deeply rooted in urban society, which combined to modify, and eventually to destroy, the older value systems of which diet was a component part. As Burnett explained, the growth of town-living encouraged competition and social imitation among all classes, leading ultimately to more sophisticated tastes and eating habits, and to the progressive diffusion of wheaten bread, first wholemeal brown, then sifted white, down the social and income scale.⁵ There were other factors also. For greater convenience, and because of the high price of fuel, townsmen came increasingly to depend on the services of the professional baker. As his monopoly increased so that of the mealman diminished, leaving the consumer with fewer alternatives as to choice of product and raw material. Bakers were established in the larger towns in medieval times but

¹	Weight per bushel	Flour yield	% yield
Wheat	60	48	80
Barley	48	37½	78
Oats	40	22½	56

Farmers Magazine, Jan. 1801, p. 132. After 1800 the wheat fraction fell, as flours grew finer, to about 75 per cent.

² Edward Smith, *Sixth Report*, p. 156; Edward Smith, *Foods*, 3rd edn, 1874, p. 168. Similarly, Smith noted little difference in the prices of brown and white flours. According to calculations by T. R. Gourish, the price of oatmeal in Glasgow fell by only c. 20 per cent between 1810 and 1831, compared with 45 per cent for white wheaten bread and 40 per cent for browner "household" bread.—'The Cost of Living in Glasgow in the Early Nineteenth Century', *Econ. Hist. Rev.*, 2nd ser., xxv, 1972, p. 73.

³ Reproduced in B. R. Mitchell and Phyllis Deane, *Abstract of British Historical Statistics*, Cambridge, 1962, pp. 346-7.

⁴ Deane and Cole, *op. cit.*, pp. 141-53. In Lancashire numbers of handloom weavers, who were traditionally oat-eating, increased until the mid-1820's; thereafter, especially after 1835, they began rapidly to decline.

⁵ J. Burnett, *Plenty & Want*, 1966, ch. 1. I am heavily indebted to this text, which constitutes the best and most expert account of dietary change, especially in urban Britain, since 1800.

first appeared in the villages of southern England in the middle of the eighteenth century. Subsequently their numbers grew rapidly, to the point where by the 1820's home baking, much to Cobbett's alarm, had almost died out. It was complained in 1857 that in southern England, and in many other parts, "not one woman in twenty is capable of making a loaf."¹ Home baking held up much longer in the south-west, in East Anglia, and above all in the north. Probably not half the population of Manchester, for example, used manufactured bread in 1815, while in 1831, as against the one baker to every 295 inhabitants in Berkshire, there was but one to every 2,200 in Cumberland.² The effect of this dependence, a habit which, like wheat-eating itself, once formed was difficult to break,³ could be seen in 1796 and 1800 when, it was complained, bakers refused to use cheaper flours and confined their trade, as before, to the manufacture of the better qualities of wheaten bread.⁴ In Newcastle bakers seldom sold mixed bread, while at Berkeley (Gloucestershire) those inhabitants who baked at home were able to use wheat, barley, and bean mixtures, whereas bakers sold only wheaten breakfast cakes, and white and "household" wheaten bread. Similarly at Callington, those persons who could not afford to purchase "meal" in large quantities had to rely on the small wheaten loaves sold by the baker.

In the countryside force of custom was by comparison stronger, and the demonstration effect weaker, than in the towns. Other constraints on dietary change included low wages, payments in kind, easy access to "other grains" through gleaning, and the willingness of country millers to grind small parcels of grain to order. The rigidities were especially evident in the west and north where wheat was little grown, and where often it had to be brought in from a distance, perhaps at considerable expense. After 1800 higher incomes, lower wheat prices, wages in cash rather than kind, the decline of gleaning, changes in cropping—in particular the greater emphasis on wheat and its spread northwards and westwards—and, not least, the closing of the cultural gap between town and country, combined to break down old prejudices and engender new habits.

If in the countryside tradition endured longest, then it did so in increasing isolation as the demographic balance between town and country was transformed. In some areas the rate of urbanization may be a useful proxy by which to measure the spread of wheat-eating after 1800. The combined populations of the twelve largest towns in northern England and six largest in Scotland grew by just 416,000 between 1801 and 1821, but thereafter by 1.14 million in 1821–51, and over the succeeding two decades by a further 1.56 million. By 1900 four-fifths of the population of Great Britain was classified as urban, compared with one-fifth in 1800. Conversely, population in some of the more intransigent non-wheat-eating areas, such as parts of western Wales and the Scottish Highlands, was already declining

¹ Quoted, D. Hartley, *Food in England*, 1954, p. 505.

² Burnett, *op. cit.*, pp. 3–5.

³ Arthur Young, writing about wheat-eating in northern England, described it as primarily a matter of taste and individual preference, and in towns such as Leeds, as a habit cultivated out of necessity which grew into a "profound" taste. Gilboy, *op. cit.*, pp. 199–202.

⁴ P.R.O., PC 1/33/A87–8; H.O. 42/54.

by 1850. Urbanization proceeded much faster in the "other grain" than in the wheat-eating regions of Britain, a development which largely accounts for the accelerated decline of barley- and oat-eating after 1820.

The chief determining factors of dietary change were not always economic. Rising real incomes did not have the same effect in northern as in southern England of stimulating wheat consumption during the eighteenth century, just as on Tyne-side and in mid-Lancashire urbanization did not signal, at least not initially, head-long flight from traditional grains. Taste and custom were often able to retard or accelerate the pace of dietary change independently of trends in prices and incomes. The history of diet cannot be divorced from that of the more complex process of cultural change. More narrowly, there existed a close, if indefinable, relationship between "taste," methods of food preparation, and nature of the raw materials. In the west and north oats, barley, and pulses were often consumed as gruels, pot-tages and "bake ware," whereas wheat was primarily a bread corn. For wheat entirely to take over required the complete breakdown of the traditional dietary regime. Conversely, because it represented little more than the substitution of one bread corn for another, wheat was much more easily able to supplant rye.

III

It is difficult to determine exactly the timing and geography of changes in cereal-eating habits after 1800, but in Wales and northern England the transition from coarse grains to wheat was incomplete in 1850, while in Scotland and Ireland it occurred mainly during the third and last quarters of the century. In 1821 McCulloch reckoned that an equivalent 10·3 million, or less than 50 per cent of the combined populations of Britain and Ireland, relied on wheat, compared with 7 million who ate barley and oats, and 5 million, mostly in Ireland, who subsisted on potatoes.¹ In 1841 Dudgeon put the proportion of wheat-eaters in England and Wales at less than 90 per cent, in Scotland at 40 per cent, and in Ireland at 25 per cent.² Gilbert and Lawes estimated *per capita* wheat consumption in Scotland and Ireland in 1852-68 at respectively 70 and 50 per cent of that of England and Wales.³ The position at half-century was probably best summed up by the statement that five-eighths of the wheat supply was consumed by that half of the population which ate wheaten bread only, and three-eighths by the other half.⁴ The fact that a statistically significant proportion ate other grains was generally admitted by arithmeticians, and duly allowed for in their calculations. It was perhaps the effect on total demand of this levelling-out process, as much as, if not more than, higher consumption among existing wheat-eaters, which explains the rise in wheat availability per head up to the 1870's. We might postulate, on *a priori* grounds, that the growth

¹ H. Evershed, 'Variation in the Price and Supply of Wheat', *J.R.A.S.E.*, 2nd ser., v, 1869, pp. 188-9.

² J. Dudgeon, 'On a Method of Obtaining Correct Statistics of Agricultural Produce', *Quart. Jnl. Agric.*, xvii, 1849-51, pp. 367-8. The same source estimates the total human consumption of wheat at 16 million quarters, of oats at 10 million, and of barley, excluding malt and distilling, at 4 million.—*Ibid.*, p. 369.

³ J. B. Lawes and J. H. Gilbert, 'On the Home Produce, Imports and Consumption of Wheat', *J.R.A.S.E.* 2nd ser., iv, 1868, p. 386.

⁴ *Farmers Magazine*, Oct. 1853, p. 426.

of wheat-eating in northern Britain was correlated with urbanization, whose pace accelerated dramatically after 1820. On the other hand, the changeover may have been retarded by industrial depression and unemployment during downswings of the trade cycle, as in 1816-19, 1826-32, 1839-43, and 1847-8. In fact, the main wave of change may have been delayed until the 1830's, when, it was claimed, wheat became "almost exclusively used for bread," low prices having driven other kinds of grain out of consumption.¹ Tooke and Newmarch observed in this decade "increased consumption from abundance," amounting to "little more than waste."²

It is possible that in 1850 the wheat-eating fraction in England and Wales still did not exceed 90 per cent; and it could be argued that numbers of "other grain" eaters, though diminishing relatively, continued to increase absolutely until about that time. Roeder records that in middle-class families in Lancashire and Yorkshire in early Victorian times the children ate oatmeal porridge and milk twice a day, and that "*both brown and white loaves* [my emphasis] were baked. . ."³ Whatever the preference in better times, there is no doubt that in many northern industrial towns oats were extensively resorted to in the depressions, as in the early 1840's, when, in Paisley, the consumption of animal food and wheaten bread was claimed to have "entirely ceased," and to have fallen substantially in the towns of Accrington and Dukinfield.⁴ As Somerville explained: 17s. per week and full employment meant loaf bread and butcher's meat, but 6s. and unemployment only oatmeal gruel and potatoes. Until at least the early 1830's, in Glasgow, handloom weavers at 9s. were reckoned to consume 13 lb. of oatmeal and 4½ lb. of wheaten bread per week, and the better-off workers at 18s., 13 lb. of oatmeal and 18 lb. of wheaten bread.⁵ Indeed, it was authoritatively stated in the 1850's that in many country areas of Wales and northern Britain wheat was rarely, if at all, used by labouring households, that in Scotland, barley broth was still "a staple dish on the dinner tables of the middle and working classes," and that oatmeal was still the principal food, not only of the rural population but also of "that proportion of the mechanic class whose employment was not of a sedentary nature."⁶ In Northumberland, maslin may still then have comprised as much as 40 per cent of total cereal consumption in mining villages.⁷

On the other hand, except in rural areas whose share of the total population was

¹ *Ibid.*, Sept. 1841, p. 209. ² T. Tooke and W. Newmarch, *A History of Prices*, 1928 edn, v, p. 74.

³ Roeder, *loc. cit.*, pp. 83-4.

⁴ Alex Somerville, *Letter to the Farmers of England*, 1843, pp. 9, 12-13; W. Neild, 'Comparative Statement of the Income and Expenditure of Certain Families of the Working Classes in Manchester and Dukinfield in the Years 1836 and 1841', *Jnl. Stat. Soc.*, IV, 1841, pp. 320-4; Burnett, *op. cit.*, pp. 44-50.

⁵ Gourish, *loc. cit.*, pp. 70-1.

⁶ J. C. Morton, *Cyclopedia of Agriculture*, 1855, I, p. 191; III, pp. 506-7. See also, C. S. Read, 'On the Farming of South Wales', *J.R.A.S.E.*, x, 1849, p. 148; L. Hindmarsh, 'On the State of the Agricultural Labourers in Northumberland', *Jnl. Stat. Soc.*, I, 1839, pp. 405, 410; W. J. Garnett, 'The Farming of Lancashire', *J.R.A.S.E.*, x, 1849, p. 19; Ashley, *Bread of our Forefathers*, pp. 22-3 (for Cheshire 1833, and particularly Lancashire, where in the 1820's one old weaver born in the north of the county claimed to have seen his first piece of wheaten bread when he travelled to the Manchester area.); J. H. Clapham, *An Economic History of Modern Britain: the Early Railway Age, 1820-1850*, 2nd edn, Cambridge, 1964, p. 136 (for 1821-33).

⁷ Burnett, *op. cit.*, p. 149.

relatively small and rapidly diminishing, wheat was the predominant cereal in most areas of Britain at mid-century. McCulloch estimated that numbers of barley-eaters had fallen from 1.5 million in 1821 to half a million by 1853.¹ In south-western England and the industrial counties of South Wales barley bread had gone out of fashion by the 1830's. In 1852 it was reported that in Cumberland barley bread had gone out of use, "as wheat bread is preferred, and its price now brings it within reach of all," and in northern Lancashire, that wheat had to a large measure superseded oaten bread.² The degree to which the coarser grains still featured in the agricultural districts of southern and eastern England may never be known. Up to 1850 the economic incentives for them to do so must have been strong, and some, at least, would have heeded Esther Copley's advice to substitute mixtures of rye, barley, and maize when wheat was dear.³

Joseph Arch recollected as a boy (in the 1830's) taking with him to work a "hunch" of barley bread, just as some of T. Fisher Unwin's older informants had resorted to wheat bran and barley during "the Hungry Forties."⁴ Somerville records that in Somerset during the Crimean War farm labourers were forced to subsist on a half-diet of barley, wheat, turnips, and cabbage.⁵ On the other hand, folk memory is notoriously unreliable in such matters. Even if true, one wonders just how typical was the experience of the old Wiltshire labourer who, according to A. G. Street, fed in his younger days on barley bannocks made from the fine siftings of meal given his father to feed the sheep-dogs!⁶

After 1850 a combination of factors—social, cultural, economic, demographic—made for a progressive ironing-out of local and regional differences, and for greater national uniformity in food habits. In 1855 J. C. Morton had forecast that wheat would soon become general in Scotland if prices remained low. In some areas already in the mid-1860's, but almost everywhere by the 'eighties and 'nineties, oatmeal was more expensive than wheat, to the point of being looked upon as something of a luxury, to be eaten occasionally, and in small quantities.⁷

The careful dietary surveys of farm-labourer households conducted by Dr Edward Smith in the 1860's reveal the remarkable extent to which wheat had by then displaced the coarser grains, even in the countryside among agricultural labourers.⁸ In England barley and maslin were rarely used, while oatmeal, though

¹ Evershed, *loc. cit.*, p. 189; J. R. McCulloch claimed that by early 1850's the consumption of rye, barley, and oats in the northern and south-western parts of England and Wales was "reduced to a mere trifle," and that in Scotland ten times more wheat was consumed than in 1790.—*Statistical Account*, 4th edn, 1854, p. 581. See also his *Dictionary*, 1859 edn, p. 197.

² J. Caird, *English Agriculture in 1850-51*, 1852, pp. 283-4, 367. See also Ashley, *Bread of our Forefathers*, pp. 22-3, and Clapham, *op. cit.*, p. 136, for other examples of pre-1850 changes.

³ Esther Copley, *Cottage Cookery*, 1849 edn, p. 92, cited Burnett, *op. cit.*, p. 20.

⁴ Pamela Horn, *Joseph Arch*, Kington, 1971, p. 6; T. Fisher Unwin (ed.), *The Hungry Forties*, 1904, *passim*. See also Burnett, *op. cit.*, pp. 23-8.

⁵ Cited Burnett, *op. cit.*, p. 119. ⁶ A. G. Street, *Farmer's Glory*, 9th impression, 1944, p. 56.

⁷ Morton, *op. cit.*, III, p. 507, above, n. 61.

⁸ Smith, Privy Council Report, *op. cit.* Smith examines the dietaries mainly of farm labourers' families but also of other low-income groups, such as silk-weavers, needlewomen, stocking- and glove-makers, and shoe-makers, the so-called "in-door occupations." The results, which are carefully tabulated, cover all items of dietary including wheaten bread and flour, oatmeal, barley meal, maslin, and Indian corn.

purchased by 20 per cent of families, was important only in the northern counties, and even there was never the principal cereal. There was, Smith emphasized, "no impression in the minds of English farm labourers that it [oatmeal] is a better food than wheaten flour."¹ In Wales wheat was used by all families in Anglesey and the north, and by 80 per cent in the south. Oatmeal was used by 60 per cent of families, and in parts of the south was mixed occasionally with barley and made into cake or bread. Barley, though fast diminishing in popularity, was still eaten in Cardigan, Carmarthen, and western Glamorgan, where it was sometimes the principal or exclusive breadstuff. Scotland exhibited greater divergence, in that wheat was used by 62 per cent of families but was the principal food only in the southern and border counties. Oatmeal, on the other hand, was eaten in every case, being in 90 per cent of families the principal and in 15 per cent, mainly north of Fort William, the exclusive cereal. Barley meal and peas, in small quantities, were used by 20 per cent of families.

By the 'sixties wheat was the predominant cereal in almost all parts of midland and northern England. In Lancashire, for example, oatmeal was now little used by factory workers as a "separate food," although it featured more frequently around Preston and Blackburn than in the south around Manchester.²

IV

The picture which emerges is one in which wheat displaced other grains, first as a bread corn and then, as the traditional wet and other dry cereal foods declined in popularity, as the general-purpose grain. In 1902, Roeder could regret the fact that in Lancashire and Yorkshire "the time and glory of the great porridge eater is evidently over, and his place has been usurped by the great tea-devourers of our times."³ The "Celtic fringe" alone offered much resistance after 1880. Oatmeal was for some time to come an important food in the Scottish Highlands, but in Wales its demise was more imminent. In 1893 the Narberth Union wheat and barley bread, gruels, and "flammerys," and even a little "shipris" (oats with barley) could still be found, but except in the mountain parishes none but wheaten bread was fed to living-in servants, while the wet foods had been almost entirely superseded by tea. Similarly in Montgomeryshire around Llanfyllin, barley and rye breads had been completely replaced by wheaten bread, and oatmeal was considerably less popular than "in former years."⁴ Meanwhile in Bedale (Yorkshire) farm labourers now ate

¹ Smith, Privy Council Report, *op. cit.*, p. 156.

² Edward Smith, *Fifth Report*, pp. 346-7; *Report of the Dietaries of Inmates of Workhouses* (1865), B.P.P., xxxv, 1866, pp. 360-3.

³ Roeder, *loc. cit.*, p. 44. By 1902 also there were left relatively few bakers in Lancashire selling oat-ware, indicative of the almost complete transformation in dietary pattern which had occurred there since the 1830's. See also, Atkinson, *loc. cit.*, p. 51, which implies that cottage production of oat-bread died out in northern England in the early twentieth century.

⁴ R.C. Labour, 1893, II (Wales), pp. 19-20, 62, 87; D. W. Howell, 'The Agricultural Labourer in Nineteenth Century Wales', *Welsh History Review*, vi, 1973, p. 277, suggests that the main changeover had taken place between 1850 and 1870, in which latter year wheaten bread was commonly used in the south-west, and almost universally used in the north.

wheat bread instead of peas and barley bannocks, while their children were no longer nourished on porridge.¹

By the time of the First World War the metamorphosis, which had begun in the seventeenth century, which was incomplete in 1800, and which in the Celtic zone was still working itself out in the 1890's, had run its full course. In 1914 the Royal Society Committee on the national food supply calculated that the average annual consumption of oatmeal in the United Kingdom averaged less than 14 lb. per head, and that of barley (as "pot" or "pearl" barley) only $\frac{1}{2}$ lb. where a century earlier they could be measured in hundredweights and quarters.²

In view of the unreliability of the evidence and the lack of detailed local studies, these conclusions must be regarded as preliminary and tentative. I have attempted to suggest below the course of the long-run trend by estimating the proportions of the population consuming the different cereals in the years 1800, 1850, and 1900.

EQUIVALENT PROPORTIONS OF THE POPULATION OF GREAT BRITAIN
CONSUMING THE DIFFERENT QUANTITIES OF GRAIN (PER CENT)

	<i>England and Wales</i>	<i>Scotland</i>	<i>Great Britain</i>
Wheat			
1800	66	10	58
1850	88	44	81
1900	97	84	95
Barley			
1800	17	10	16
1850	3	5	4
1900	1	1	—1
Oats			
1800	15	72	24
1850	9	50	15
1900	3	15	5
Pulse			
1800	—1	8	2
1850	—	1	—
1900	—	—	—
Rye			
1800	2	—	2
1850	—	—	—
1900	—	—	—

The most critical relationship, perhaps, was that between the increasing demand for wheat due to cereal switching and changes in the rate of average consumption

¹ Cited Burnett, *op. cit.*, p. 131.

² J. R. Bellerby *et al.*, *Agriculture and Industry Enquiry*, Agricultural Economics Research Institute, Oxford, roneo, 1954-5. R. H. Rew estimated in 1903 that of the 40 per cent of oats which were sold off farms probably no more than 7½-10 per cent was eaten by "human consumers,"—"The Food Production of British Farms", *J.R.A.S.E.*, LXIV, 1903, pp. 111-12.

among existing wheat-eaters, which, one against the other, determined the national trend in wheat consumption per head. Contemporary opinion was unanimous in the view that wheat consumption per head was rising over the third quarter of the nineteenth century, which was attributed partly, at least, to the advance in "the quantity of wheaten bread displacing lower qualities of food."¹ Gilbert and Lawes calculated that in the United Kingdom wheat consumption per head increased from 5.1 bushels in the 1850's to 5.5 bushels in the 1860's.²

Conversely, Mrs Fairlie has recently suggested that in England and Wales average wheat consumption may have fallen between 1841 and 1871 from 8.72 to 7.60 bushels per head.³ This is, however, unlikely, because it assumes, first, that during this period domestic wheat output declined by almost one-third, and second, and more pertinently, that as late as 1870 wheat consumption in Scotland and Ireland was "still probably negligible." She implies that virtually all home production and imports were consumed in England and Wales and ignores the effects of cereal-switching in northern and western Britain and Ireland. By the same measure, and with possible implications for the "cost of living debate," a disproportionate share of the increase in wheat production during the first half of the nineteenth century was probably absorbed by "converts", so that, while overall consumption per head may have been rising, *per capita* consumption among existing wheat-eaters, who formed the majority of the population, may have been falling.⁴

These are speculations which can be tested by further research. We have been concerned here with the more qualitative aspects of dietary change. I hope to have demonstrated that in 1800 a significant proportion of people in England and Wales, and a large minority in Great Britain, subsisted on the coarser grains, rye, barley, oats, and pulse, and that a century or more was to elapse before wheat could properly be called the "staff of life." A similar changeover, from brown to white breads, has occurred in western and northern Europe and in North America since 1750, as well as in Japan, where rice replaced barley during the later Tokugawa and Meiji eras. It may have been that the most significant feature of dietary change in the early stages of industrialization was less a switch from starch to protein foods, as is generally assumed, as of switches within the starches themselves.

¹ For example, J. A. Clarke, 'Practical Agriculture', *J.R.A.S.E.*, 2nd ser., xiv, 1878, p. 472; Evershed, *loc. cit.*, p. 194; Lawes and Gilbert, *loc. cit.*, p. 380.

² Lawes and Gilbert, *loc. cit.*, p. 377. Salaman reckoned that wheat availability per head increased from 0.62 lb. per day in 1838 to a peak of 0.9 lb. in 1871, and that numbers of wheat-eaters in Ireland grew from one-third of the population in 1847-70 to two-thirds in 1900-21.—*Op. cit.*, pp. 613-17. Bellerby *et al.* postulated a continuing increase up to the 1880's, when consumption *per capita* levelled off, to decline only after 1910.—*Op. cit.*, 'Wheat', pp. 1-7.

³ Fairlie, *loc. cit.*, p. 102 and *passim*.

⁴ Hartwell believed (after Drescher) that domestic wheat production kept pace with population growth between 1800 and 1850, thus to imply that in staple terms the standard of living did not deteriorate over this period. Hobsbawm held that there was a lag, and that *per capita* consumption fell from the late eighteenth century until the 1840's and 1850's. This is not the place to discuss either production or consumption in these terms, although this is planned for a future occasion. However, it would certainly appear that a greater increase in domestic output than that suggested by Drescher, or alternatively a negative price and income elasticity of demand for wheat, is necessary to substantiate Hartwell's thesis.—R. M. Hartwell, 'The Rising Standard of Living in England, 1800-1850', *Econ. Hist. Rev.*, 2nd ser. xiii, 1961; Hobsbawm, *loc. cit.*