CHAPTER 2

Enlightened Potatoes

'For several years newspapers discussed practically nothing but potatoes.' So claimed the French historian Pierre-Jean-Baptiste Legrand d'Aussy in 1782. Physicians analysed their properties, writers exalted their virtues, and monarchs encouraged their consumption: the potato, Legrand d'Aussy proclaimed, had become the darling of the Enlightenment.[1]

Two features particularly captured the imagination of eighteenth-century potato-enthusiasts. They insisted that potatoes were a healthy and nourishing food that could be eaten with pleasure by everyone. The potato had the triple advantage, announced a French cookbook, of being 'healthful, tasty and very economical', and for this reason was doubtless sent by divine providence itself. The panegyrists of the potato, as one newspaper called them, also noted that the root offered particular benefits to ordinary people. 'What a treasure is a milch cow and a potatoe garden, to a poor man with a large family!', rhapsodised the fashionable Scottish physician William Buchan.[2] All across Europe physicians, statesmen, priests and other members of the republic of letters agreed that potatoes were an exceptional resource for the poor, which would liberate them from hunger and poverty. Inspired by the potato's apparent virtues, monarchs in many parts of the continent issued edicts encouraging their cultivation and countless organisations devised schemes to increase consumption. Perhaps Legrand d'Aussy exaggerated in claiming that this enlightened potato-talk dominated the eighteenth-century public sphere, but it did form a powerful, trans-continental theme for half a century. (See figure 7.)

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

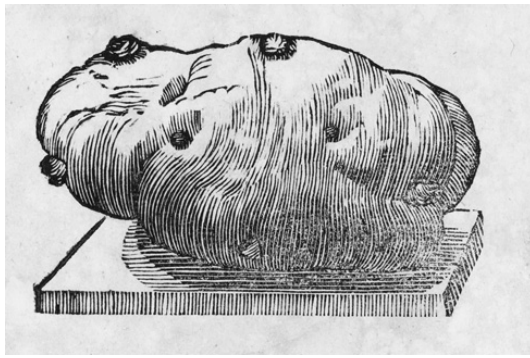


Figure 7 Engraving of a potato from Giovanni Battista Occhiolini's 1784 treatise. The Roman cleric Giovanni Battista Occhiolini's treatise on the 'marvellous American fruit commonly called potato' was aimed at rural labourers. He hoped his explanation of potato-agronomy would encourage them to grow and eat more potatoes.

A venerable body of scholarship credits this eighteenth-century propaganda with the potato's transformation from a despised botanical oddity to the staple it is today. As Chapter 1 noted, the protagonists of this transformation are said to be far-sighted rulers and philanthropists. 'People on both sides of the Rhine tended to believe that you caught leprosy from eating potatoes,' asserts one food historian, who explains that only after a clever promotional scheme patronised by Louis XVI himself did the French begin to accept potatoes.[3] This scheme was supposedly devised by the French scientist and potato-promoter Antoine Augustin Parmentier, who arranged for the tubers to be planted ostentatiously on crown land. As Parmentier's collaborator Julien-Joseph Virey recounted in a posthumous biography of his friend and colleague, when these plants matured:

> Parmentier arranged for gendarmes to guard it – but only during the day. His intention was for them to be stolen during the night and the populace did not fail to oblige. Every morning these nocturnal thefts were reported to him; he was delighted, and generously rewarded the informants, who were astonished by his inexplicable joy. But public opinion was vanquished and France from that moment was enriched with an enduring resource.[4]

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

Nearly identical ruses were, allegedly, required to vanquish public opinion elsewhere in Europe. In Greece, the early nineteenth-century nationalist Ioannis Kapodistrias supposedly convinced sceptical Greeks to embrace potatoes through a very similar stratagem. Kapodistrias:

> ordered that the potatoes be dumped on the docks of Nafplion and placed under guard. Rumors circulated that since the potatoes were so well guarded, they must of be of great value. Before long someone tried to steal some of these 'valuable' potatoes. Since the guards were told to ignore the stealing, it wasn't long before the whole shipment disappeared. The potato continues to be an important part of Greek cuisine today.[5]

These stories have wide currency in European popular culture. I spoke with many people who recounted the tales they learned at school about these potato heroes, and the stubborn resistance they overcame.[6] (See figure 8.)

Figure 8 Votive potatoes left on a plaque to Frederick the Great at Sans Souci Palace, Potsdam. Visitors to Frederick II's palace at Sans Souci who place potatoes on this plaque help perpetuate his reputation as Germany's premier potato-promoter.

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

These acts of nutritional benevolence are typically presented as ad hoc responses to particular moments of famine or scarcity. In Prussia, recurrent famines from the 1740s are said to have prompted Frederick the Great to issue a series of decrees encouraging potato cultivation. Underpinning such stories is the assumption that state promotion of a favoured food is a natural response to specific episodes of shortage. To be sure, eighteenth-century food shortages focused the attention of the wealthy on the humanitarian and political consequences of hunger. Almost continual warfare during the half-century between 1750 and 1815 placed great strains on the food supply, as did growing populations. These events should, however, be placed in a broader context. The need to raise and equip large armies, investigations into the effect of liberalising the grain trade, the formation of local societies dedicated to disseminating useful agricultural knowledge, hand-wringing over the alcohol consumption of peasants and labourers, schemes to reduce infant mortality, and potato-promotion together formed part of a larger reconceptualisation of the relationship between food and the wealth and strength of the nation. This chapter unravels these associations.

Viewing the eighteenth century's fascination with the potato in this light reveals the connections between individual diets and the new ideas about political economy, public health and effective statecraft that emerged during the Enlightenment. Recognising these connections allows us to make better sense of the historical relationship between food scarcity and state response. Famines had long afflicted Europe; the 'famine' explanation for the enormous eighteenth-century interest in the potato does not explain why it was only in the eighteenth century that states began to respond to dearth by promoting specific foodstuffs. What had changed between the seventeenth century, when famines at times carried off as much as 40 per cent of local populations, and the eighteenth century was not an increase in the incidence or seriousness of famines – scholars tell us that their frequency in fact decreased.[7] What changed was the importance that new models of statecraft ascribed to building a healthy population. The Enlightenment's fascination with the potato reflects the advent not of a new foodstuff or new levels of hunger, but rather of new ideas about the relationship between the health and vigour of the population, and the wealth and power of

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

the state. It was this that lifted the potato from its quiet position in cottage gardens and ships' holds to the treatises of the Enlightenment. The smaller history of the potato thus reveals the larger historical changes that helped make the daily habits of ordinary people visible to the state and its theoreticians.

POPULATION AND THE FOOD SUPPLY

Enlightened discussion of potatoes was inseparable from the eighteenth-century debate over the 'population'. Throughout the century philosophers, *économistes*, officials and other members of the republic of letters engaged in a prolonged examination of the relationship between the number of people inhabiting a territory and its wealth. They considered especially whether a large population was the fundamental motor driving mercantile and commercial success, whether a growing population in itself demonstrated that a country was well governed, and whether it was ever possible for a population to become too large for a given territory. Such questions generated a vigorous corpus of dispute and discussion.

From the late sixteenth century treatises on good government had begun to suggest that states generally benefited from a large population. A larger population provided a larger labour force for agriculture and industry and a wider pool of soldiers. These in turn would increase a prince's hold on power. This interest in the links between population size and state power encouraged the development over the next century of the mathematical fields such as probability and statistics necessary to measure population growth. By the eighteenth century theorists of statecraft had come to view the population not simply as a personal possession of the prince, but as the bedrock of the wealth and power of the state. This conviction prompted a growing number of schemes aimed at protecting the population from disease and death through the draining of marshes, the regulation of hospitals, and other public health measures. Advocates of such ventures stressed not only the powerful humanitarian imperatives that motivated their efforts but also the political importance of preserving the population. A 1750 British *Plan of a Dispensary for Inoculating the Poor* opened with the observation that 'as the strength of the nation is in some measure proportionate to the number of its

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

inhabitants, every attempt to encrease population, by preserving life has a just claim to the regard both of *Patriotism* and *Humanity*'.[8]

These ideas had become commonplace in many parts of Europe by the mid-eighteenth century. Spanish statesmen affirmed that 'the population is the basis of everything', because without people, 'there is neither agriculture, nor industry, nor commerce, arts, power or wealth'.[9] The mathematician Pehr Wargentin, secretary of the Swedish Royal Academy, agreed: 'that a civil society's greatest strength consists of a quantity of good citizens is a saying that is now doubted by almost no one'.[10] This confidence in the merits of a large, and (ideally) densely settled population endured throughout the century. Of course it was possible to theorise situations in which a larger population might be a disadvantage, and not everyone agreed that a large population itself caused economic growth. Advocates of physiocracy, the new economic theory that stressed the centrality of land and agriculture in generating wealth, for instance maintained that a growing population was the result, rather than the cause, of economic success. They nonetheless concurred that it was a positive sign, indicative of a healthy economy.[11]

Contrarian voices began to be raised in the last quarter of the century. Some writers suggested that unlimited growth might eventually backfire, weakening rather than strengthening the polity. The clergyman Thomas Robert Malthus was to become the most influential exponent of this idea. Nonetheless, the dominant vision continued to stress the merits of a large population. In 1795, just three years before the publication of Malthus' *Essay on the Principles of Population*, a correspondent writing to the *Annals of Agriculture*, an influential British journal edited by the agronomist Arthur Young, felt confident in stating that 'the wealth of nations is unquestionably in proportion to its inhabitants'.[12] As late as the 1820s, writers such as James Mill were patiently trying to explain Malthus' ideas in the face of the persistent conviction that a large population was inherently beneficial.[13]

As Michel Foucault argued some decades ago, these population debates signalled the emergence of a new approach to the exercise of power, which stressed the importance of aligning state policies to the larger forces that themselves shaped the vigour, size and productivity of a region's inhabitants.[14] The new science of statecraft was not a simple

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

matter of ensuring obedience or imposing authority. It entailed managing resources and creating effective systems for their exploitation. 'The population', in other words, was far more than a miscellaneous collection of individuals inhabiting a territory. It was an essential resource. Writers on population constantly stressed that success in managing this vital resource was a fundamental barometer of a state's effectiveness. An increase in the number of inhabitants was both an indication, and an almost inevitable result, of overall public well-being, argued the French demographer Jean-Baptiste Moheau in an essay on population. For this reason, population growth, or its absence, 'testifies for or against the government'.[15]

A large population, however, was not in itself sufficient. A treatise on how to energise Spain's sluggish economy spelled out what more was necessary. 'The most fundamental element of any economic system', it stated, 'is ensuring that men are *usefully employed.*'[16] Its Irish author, Bernardo Ward, had been commissioned by the Spanish monarch Ferdinand VI to conduct a study of Spain's agriculture, commerce and industry, for which he undertook extensive travels across the peninsula. Ward, who later served as a director of Spain's Royal Mint, had for some years been thinking about the best way of ensuring that Spain's population was usefully employed. He had earlier devised a plan to intern beggars and the homeless in an institution where they could be set to work, 'for the benefit of the State'.[17]

As Ward's attention to vagrancy indicates, a large population was useless if it was not actively engaged in productive labour. In his report for Ferdinand VI, which proposed reforms to Spain's management of both its European and new-world territories, Ward emphasised that the labour potential latent in the population was an essential resource, and good governance consisted precisely in unlocking this potential. Population could be increased 'physically' by augmenting the number of individuals, but this was not the only, or best, way to develop an effective population. Converting 'a man who does not work, and who does not contribute anything useful to the republic' into an industrious worker was a far greater achievement because it constituted a 'political' increase in the population.[18] 'When one says that a sovereign's wealth consists in the number of his vassals, one means the number of *useful*

vassals, since a million idle vagabonds and professional beggars, far from being useful, are an impediment to the state, which would be much better off, and wealthier, without them,' Ward observed.[19] Ward's assessment of the importance of developing a hard-working population was widely shared. If a state's population was not usefully employed in agriculture or manufacturing, it was 'like a treasure that is dead and buried underground', noted the Swedish writer and statesman Edvard Carleson in 1731.[20] *Industrious* inhabitants, not just people in general, lay at the heart of national grandeur and success.

In order to be industrious a population needed to be healthy. Only then would a state be able to prosper. This in turn required not only inoculation schemes and programmes of marsh-drainage, but also an adequate food supply. As the potato-promoter Parmentier observed, 'the type and choice of food greatly influences the population, so it is impossible to take too many precautions when ensuring that the people are well fed'.[21] These ideas were not simply responses to particular moments of scarcity, but rather drew on the growing conviction that a robust population materially increased the power and wealth of a state. Certainly the particular pressures of warfare and shortage focused the attention of officials on the food supply. When the mathematician and bureaucrat Jean-Louis Lagrange designed a 'calculus of nourishment' to estimate the food requirements of the new French republic in 1796, he was motivated by practical concerns as much as by any theoretical curiosity.[22] Well over seven million troops were deployed in the years between 1792 and 1815 in the global warfare that consumed European powers from the outbreak of revolution in France to the aftermath of the battle of Waterloo. This, together with repeated poor harvests, strained food supplies in many countries, yet even during these war years interest in the diets of working people did not reflect only these conjunctural circumstances. Writers consistently stressed the importance of ensuring that 'the lower classes of the people' were adequately nourished because such notions had become commonplace in discussions of the business of governance.[23]

From the late seventeenth century political theorists had begun to identify food as an important component in building a strong state. The polymath German diplomat and political theorist Johann Joachim Becher

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

defined civil society as 'a populous and *well-nourished* community'. The English barrister William Petyt, author of many treatises on governance, drew similar connections between food and the size of the population.[24] As developing a large and active population became ever more central to understandings of political and economic well-being, increasing attention was paid to the political and economic importance of ensuring that the population was well fed. In the 1730s the French lawyer and political philosopher Jean-François Melon embedded the food supply at the centre of his analysis of international trade. In an influential essay Melon offered a series of thought experiments to illustrate the forces shaping commercial exchange. His examination of the trading relations between three hypothetical island kingdoms concluded that a nation's strength was closely correlated with its possessing 'the greatest possible quantity of foodstuffs'.[25] Food was a component of the larger theoretical framework that explained how nations became powerful.

Most important, from this perspective, was ensuring an adequate supply of the sorts of foods suitable for the labouring body. When writers spoke of the need to ensure that the population was energetic and industrious, they had in mind the energy and industriousness of working people. The English philanthropist Jonas Hanway stated this plainly: 'the true foundations of riches and power is the number of working poor'.[26] National strength and wealth thus demanded, in the words of one of numerous pamphlets on the matter, that working people be 'plentifully and cheaply fed'.[27] The interconnections between the bodies of working people, national prowess and a flourishing economy prompted an altogether new interest in the eating practices of labourers.

In connecting the diets of labourers to the body politic these writers drew on ideas that had become increasingly common in a different written genre: health manuals. As noted in Chapter 1, these vernacular guidebooks dedicated to explaining the principles of good living were published in increasing numbers during the seventeenth century. Dietary advice featured prominently, since everyone acknowledged that good health depended fundamentally on consuming suitable foods. In addition to stressing the importance of selecting a diet that matched one's personal constitution or complexion, these books often drew connections between the cuisine of a particular region and the

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

characteristics of the local population. Different diets helped explain both national differences between, say, the English and the French, and the differences that Europeans perceived between themselves and non-Europeans. Amerindians, stated one Spanish doctor, were quite unlike Spaniards in body and character 'because they don't eat the same foods'.[28] Similar points were made by local historians, who likewise sought to account for a region's distinguishing features. Both the melancholy nature of the inhabitants of Wiltshire and the energetic and agreeable personality of people in Glamorganshire were ascribed to the local diet.[29] In this way individual eating practices contributed to moulding regional and national character. These notions helped establish connections between the dietary practices of individuals and the characteristics of the overall population on which eighteenth-century political thinkers could draw.

Many aspects of a nation's well-being were said to be affected by the eating habits of working people. The productivity of industry was one area where observers perceived a clear link. As Adam Smith remarked, 'that men in general should work better when they are ill fed than when they are well fed ... seems not very probable'.[30] In addition, poorly nourished labourers would not engender vigorous children to work in manufacturing and agriculture, and ill-fed soldiers could not be relied upon to protect the kingdom. The two – the health of poor children and the robustness of the military – were in any event interconnected. Imagining the sickly babies born to gin-drinking mothers, the novelist Henry Fielding feared the consequences of 'these wretched infants' becoming 'our future sailors, and our future grenadiers'. He predicted dire results for Britain were it to rely on these enfeebled beings to defend its territory and further its commerce and agriculture.[31] Writers across Europe shared Fielding's concern that the death or debilitation of poor children constituted 'a political loss for the state'. Ensuring that infants grew into healthy and vigorous workers, insisted one of the many texts to consider this matter, was therefore essential for 'the glory and prosperity' of the nation.[32] Books on the topic proclaimed this association clearly in their very titles. *Concrete Causes of Mortality in Foundlings during their Early Years: Remedies for this Serious Evil, and Method for Making them into Useful and Christian Citizens to the Notable Increase to Spain's Population, Strength and*

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

Wealth, reads the title of one such work from Spain. Its author, a priest and trustee at Pamplona's general hospital, stated explicitly that recovering these doomed babies for the state would increase the population of soldiers and workers: 'how many individuals – which we now lack – would we have for public works! How many labourers! How many honest grenadiers!'[33]

The hospital in Pamplona was one of many institutions that aimed to increase the population of honest grenadiers and labourers by caring for abandoned babies. Food was at the centre of these efforts. The challenges of feeding foundlings were considerable; in the absence of a sufficient number of wet-nurses, mortality rates at orphanages sometimes approached 100 per cent. Precisely because a strong and productive working population depended on its ability to reproduce itself, infant feeding and its links to infant mortality attracted the attention of writers in many parts of Europe. Numerous treatises were composed on the best artificial formulae, and the exceptional importance of infant feeding in general. A number were dedicated directly to ruling monarchs, which hints at the links their authors perceived between the nourishment of poor children and matters of state.[34]

Nowhere were concerns about national security, nourishing food, and working bodies more closely entwined than in the demands of naval provisioning. The British state's efforts to feed the Royal Navy illustrate these interconnections very clearly. Because this 'body of men essential to the existence of the empire' was recognised as requiring a highly nourishing diet, sailors in the Royal Navy enjoyed rations far superior to those on mercantile vessels.[35] Ensuring this was no easy task. Although feeding any branch of the military called for advanced organisation, the special obstacles posed by shipboard life required a more elaborate infrastructure. In the British Isles the monumental task of feeding the Navy was undertaken by the Victualling Board, established in 1683 to oversee all matters related to naval provisions. Its multi-million-pound budget reflects the importance the British state ascribed to the enterprise. Regulations stressed the need for top-quality food; 'the oxen must be fattest and the potatoes, onions and fodder the best that can be procured', noted the 1760 regulations.[36] Official tables stipulated the supplies to which sailors were entitled, again to ensure that the workforce

was fit and able to work. The Board's scrupulous records demonstrate that the slightest variation from the regulations was liable to attract an audit, both because it might represent an attempt at defrauding the exchequer and because sub-standard rations undermined the Navy's fighting strength.

Other states lacking the Victualling Board's robust institutional presence shared the conviction that the diet of sailors was a matter of direct importance to governance. Allowing sailors to sicken through poor diet and improper medical attention was an enormous loss to the state, and extremely beneficial to its enemies, insisted the Spanish doctor Pedro María González, a professor at the Royal College of Surgical Medicine at Cádiz.[37] Doctors elsewhere similarly stressed the political importance of providing sailors with nourishing food. When the physician Antoine Poissonnier Desperrières proposed a radical, vegetarian diet for the French navy he framed it within an explicitly political context. Poissonnier Desperrières, author of an earlier text on colonial medicine and member of the Dijon Academy of Sciences, was critical of the reliance on salted meats typical of naval provisioning, which he (like many others) blamed for scurvy, a serious threat to individual sailors and the navy as a whole. In their place he proposed a ration based on rice and legumes, seasoned with ginger and pickled onion. While he admitted that this new diet might unsettle sailors, he insisted that it would create a healthier and more energetic navy. Since it aimed to preserve the health of 'a class of men precious to the nation', he considered his scheme a 'patriotic and economical project'.[38] To think about the diet of working men and women, in short, was a legitimate undertaking for those concerned with politics.

*

Because of the significance that these new models of statecraft ascribed to building a robust population of workers, by the late eighteenth century the quotidian eating habits of ordinary people had become relevant to the overall success of the state. Alongside these new ideas, politicians, landowners, and many others continued to fear the socially and politically destabilising effects of famine and dearth, and philosophers and the clergy continued to lament the suffering caused by hunger. Such

concerns were not theoretical, since shortages afflicted ordinary people regularly throughout the century, and on occasion provoked popular action of precisely the sort that had long worried those in power. The devastating famine that struck Naples in 1764 reverberated across the continent, provoking serious riots as far away as Madrid.[39] The food supply, for the eighteenth-century science of the state, was thus both a matter of public order, and also a central component of a larger model of political economy that associated national wealth and greatness with the energy and vigour of the working population.

How, however, to ensure that working people ate suitably nourishing foods? A profound transformation of the economic order to channel more wealth to the working poor was out of the question for all but the most radical political philosophers.[40] Instead, attention focused on identifying inexpensive alternatives to existing dietaries. Writing from Bologna, whose population had only recently recovered from losses in the previous century caused by outbreaks of plague, the agronomist and landowner Pietro Maria Bignami explained that were his homeland to possess an adequate food supply, its population would increase markedly, and if the population grew, industry would be sure to follow. Were that to happen, the region would undoubtedly become 'one of the richest and happiest in all Italy'.[41] To accomplish this, he believed it was necessary to identify 'a new product' able to compensate at least in part for the inadequacy of existing foodstuffs. Perhaps, he suggested, the potato might serve this purpose.

Bignami was not alone in hoping that the potato might address the need for a cheap, population-building staple for working people. All across Europe political thinkers pinned their hopes on the potato as a vehicle to deliver robust working populations. The hardiness and fecundity of long-standing potato-eaters such as the Irish offered a mesmerising vision of pink-cheeked families subsisting on a food they grew themselves. When the Scottish agronomist and printer David Henry lauded the potato's nourishing properties he noted specifically that in addition to being tasty, it had a further quality to recommend it: 'it is favourable to population; for it has been observed, that in the western parts of Ireland, where it is almost the only dyet of the labouring poor, it is no unusual thing to see six, seven, eight or ten, and sometimes more

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

children'. Henry referred approvingly to the 'healthy progeny that crowd the cabins of those mean people'.[42] Others cited the Scottish highlands, whose 'hardy and muscular inhabitants' subsisted largely on potatoes.[43] Potato-eaters in the mountain villages of the Alpes-Maritimes, in southern France, were likewise praised for their 'notable stoutness', a sure indication of robustness.[44] Samuel Engel, president of the Economic Society of Bern, one of the hundreds of patriotic organisations established across eighteenth-century Europe to disseminate useful knowledge, like Bignami composed an entire treatise on the potato's multiple merits, in which he expatiated on the potato's immense potential as a population builder.[45] Ireland was again offered as a convincing illustration of the merits of a potato-based diet. All that was required for the potato to work its magic elsewhere, he believed, was for working people to recognise its potential.

POTATOES AND THE WORKING-CLASS DIET

Unfortunately, the existing dietary practices of ordinary people constituted a mighty impediment to the happy consequences resulting from a large and energetic working population, in the view of many commentators. Unlike the healthy potato-eating Irish, many working people were thought to be crippling themselves through ill-advised, self-inflicted dietary errors. Country people, complained the scientist Antoine-Alexis Cadet de Vaux, committed a catalogue of 'alimentary vices', which were responsible for their terrible physical health.[46] Overconsumption of tea, sugar and white bread was the cause of 'all the evils which affect the labouring part of mankind', fulminated an English author.[47] 'The custom of the common people's drinking great quantities of the most inflammatory and poisonous liquor' came in for particularly frequent criticism.[48] In less hostile tones, philanthropists composed 'friendly recommendations' aimed at showing the poor how to improve their health by reducing food waste, employing more economical modes of cooking, and eating more vegetables.[49] After conducting a remarkable survey of the eating practices of labourers and artisans across England, Frederick Morton Eden, son of a governor of colonial Maryland and identifier of the first Scot to grow potatoes in an open field, concluded

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

that improvidence in 'dress, in diet, and in other branches of private expenditure' played a significant role in exacerbating poverty. With a little attention a labourer could 'reduce the expense of his food one half, without rendering it less palatable, less nutritious, or less wholesome', Eden believed.[50]

The Scottish physician William Buchan composed several books elaborating on this theme. Buchan's career had included a stint as medical officer at an orphanage in Yorkshire, as well as in a private practice in London. These experiences informed his best-selling manual on household medicine, which explained how to treat earache, stressed the need for regular exercise, and reminded students to change their clothing. *Domestic Medicine* also critiqued the eating habits of 'the poor', who in Buchan's view bore some responsibility for their own ill-health. He insisted that 'peasants are extremely careless with respect to what they eat or drink, and often, through mere indolence, use unwholesome food, when they might, for the same expense, have that which is wholesome'.[51] He also blamed sharp business practice by butchers and grocers for the spoiled and adulterated food that often featured in the diet of the poor. These matters, he stressed, should concern everyone, both because spoiled food caused epidemic diseases, and also because 'the lives of the labouring poor are of great importance to the state'.[52]

Buchan expanded on these concerns in his 1797 *Observations Concerning the Diet of the Common People*. This work was composed during the hungry 1790s, when war with France, poor harvests, and government policy combined to create repeated episodes of scarcity in Britain. *Observations Concerning the Diet of the Common People* developed Buchan's earlier interest in improving popular diets, at the same time as it reflected these particular pressures on the food supply. Buchan's aim in both works was to show 'common people' how to live 'cheaper and better' by making superior choices about what they ate.[53] As he explained in *Observations*, most common people consumed far too much meat and white bread, and drank too much beer. They did not eat enough vegetables. The inevitable result, he stated, was ill-health, with diseases such as scurvy wreaking havoc in the bodies of working men, women and children. This, he reiterated, undermined British trade and weakened the nation.

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

How, however, to ensure that people were well-nourished? What sorts of food would provide a better nutritional base than beer and white bread? William Buchan encouraged a diet based largely on whole grains and root vegetables, which he insisted were not only cheaper than the alternatives, but infinitely more healthful. He was particularly enthusiastic about potatoes. No nation, he believed, had ever been 'very populous' without drawing 'a great part of its food from underground'. Combined with milk the potato provided ideal nourishment: 'some of the stoutest men we know, are brought up on milk and potatoes', Buchan stated. (As was the case with French peasants, stoutness betokened a robust constitution.) Even without milk, potatoes provided a complete meal; Buchan cited a report to the Board of Agriculture by Dr Richard Pearson as evidence for this latter fact.[54] Buchan maintained that it would be easy for landlords to supply their workers with potato gardens, and easy for workers to cultivate them. The benefits would accrue both to the individual workers and their families, whose healthy bodies would be full of vigour, and to the state. He was explicit about the two-fold nature of the improvements that would occur were workers to embrace potatoes, and were landlords to support these new dietary ambitions. 'What a source of real wealth and population!', he insisted. 'Men would multiply, and poverty, unless among the profligate, be unknown.'[55] Potatoes would help make Britain rich and powerful.

This, indeed, was why the British Board of Agriculture and Internal Improvement had published Dr Pearson's report on potatoes in the first place. The Board had been formed in 1793 to investigate and promote innovative agricultural practices. Supported by £3,000 of state funding, it embarked on a heterogeneous programme of research and publication that took in topics from improved millstones and the 'secret of destroying slugs', to the role of salt in manure, and a 'peculiar breed of sheep' with no ears.[56] Its first president, the Scottish agronomist and gentleman-farmer Sir John Sinclair, wrote prolifically on the benefits such information offered the British public. The Board manifested a sustained interest in potatoes and reported regularly on potato-related matters. Its members heard papers on treating potato leaf curl, the manufacture of potato starch, and methods for preserving potatoes by means of desiccation,

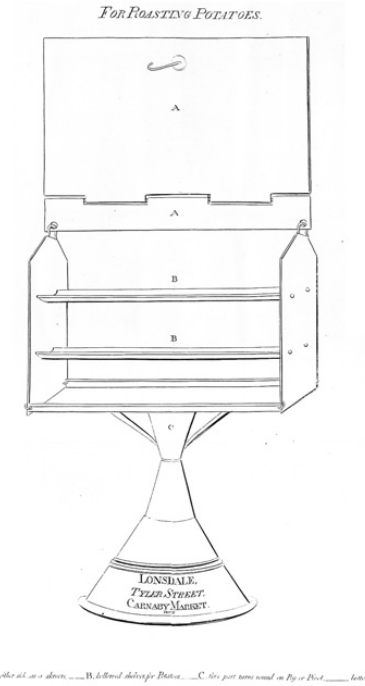


Figure 9 A potato-roaster promoted by the British Board of Agriculture. Members of the eighteenth-century Board of Agriculture dabbled with an impressively varied range of topics, from growing broccoli to raising angora rabbits, but they took a sustained interest in potatoes, which they considered a crop of the first importance to Britain's well-being. This potato-roaster featured in a volume that described their efforts to make a satisfactory bread out of oats, potatoes and other alternatives to white flour.

which the Board believed might be useful for provisioning the Navy.[57] It sought out and arranged trials of new varieties, and commissioned treatises on the results. It offered premiums and placed advertisements to encourage improved cultivation techniques. In 1794 it established a 'Committee on Potatoes', which quizzed bakers on the feasibility of producing potato bread on a commercial scale and answered queries about potatoes from correspondents across Britain.[58] (See figure 9.)

Board members were convinced that potatoes were a sterling crop, providing a reliable, easy and abundant harvest. 'In times of scarcity and distress,' Sinclair stated, 'there is no article comparable to Potatoes.'[59]

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

The Board's calculations indicted that an acre of potatoes would feed eight to ten people for a year, far more than an equivalent area of wheat. For this reason, 'an increased cultivation of that valuable root, the Potatoe, appears to the Board, to be one of the most important objects, that can possibly be recommended to the attention of British farmers'.[60] The purpose of advising landlords to cultivate more potatoes was to enable ordinary people to eat more potatoes. As the Board explained, their aim was to increase 'regular consumption among the lower classes'.[61] To this end it published a series of pamphlets containing recipes for boiled potatoes, roast potatoes, and, especially, potato bread, a fiddly preparation when made with a high proportion of potatoes. These publications adopted a messianic tone about the potato's merits. In the Scottish Highlands, the Board asserted, the potato was considered 'the greatest blessing that modern times have bestowed on the country'.[62] Like William Buchan, the Board of Agriculture was certain that the potato offered poor people an exceptional opportunity to improve their diet. This, in turn, was a matter 'of great importance in political oeconomy'.[63] Potato consumption, especially by poor people, was a matter of direct political interest.

It is worth recalling that by the 1790s Britons had long been eating potatoes. Already in the 1670s, dictionaries defined the tuber as 'a sort of fruit, coming originally from the West Indies, but now common in English gardens'.[64] A century later its culture 'extended to every county in Great Britain', according to horticultural manuals. Although they were not universally consumed, in areas where fuel was affordable potatoes formed a familiar part of the everyday diet for many working people. The Board itself recognised this in its own publications.[65] Their encouragement of the potato was not based on its absence from the existing food landscape. Rather, their interest in potatoes reflected a new-found conviction that improving the diet of working people was 'of great importance in political oeconomy'.

THE PANEGYRISTS OF THE POTATO

The promotional activities of the British Board of Agriculture were part of an avalanche of potato-enthusiasm that began in the mid-1750s and

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

had engulfed all of Europe by the century's end. Monarchs from Spain's Charles III to Sweden's Adolf Frederick issued edicts encouraging the cultivation of potatoes, in Adolf Frederick's case inspired by experiments on potatoes undertaken at the Swedish Royal Academy of Science.[66] The Neapolitan physician Filippo Baldini and the Swedish merchant Jonas Alströmer composed promotional treatises on their virtues, as did officials in Finland, chemists in France and many others.[67] Newspapers in Copenhagen published testimonial letters encouraging readers to grow potatoes and in England individuals such as the improving landlord and philanthropist John Howard (later famed for his work on prison reform) experimented with new varieties that, Howard hoped, might provide 'great relief & help to a most valuable part of our fellow creatures, the labouring poor in this kingdom'.[68] Priests in Norway and Spain delivered sermons on cultivation techniques and exhorted their parishioners to grow them. Cleric Axel Laurell from Asikkala, in southern Finland, perorated from the pulpit for up to four hours at a time on their merits, and also composed a promotional treatise containing advice on cultivation, as well as a number of recipes.[69] From Turin the physician Antonio Campini reported on the excellent, economical qualities of potatoes, which he proclaimed were:

> one of the best gifts which we have received from America. They provide good, healthy, agreeable and tasty nourishment to country people and their effect is no less favourable to population growth. . . . I saw very few sick soldiers among those who are able to cook potatoes.[70]

Two decades later the Tuileries Garden had been dug up, replaced with potato fields planted on the orders of an enthusiastic Convention Nationale, which hoped thereby to encourage wider cultivation of the root.[71] And in case anyone wondered what to do with all those potatoes, every economical recipe detailed in Hannah More's 1795 *The Cottage Cook; or, Mrs. Jones's Cheap Dishes: Shewing the Way to do Much Good with Little Money* featured the tuber. French readers could consult the equally potato-heavy *Cuisinière républicaine*.[72] (How working people responded to this advice will be probed in the next chapter.)

Certain themes attracted sustained discussion. The best methods of cultivation were a recurrent topic; whether potatoes depleted or

enriched the soil was the subject of particular dispute.[73] The related issues of storage and preservation also received attention from agronomists and investigators since the potato's propensity to rot posed practical and technical challenges. Methods ranging from burying the surplus in sand to more complex procedures such as desiccation were evaluated.[74] Regarding the potato's use as an animal food, many investigators concurred that farm animals from horses to chickens thrived on potatoes, and offered recipes for the best mashes.[75] The different ways in which people could consume potatoes were likewise reported. The Irish technique of simmering over very low heat was widely acknowledged as optimal, and pamphlets such as those produced by the Board of Agriculture spelled out how easy it was to prepare tasty and sustaining meals featuring potatoes instead of wheaten bread.[76] Scientists experimented with distilling potato-based spirits, which offered an alternative to grain-based alcohols.[77] Most emblematic of all was the quest for a satisfactory recipe for potato bread. The drive to 'panify' potatoes manifested itself across Europe. The healthfulness and nutritive qualities of such breads were the object of intense, if inconclusive, discussion.[78] Potatoes were moreover declared an excellent artificial feed for infants, and so helped ensure that the population was able to reproduce itself. Ideally, once they were old enough, foundlings could be set to work cultivating their own potatoes on orphanage grounds.[79] (See recipe for Potato Bread.)

Since European countries shared the desire to build strong states that underpinned this new attention to popular diets, interest in the potato transcended national frontiers and languages. Journals and networks of correspondence disseminated this enlightened potato-talk across Europe. The French scientist Antoine Laurent Lavoisier experimented with growing potatoes on his estate in Blois; his findings were promptly reported in Spain by the *Parish Priests' Agriculture and Arts Weekly*, an agricultural journal founded in 1797 with royal support.[80] Both Dublin's Botanical Garden and its Agricultural Society conducted experiments on potatoes on which the newspaper likewise reported.[81] Spain's Charles III moreover funded the publication of an entire book on potato cultivation by the Irishman Henry Doyle.[82] Swiss potato-enthusiasts referenced Swedish agronomists as well

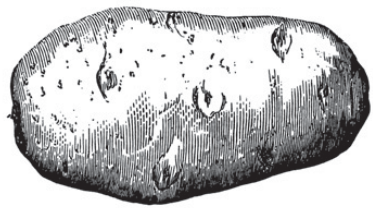
https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

A Spanish Recipe for Potato Bread

In 1797 the parish priest from the Salamancan village of Linares del Riofrío invented a bread recipe that used six pounds of potatoes for every three of wheat. As he explained, his parish grew a great deal of potato but very little wheat; he hoped that a bread requiring less grain would prove beneficial to the poor. The results, he reported, were outstanding. He described the day he first sampled his bread as the happiest in his life. 'It seemed to me,' he recorded, that with the potato 'hunger and poverty would vanish from the face of the earth.'

Potato Bread

'I made an experiment with six pounds of washed, maincrop white potatoes which I cooked until the peels split, which is when they have cooked sufficiently. I then drained and peeled them and crumbled them in a container, breaking them up as much as I could with a strong spatula, but without crushing them so that they remained light. I then added three pounds of wheat flour, as well as a little yeast dissolved in about four ounces of water and a good deal of salt, as potatoes alone are bland. I kneaded it well to combine these substances, and formed a firm dough that did not appear visibly different from a dough made with wheat flour alone. It rose much more and was ready to be placed in the oven just as quickly as a wheat dough. The oven should be a bit hotter than for regular bread.'



as English, French and German treatises on the tuber.[83] English authors translated continental texts on experimental methods of cultivation.[84] The efforts of the Swede Carl Skytte to distil brandy from potatoes were

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

replicated across Europe by enthusiastic amateur chemists, although his surname rarely survived these travels intact.[85]

The potato's advocates made extravagant claims. The Polish writer and statesman Julian Ursyn Niemcewicz declared the tubers to be the 'greatest blessing conferred by heaven', second only to baptism. 'We owe America more gratitude for them than for the precious metals of gold and silver, the fatal implements of greed,' he believed.[86] Claudio Boutelou, head gardener at Madrid's Royal Botanical Garden, agreed that the potato 'is without doubt the most valuable item we have received from the new world', adding that the rest of Europe ought to thank Spain for introducing this botanical treasure.[87] The French scientist Antoine-Alexis Cadet de Vaux likened it to the manna that sustained the Israelites in the desert, likewise sent by a benevolent deity.[88] The editors of a Swiss newspaper described French advances in making potato bread as 'one of the most important discoveries of the century'.[89] And lest anyone imagine such praise was exaggerated, another potato-advocate, the US-born Count Rumford, reminded readers that since schemes to encourage potato consumption aimed ultimately to improve the well-being of the working poor, they were by definition of interest to 'enlightened statesmen'.[90]

Potato-advocates employed a common set of techniques, which typically included premiums, offers of free potatoes, and the dissemination of how-to manuals. Prizes were common. Patriotic individuals and organisations across Europe offered awards for the largest potato crop, the best recipe for potato bread, the most effective remedy for potato diseases. In 1790, Peter Sirkal, a peasant from Lifland, received ten roubles, enough to buy a horse or perhaps two bulls, when he won a competition sponsored by the St Petersburg Free Economic Society for the biggest potato harvest.[91] Similar 'Economic Societies', 'Societies for the Improvement of Husbandry, Manufacture, and Other Useful Arts', and the like, were established in many parts of Europe and its colonial territories from the 1730s, for the purpose of disseminating useful knowledge, particularly about the new agronomic models circulating across Europe that aimed to render agriculture more productive and profitable. (Since these associations rarely included individuals with practical

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

farming experience such as peasants, they tended to reflect the perspective of the landlords, clergymen and officials who comprised the membership. The ambition was usually to disseminate elite knowledge to peasant farmers, rather than the reverse.)[92]

Potatoes attracted the attention of these organisations in many parts of Europe. Members of the society in Erfurt were lectured on how to distil potatoes into alcohol; other German societies published treatises, sponsored competitions, and conducted field trials, all of which revealed the tuber to be an excellent alternative even to high-yielding grains such as buckwheat or rye.[93] In Turku, the Finnish Economical Society energetically encouraged cultivation, distributing seed potatoes free of charge and offering prizes to the most successful potato growers.[94] The Imperial and Royal Academy of Science and the Arts of Brussels, the Monmouthshire Agricultural Society in Wales, the Highland Society in Scotland, and the Royal Economic Society of Aragón did likewise.[95] In 1796, the Aragón Society for instance offered the substantial sum of 300 reales for 'the day labourer who can prove that he and his family have consumed the largest quantity of potatoes'.[96] The Royal Basque Society not only offered prizes but also conducted experiments in potato cultivation and the manufacture of potato bread, and translated a number of agricultural treatises on the potato. As it explained in a 1786 report, the Society had long considered the potato 'one of the most important crops that could be introduced to the benefit of the country'.[97] Far to the east, in the Carpathian mountains, the first Agricultural Society in Transylvania was equally active in encouraging potatoes.[98]

At the heart of these endeavours was a concern with *oeconomy*. *Oeconomy* was the rational management of resources, whether by the individual or the state. It entailed a set of behaviours and values that prioritised restraint and moderation. One could display *oeconomy* in matters ranging from health, personal expenditure and cookery, to the management of a forest. *Oeconomy* linked the actions of individual households – including the foods consumed – to the broader concerns of the polity. It provided a vocabulary for articulating the conviction that even small domestic matters affected the well-being of the state. This is why the

British Board of Agriculture described its promotion of the potato as a matter 'of great importance in political oeconomy'.[99]

To be sure, the potato was not the only plant to attract such attention. Since national well-being required an ample supply of food, individuals and organisations assessed the potential of many other foodstuffs, from the Siberian buckwheat investigated by the Leipzig Economic Society in 1771 to the peanut extract evaluated by the Royal Economic Society of Valencia as a possible substitute for olive oil. Unfamiliar foodstuffs from other parts of the world inspired particular interest; many European states supported programmes of 'economic botany' that aimed to introduce both novel commercial crops and new staple foods into Europe. The botanist Joseph Dombey recommended acclimatising quinoa to France as a substitute for rice. Others championed wild rice, or breadfruits, or sago.[100] The potato, however, was the object of the most sustained and pan-European attention.

According to its advocates, this was because the potato possessed unique virtues. They reported the high yields compared to grains, a point repeated today by the UN and other agencies concerned with world hunger.[101] Cultivation was considered to be straightforward, so that anyone (for instance, Buchan's poor man with a large family) with access to a small piece of ground could easily raise their own. It did not require particularly fertile soil and grew well in all weathers and climates. Promoters insisted it was immensely nourishing, although in the absence of an agreed-upon scientific methodology for assessing a food's nutritive potential, this remained assertion rather than established fact.[102] Proponents emphasised the ease of preparation, and noted that any surplus could be converted into a feed for animals. Children reportedly loved it. Most importantly, promoters stressed that the potato was no novelty, but rather a familiar food eaten regularly by other Europeans. Unlike wild rice or quinoa, potatoes had a long and successful European history, to which potato-promoters specifically alluded. The Scottish merchant Patrick Colquhoun ascribed the success of his London soup kitchen to the fact that it served only familiar foods, including, prominently, the potato. For this reason its users offered 'no complaints on account of [his] introducing a new article of food to which they have not

been accustomed'. As he explained, because the potato 'has been long known to many classes of labouring people', there were 'generally few prejudices ... to be combated'.[103] Advocates explained that even if the potato was not eaten in one locality, it was perfectly common elsewhere in Europe. In his many treatises on the potato aimed at French readers, Parmentier for instance carefully explained how it was grown and consumed as an ordinary foodstuff in Holland, Flanders, Lorraine, Alsace, Ireland and Lancashire. The potato's pre-Enlightenment history as an everyday food grown and eaten by labouring peoples thus laid the foundations for its celebration in the eighteenth century as a source of national strength and grandeur.

CONCLUSIONS

The changing status of the potato over the early modern era points to a transformation in the political significance of everyday eating habits. In the seventeenth century the potato's nourishing qualities had annoyed officials and political theorists such as William Petty, who complained that they made it possible for the Irish to get by on only two hours of work a day. 'What need they to work, who can content themselves with potatoes, whereof the labour of one man can feed forty?', he wrote testily.[104] By the eighteenth century this irritating fecundity had become an attraction for 'enlightened statesmen' eager to increase the wealth and power of their nation. The consensus that the well-being of the state depended in part on the health of individuals endowed the eating habits of the working population with political importance.

Writers were explicit about these associations between potatoes, population and political economy. In a treatise published with the support of the Spanish state, the Irish potato-enthusiast Henry (or Enrique) Doyle spelled out the relationship between potatoes and a flourishing economy:

> As a population grows and multiplies, so it becomes necessary not only to improve the soil and increase the area under cultivation, but also to take

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

> advantage of other roots, plants and vegetables suited to the quality of the land and suitable for ordinary people to eat to sustain themselves, in order to keep commerce in balance at moderate prices at all times. Writers agree that the potato supplies this necessary help both because it is abundant and cheap, and also because it is healthful.[105]

Throughout his oft-reprinted treatise, which by 1804 had swelled to over 250 pages, Doyle stressed that although the potato was eaten with pleasure by the wealthy, its utility lay fundamentally in its potential as a food for working people. He reiterated that it was highly nourishing, and that potato-eaters were 'healthy and robust'. Like many others, he cited the hearty Irish peasant as evidence for the potato's healthful, sustaining qualities. Moreover, because these peasants consumed potatoes, Ireland was able to export millions of pounds of wheat, to the benefit of landowners and the treasury.[106] A working population subsisting on potatoes therefore fuelled agricultural and commercial success, at least from the perspective of the state and large landowners.

The connections between potatoes and a strong state were also demonstrated by the potato's potential as a food for soldiers. Doyle drew attention to the potato's popularity among regimental troops in Madrid. Further adding to its appeal was its ability to promote lactation in nursing mothers, and to provide a suitable substitute for breast-milk. Spain's economic and political well-being, Doyle concluded, depended not only on the government but also on the 'zeal and vigilance of good patriots' who promoted potato consumption by the poor.[107] Doyle's treatise encapsulates the new connections between the robustness of individual members of the population and the overall health and stability of the state and its commerce. In contrast to seventeenth-century political theorists, Doyle and the other eighteenth-century panegyrists of the potato viewed its nourishing qualities as an immense advantage to the state.

*

These links, forged in the eighteenth century, between the daily eating practices of ordinary people and the well-being of the state emerged at

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press

a moment when the relationship between all sorts of discrete, disconnected actions and larger impersonal forces was attracting sustained attention. Might the random movements of small physical particles form themselves into meaningful sequences? Could the urgent wishes and desires of the individual be harmonised with the well-being of the larger polity? How should trade and commerce be arranged so as to bring the greatest benefits? Philosophers, mathematicians, botanists and many others were fascinated by such processes of 'self-organization' – the ways in which order emerged out of the seeming disorder of myriad uncoordinated events.[108] The next chapter traces the connections eighteenth-century political philosophers began to perceive between dietary and economic self-organisation. Might the same hidden hand that guided the market also direct the dietary preferences of individuals? By the century's end the conviction that individual eating practices affected the nation's wealth and strength had merged with new ideas about economic self-organisation through market liberalisation. From this merger arose a happy vision of successful dietary self-organisation, in which the very things that led to personal well-being simultaneously proved beneficial to society overall.

https://doi.org/10.1017/9781108688451.003 Published online by Cambridge University Press