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PROMOTING POTATOES IN EIGHTEENTH-CENTURY EUROPE

Rebecca Earle

In 1747 the Swedish Royal Academy of Sciences learned how to make potato brandy. Experiments undertaken by a certain Carl Skytte demonstrated that an acre of land set with potatoes yielded far more brandy than when sown with barley, and so offered a tantalizing method of reducing grain consumption without sacrificing the social and health benefits ascribed to brandy.¹ Skytte's findings were relayed enthusiastically across Europe, in accounts that lauded his achievements even if they could not master his unusual surname.² This was not the Swedish Academy's only encounter with potato-research; from its founding in 1739, the Academy had heard reports on potato cultivation, the fabrication of potato bread, the extraction of potato starch and a good deal more on distillation techniques, all of which revealed the potato to be a promising substitute for grain. Convinced of the potato's merits, King Adolf Frederick issued an edict in 1764 to encourage cultivation.³

This vignette of a royal society investigating the properties of potatoes, and a monarch benevolently encouraging his people to grow them, fits well with the standard story about how Europeans learned to eat potatoes.⁴ That story goes

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something like this: during the eighteenth century various enlightened savants, convinced of the nutritional benefits offered by the potato, began to encourage its cultivation as a food for the poor. In France, this process was spearheaded by Antoine-Augustin Parmentier, whose efforts are today commemorated in plaques along Paris's Boulevard Parmentier that describe him as introducing potatoes to France.⁵ In Russia, the potato promoter was Catherine the Great herself. In all cases, these visionaries had to struggle against the entrenched resistance of conservative peasants who came to love the potato only after they had been coaxed into eating it through clever propaganda campaigns. In France, potato cultivation was allegedly given a great boost when Louis XVI agreed to have potatoes planted 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 obtient du lieutenant de police que des gendarmes en feront la garde pendant le jour seulement. C'était dans l'intention d'en faire voler pendant la nuit; le peuple n'y fit faute. Chaque matin on venait dénoncer à Parmentier les attentats commis dans les ténèbres; il en était enchanté, il récompensait libéralement les révélateurs de ces désastres, tout stupéfaits d'une joie à laquelle ils ne comprenaient rien. L'opinion était vaincue, et la France s'enrichissait d'une ressource désormais impérissable.⁶

[Parmentier arranged for gendarmes to guard them—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.]

Similar stories were told about Frederick the Great of Prussia, and a host of lesser potato luminaries.⁷ The essential features of all these narratives are that ordinary people in the late eighteenth century hesitated to eat potatoes until they were convinced of their virtues by far-seeing elites. This approach continues to provide a framework for recounting Europe's reception of foods such as the potato. Most modern scholarship maintains that potatoes penetrated slowly into the European dietary, with the exception of Ireland, whose early embrace of the tuber is presented as an anomaly. A 2007 study for instance explained that New World foods were in general incorporated into European diets very slowly because of "the conservatism of the peasants whose job it was to plant the new crops." "Weaning the peasantry away from tried and true agricultural methods and tried and true foods was perhaps just a matter of time," the author concludes, "yet in many cases it was a matter of a very long time."⁸

This article offers an alternative framework for understanding the spread of potatoes across eighteenth-century Europe. Contrary to such stories of recalcitrant peasants and clear-sighted agronomists, potatoes had long been eaten by ordinary people in many parts of Europe. The Enlightenment's fascination with the potato reflects the advent not of a new foodstuff, but rather of new ideas about the relationship between the health and vigor of the population, and the wealth and power of the state. It was this, rather than its novelty or previous rejection, that lifted the potato from its quiet position in cottage gardens and ships' holds to

the tables and treatises of the Enlightenment. The small 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.

TIME OUT OF MIND

In 1768 the Cornish parish of St. Buryan was engulfed in a legal dispute over potatoes. The rector of the local chapel believed he was entitled to a larger agricultural tithe than he was receiving on the potatoes and other “garden stuff” grown by several of his tenants. The defendants argued that they should pay a reduced tithe because the potatoes were intended for their own use, rather than for sale. The case highlighted the murky status of plants grown on a small scale in vegetable gardens rather than open fields, a matter that was not well-explained in tithe schedules. The judge based his decision on the longstanding practice of permitting a fractional tithe for potatoes and other crops cultivated for domestic consumption, which the defendants argued had been customary “for time out of mind.”⁹ Rejecting the rector’s petition, the court approved the continued payment of a discounted tithe. In so doing, it endorsed the tenants’ assertion that they had been cultivating potatoes for their personal use for a considerable time.

Tithe disputes provide an alternative to the history of top-down potato promotion of the sort typified by stories of Parmentier and Frederick the Great. Such records document the diffusion of potatoes into cottage gardens in many parts of Europe through processes whose protagonists were agricultural laborers, not monarchs. Because the titheable status of a crop depended in part on whether it was intended for sale or personal use, and on how long the food had been cultivated in this way, disputes over potato tithes frequently delved into the history and chronology of potato cultivation in the parish. Sometimes laborers insisted that the potato was too recent an arrival to qualify for tithing; on other occasions they maintained that its alleged exemption from a tithe had been custom and practice for generations. In Britain, the earliest such disputes date from the late seventeenth century.¹⁰ Scholars such as Christian Vandebroek and Eloy Terrón have traced similar cases in France, the Netherlands, and Spain, where conflict over the potato’s titheable status began to occur in the early eighteenth century, becoming more frequent from the 1750s. These sources suggest that potatoes were being cultivated as garden crops in parts of Flanders, Alsace, Galicia, northern England, and elsewhere (including Ireland) long before they attracted the attention of improving agronomists or Academies of Science.¹¹

To be sure, the historical narratives that such cases elicited occurred in a context of legal dispute, in which the date of the tuber’s introduction had direct monetary consequences.¹² Nonetheless, the picture of significant, localized cultivation is confirmed by a range of other sources. For instance, customs records show that as early as the 1570s potatoes were grown on a commercial scale in the Canary Islands, from where they were shipped to France and the Netherlands. In Sweden, potatoes were being imported into the southern province of Småland through the port of Karlshamn a century before they were endorsed by the Swedish monarch. By the late seventeenth century there were specialized potato markets in Lancashire and other northern counties of England, as well as in parts of Scotland and Ireland. Moreover, trade legislation detailed the duties owed on this commodity.¹³

Likewise, French, Italian, and English agricultural manuals had since the seventeenth century described how to cultivate potatoes. Olivier de Serres's 1603 *Le theatre d'agriculture et mesnage des champs* [*Theatre of Agriculture and Field Management*], like John Parkinson's 1629 *Paradisi in Sole Paradisus Terrestris*, described potatoes not as botanical curiosities, but as horticultural plants. Parkinson reported that potatoes were "well knowne unto us" and explained how to cultivate and also eat them.¹⁴ He recommended roasting them in hot embers, or baking with wine and a little sugar. John Evelyn's 1666 *Kalendarium Hortense* reminded gardeners that in February they should "sow *Beans, Pease, Radish, Parsneps, Carrots, Onions, Garlick, &c.* and plant *Potatoes* in your worst ground.¹⁵ By the 1720s the potato was grown "in a great measure" in England, "as is well known," in the words of another such handbook.¹⁶ The claim of the defendants in *St. Buryan* that they had long cultivated potatoes was likely true.¹⁷

As Parkinson's manual indicates, sixteenth and seventeenth-century European accounts also detail the ways in which this root was eaten. Early European botanical accounts by Carolus Clusius and Gaspar Bauhin noted the alacrity with which this new food was incorporated into diets in parts of Germany and Italy, where it was consumed in salads, baked in cinders, or stewed like carrots.¹⁸ Cookbooks both printed and manuscript provide further evidence of the potato's penetration into European dietaries. While sixteenth- and seventeenth-century collections sometimes employ opaque nomenclature such as "earth apples or earth artichokes or roots," which do not refer unambiguously to *Solanum tuberosum*, most nonetheless make clear that whether they allude to Jerusalem artichokes, potatoes, or sweet potatoes, New World roots and tubers made substantial inroads into European dietaries in a number of regions. As one 1651 cookbook from Braunschweig noted, "Die Erd Artischoken oder Knollen, weil sie nun so gemein worden, daß sie fast ein jeder Baur im Garten hat, und wol zu kochen weiß, so achte ich unnötig, hievon zu schreiben" [Since earth artichokes or roots have now become so common that practically every farmer grows them in his garden, and knows perfectly well how to cook them, I do not believe it is necessary to write about this].¹⁹ By the early eighteenth century recipes often distinguished explicitly between these different New World tubers in ways that make clear that the ordinary potato was, in the words of another German cookbook, "zimlich gemein bei uns" [quite common].²⁰ As the century progressed potato recipes could be found in ever-more published and manuscript recipe collections from many different parts of Europe.²¹

Consider for instance a cookbook published in Barcelona in 1758, a few years before Sweden's Adolf Frederick issued his pro-potato edict. This was a second edition of the *Nuevo arte de cocina, sacado de la escuela de la esperiencia económica* [*New Art of Cooking, Taken from the School of Economical Experience*]. It was written under a pseudonym by a Franciscan friar at the Convent of San Diego in Zaragoza. As its title suggests, it focused on inexpensive dishes, and it was composed in a jocular tone. It described how to prepare stuffed eggplant and buttered toast, and included an entire chapter on how to make both "vizcochos exquisitos, y no exquisitos" [exquisite puddings and ones that are not exquisite]. The book also included entries on how to cook Swiss chard, hard cooked eggs, and potatoes. The friar advised stewing the latter in broth, and then dressing them with garlic, oil, and some reserved broth. He made a point of noting the potato's

alleged propensity to generate intestinal gas, and the farting that it was likely to induce. The resultant gusts of wind, he warned, would be sufficient to propel an entire sailing vessel on a pilgrimage to Rome.²²

The friar's Rabelaisian attitude towards potatoes was not shared by the Spanish Royal Academy, founded in 1713 by Philip V to "fijar las voces y vocablos de la lengua castellana en su mayor propiedad, elegancia y pureza" [to fix the words and vocabularies of the Castilian language with the greatest propriety, elegance, and purity]. In 1726 the Academy began producing a dictionary, which reached the letter "P" in 1737. "Papas" [Potatoes] were defined as "ciertas raíces que se crían debaxo de la tierra, sin hojas y sin tallo, pardas por de fuera y blancas por de dentro" [certain roots that grow underground, without leaves or stalk, dark on the outside and white on the inside]. The entry concluded that "es comida insipida" [it is a bland food].²³ In the same years ecclesiastical courts in various parts of the Iberian Peninsula were hearing disputes over the tithes due on potatoes, as they were in England, Belgium, and the Netherlands. By the 1770s public markets in Madrid and Andalucía were doing a thriving business in potatoes, while Galician ports were exporting the tuber to Ireland.²⁴ Often known as the "patata de La Mancha" [potato from La Mancha], where they were produced in quantity, potatoes were a familiar foodstuff in a number of Spanish provinces.²⁵

For this reason, the edict issued by the Spanish monarch Charles III in 1784 to encourage potato cultivation cannot have been motivated by the tuber's recent entry into the Spanish dietary, or by Spaniards' blanket refusal to eat it.²⁶ Similar encouragement was issued by states, economic societies, and individuals from Hungary to Norway and Iceland to Italy in the second half of the century.²⁷ In the 1790s, for instance, the British state embarked on a vigorous campaign of potato promotion. As in Spain, this was not prompted by a previous failure to consume the tuber, since, as we have seen, potatoes had long been cultivated, traded, and eaten in many parts of the British Isles.²⁸ Instead, official encouragement reflected the wider interest in potatoes; it did not initiate this interest. Neither is it likely that European-wide promotion of the potato was in each case simply an ad-hoc response to specific moments of shortage, important though these may have been in focusing attention on the supply of food. Rather, this enthusiasm reflected a different set of concerns. To understand their nature it is helpful to consider the potato's status in another category of texts: those associated with the new discipline of political economy.

THE VIGOROUS ORGANS OF THE PEASANT

In 1756 the *Encyclopédie* published an entry on "Farmers" by the physician and *économiste* François Quesnay. Quesnay had for some years advocated a liberalization of the grain trade and other reforms consonant with the emphasis on commercial agriculture that underpinned his model of political economy.²⁹ He used the entry to set forth the key features of his physiocratic doctrine, and to lambast the economic structures that he believed prevented France from developing what we today would call food security.³⁰ In his opinion, the existing system of controls on the grain trade was particularly unjust as it condemned to poverty the very men who were ultimately responsible for the wealth of the state: farmers. Its effect, Quesnay complained, was to depress the price of grain, which prevented

farmers from receiving an adequate return on their efforts, and so resulted in farmers shunning the production of wheat altogether. Unable to make a profit through bread grains, the farmer limited himself to growing less demanding crops such as barley, potatoes and maize, which offered a quicker return and were subject to fewer controls. These foods formed the basis of the household diet for laborers, which constituted a further injustice, since in Quesnay's view they offered scant nourishment. These foodstuffs, he complained:

à peine s'outiennent la vie en ruinant le corps, font périr une partie des hommes dès l'enfance; ceux qui résistent à une telle nourriture, qui conservent de la santé & des forces, & qui ont de l'intelligence, se délivrent de cet état malheureux en se réfugiant dans les villes: les plus débiles & les plus ineptes restent dans les campagnes, où ils sont aussi inutiles à l'état qu'à charge à eux - mêmes.

[scarcely keep men alive while they ruin them physically, and they cause many to die in childhood. Those who manage to bear up under such a diet, who preserve their health and their strength, escape from a miserable state, if they have any sense, by taking refuge in the cities. The weakest and most incapable among them remain in the countryside where they are as useless to the state as they are a burden to themselves.³¹]

For Quesnay, writing in the middle of the eighteenth century, potatoes were a familiar and miserable food, barely capable of sustaining human life.

The potato's status in the *Encyclopédie*, however, underwent substantial transformation over subsequent years. In 1765 the entry on "Potatoes" appeared. A decade after Quesnay had condemned the potato as a ruinous foodstuff in his entry on farmers, the new entry by the chemist and physician Gabriel François Venel stated that the potato provided abundant, healthy nutrition, making it highly suitable for working people. Venel, like the author of the Spanish *New Art of Cooking*, admitted that it tended to generate intestinal gas, but what, he exclaimed, was a little wind to the "organes vigoureux des paysans & des manoeuvres?" [vigorous organs of the peasant or the worker].³² In ten years the *Encyclopédie* had shifted from describing the potato as scarcely a food at all, to identifying it as a hearty, nourishing substance whose only defects were its boring taste and windy qualities.

By the 1790s, the potato was being presented as a "true miracle of nature," practically capable of sustaining life by itself.³³ It therefore contributed to overall economic policy. For instance, the *Feuille de Cultivateur*, a state-supported journal of "practical agriculture," explained clearly how greater cultivation of potatoes would render manufacturing and commerce more remunerative. Eating potatoes, rather than wheat bread, would free people from hunger and the uncertainties caused by variations in the price of grain, and would moreover allow more flour to be exported. Because potatoes were easier to cultivate than wheat, they could also be grown by women, boys, and the elderly, thereby freeing younger men to work in manufacturing. This, in turn, would lower the cost of living, which would lower wages, which would lead to even greater profit for industry.³⁴ The potato was thus touted as a crucial component of state policy. French statesmen and scientists actively promoted the potato as a cheap and nourishing food. Scientific institutions investigated new methods of cultivation, and local elites wrote happily

of their experiments with potato bread and other potato concoctions. Individuals such as Antoine-Alexis Cadet de Vaux, Antoine Laurent Lavoisier, and many others, including Parmentier, wrote extensively on the merits of the potato. In 1794 the *Convention Nationale* ordered that its cultivation be encouraged throughout France, a decree reiterated by subsequent administrative bodies.³⁵

Clearly, what had changed between 1756 and 1794 was not the potato's presence as a foodstuff known to French people. Quesnay was perfectly familiar with the potato; he regarded it as disagreeable. Later writers rhapsodized about the potato not because it was novel, but because the eating habits of ordinary people had acquired a new level of political and economic importance. The next section explores this change, which reflected a significant transformation in the ways *philosophes* and statesmen conceptualized the nature of governance. It was this that rendered the potato politically visible.

THE BENEFITS OF CITIZENS BEING USEFULLY OCCUPIED

Enlightened discussion of food was inseparable from the on-going debate over the concept of "population." 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. Adam Smith expressed well the close connection between the two when he asserted that "the most decisive mark of the prosperity of any country is the increase of the number of its inhabitants."³⁶ Interlocutors considered whether a large population was the fundamental motor driving mercantile and commercial success, whether a growing population in itself demonstrated good governance, 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.³⁷ As Michel Foucault argued some decades ago, these population debates signaled a new approach to the exercise of power.³⁸ This new approach focused on the biological features of the individual body, and aimed to manage "the population" for the economic and military benefit of the state. To do this the state needed to understand, and regulate, the large forces that themselves shaped the population. The population's strength, size, and productivity were therefore central to new models of governance that viewed the inhabitants of a territory as a resource to be analyzed, developed, and utilized. Population was in this sense a collectivity amenable to statistical analysis and manipulation. At the same time, this resource was made up of individuals whose actions affected the collective body politic. The health of individuals thus became linked to economic and political security. The collective prosperity of the political whole was dependent, in part, on the energy and vitality of individuals. "The true foundations of riches and power," affirmed one writer, "is the number of working poor." For this reason, he concluded, "every rational proposal for the augmentation of them merits our regard. The number of the people is confessedly the national stock: the estate, which has no body to work it, is so far good for nothing; and the same rule extends to a whole country or nation."³⁹

Although some philosophers and economists insisted that a large population was not necessarily preferable to a smaller one, all agreed that a healthy

population was infinitely preferable to an ailing one. Only with a healthy and economically-active population would a state be able to prosper. This in turn required an ample supply of nourishing food. Once its population was “régénérée par une bonne nourriture” [regenerated by good food], France would become the most powerful nation in Europe, promised a lawyer and agronomist from Dijon.⁴⁰ Because existing foods were not sufficient to sustain “una popolazione così numerosa” [such a large population], noted an Italian potato-promoter, it was necessary to find other crops to remedy this shortfall and thereby bring success and wealth to the region.⁴¹ Abundant, healthy food was thus central to governance.

It is this reconceptualization of the relationship between food and the wealth and power of nations that explains why states from Spain to Sweden began encouraging the cultivation of potatoes, and why eighteenth-century *philosophes* and scientists so assiduously investigated their many qualities. Potatoes were not the only foodstuff studied in this way; crops ranging from quinoa to wild rice attracted attention as possible substitutes for wheat and other more familiar grains. Potatoes however were the subject of the most sustained promotion, both because they adapted well to a wide variety of agricultural conditions, and because they were already present in the European diet in many regions.⁴² Indeed, it is precisely these associations between potatoes and population growth that likely explains François Quesnay’s tepid attitude towards the tuber. Physiocratic doctrine questioned the claim that a larger population was beneficial to the state, and was critical of any development that distracted attention from what it regarded as the true source of wealth, namely commercial wheat farming.⁴³ For physiocrats, the potato’s ability to magic population out of the soil was ambivalent at best. As the writer Louis-Sébastien Mercier, no friend of physiocracy, observed sardonically, “il ne faut qu’une pomme de terre pour ruiner de fond en comble [leur] système” [a single potato is all that is required to dismantle [their] system]. For this reason, he noted, “les économistes ne les aiment pas” [physiocrats don’t like them].⁴⁴

Bourbon Spain provides a clear example of the close associations between potatoes, healthy populations, and new models of governance. A substantial body of scholarship has demonstrated that Spanish officials, scientists, and philosophers closely followed and engaged with pan-European debates about political economy and the role of agriculture in fomenting commerce and industry.⁴⁵ The Bourbon state also shared the widespread conviction that healthy and economically-active subjects were essential for the success of the state. “No hay político” [there is not a single politician], asserted one writer, “que no convenga en el sólido principio de que el mayor número de hombres que sean morigerados y laboriosos, hace las delicias, la fuerza, y la riqueza de qualquiera estado” [who does not accept the clear fact that the greatest possible number of law-abiding and hard-working men constitutes the happiness, strength, and wealth of any state]. To demonstrate this was easy, he affirmed, since even the dimmest mind could appreciate that agriculture, commerce, and the arts, the basis of all wealth, increased in proportion to the size of the productive population. A vigorous population also allowed a state to resist foreign invasion, he noted, concluding “creo, que no se puede negar esta notoria verdad” [I do not believe it is possible to deny this self-evident truth].⁴⁶

Spanish promotion of the potato referred directly to the close connections between food and the wealth and power of the state. The tuber was the object of

considerable propaganda in Spain during the final decades of the eighteenth century. Both the government of Charles III and the many economic societies established across the peninsula encouraged its cultivation and consumption, using a variety of methods. At the behest of several important ministers, the king approved the publication of a detailed treatise on the potato, penned by an ex-patriot Irishman, Henry Doyle, which was into its fourth edition by 1804. Economic societies in Madrid, Valencia, and elsewhere offered prizes for the cultivation of the largest potato crop and engaged in other promotional activities. The Basque Economic Society for instance 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.⁴⁷ Newspapers reprinted extracts from these same texts, agronomists offered seed potatoes gratis to the public, and priests and land-owners wrote to the state-sponsored agricultural journal, the *Semanario de Agricultura y Artes Dirigido a los Párracos* [*Parish Priests' Agriculture and Arts Weekly*], reporting enthusiastically on their own success in introducing their parishioners and tenants to potato bread.⁴⁸ The potato alone, insisted one priest in the first of many potato-themed letters he sent to the *Semanario*, vindicated all the labors of Spain's under-appreciated conquistadors.⁴⁹

The potato's promoters were quite clear about the reasons for their interest: potatoes ensured a healthy population and so were of vital importance to the state. Doyle for instance was explicit about the associations between potatoes, population, and political economy. As he explained in his state-sponsored treatise on the "uses and usefulness of the potato":

Conforme crece y multiplica la población de qualquier país que sea, así exige la necesidad y buena orden, no sólo el mejorar las tierras y ampliar las labranzas, sino también valerse de otras raíces, plantas y vegetales propias a la calidad de la tierra y acomodadas al uso común de la gente para poderles proporcionar el preciso abasto, a fin de mantener el equilibrio de las ventas y valores del consumo a precios moderados en todo tiempo. No sólo confirman estos autores el oportuno socorro de la patata por su abundanza y baratez, sino también su salubridad en sus varios usos.⁵⁰

[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 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.]

Spain's well-being, he concluded, depended not only on the government, but also on the "zelo y vigilancia de buenos patriotas" [zeal and vigilance of good patriots], who should promote potato consumption by the poor. All this, he made clear, would rebound to the benefit of the overall economy. After all, he insisted, "comestibles caros y labores baratas son incompatibles" [expensive food and cheap labor are incompatible].⁵¹

Throughout his treatise 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 “sanos y robustos” [healthy and robust]. Like many other writers, 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.⁵² A working population subsisting on potatoes therefore fuelled agricultural and commercial success. The connections between cheap food and a strong state were also demonstrated by the potato’s oft-praised potential as a food for soldiers. Doyle recommended its use in the munition bread commonly served to recruits, and later editions of his treatise emphasized the potato’s popularity among the regimental soldiers in Madrid.⁵³

Further adding to the potato’s appeal was its ability to promote lactation in nursing mothers, and to provide a suitable substitute for breast-milk, both qualities which Doyle addressed in his treatise.⁵⁴ Infant feeding and its links to infant mortality were topics of keen interest in many parts of Europe, precisely because a strong and productive population depended on its ability to reproduce itself. 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 Wealth* reads the title of one such work. 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: “¡quántos individuos de que ahora carecemos, tendríamos para todos los trabajos públicos! ¡Quántos labradores! ¡Quántos honrados granaderos!” [how many individuals—which we now lack—would we have for public works! How many laborers! How many honest grenadiers!]. Not surprisingly, he endorsed potatoes as a highly suitable food for orphans.⁵⁵

The active promotion of the potato in late eighteenth-century Spain demonstrates well how the health of individual members of the population became linked to the overall health and stability of the state and its economy. Such enthusiasm was not a response to the potato’s previous rejection by ordinary Spaniards, or to its recent arrival in the country. Rather, late eighteenth-century interest in the potato reflects these new models of statecraft, and the increasing focus on building the energetic populations that would allow the state to reap “el beneficio de tener ocupados útilmente unos ciudadanos” [the benefits of citizens being usefully occupied].⁵⁶ To do this required wholesome and nourishing food.

CONCLUSIONS

Late eighteenth-century debates about the potato are best viewed in the context of these new concepts about population, health and governance, which understood state power as a consequence of a strong, hearty, and active population, managed by a well-organized state apparatus. As the president of the Horticultural Society of London noted in 1812, in one of the many articles he penned on potatoes, the discovery of a new source of food was “just so much added to individual, and national wealth.”⁵⁷ This framework stressed the connections between efficient agricultural production and commercial prowess, the supply of nourishing food,

and national strength and security. This was why author after author insisted that potato eaters were “di costituzione robustissima” [extremely robust] and made healthy workers and soldiers.⁵⁸ The hitherto unaccustomed emphasis on the need for efficient sources of nutrition fuelled the quest for grain substitutes such as the potato. It is in this context that we should understand the obsessive eighteenth-century search for a satisfactory recipe for potato bread, the insistent promotion of potatoes as a nourishing staple, and the Swedish Royal Academy’s investigations of potato starch and brandy.

If we wish to understand eighteenth-century ideas about governance and statecraft, we need to pay attention not only to debates about urban planning, military reform, vaccinations, or the gathering of statistics. We also need to consider how the meaning of everyday activities such as eating were re-conceptualized within this new framework of governance. Integrating the slower history of the potato’s conquest of European dietaries with its frenetic promotion in the late eighteenth century illuminates the central role that ordinary eating practices came to play in Enlightened models of statecraft. Certainly this offers a better way to make sense of the eighteenth-century interest in the potato than the oft-repeated stories of conservative peasants and far-sighted aristocrats. Peasant expertise in truth informed gentlemanly investigation, as potato-promoters themselves at times acknowledged.⁵⁹ The reason that agronomists, *philosophes*, and statesmen became interested in potatoes was not that no one had been eating them hitherto. They became interested in potatoes because they themselves had become interested in how to create a strong and healthy population. It was this that made the modest potato visible to them.

NOTES

1. Carl Skytte, “Ron at utaf potatoes bränna brännavin,” *Konglig Svenska Vetenskaps Academiens Handlingar* 8 (Stockholm, 1747), 231–32.

2. *The Gentleman’s Magazine and Historical Chronicle* 19 (London, 1749), 123; *Der Königl. Schwedischen Akademie der Wissenschaften Abhandlungen aus der Naturlehre, Haushaltungskunst und Mechanik* 9 (Hamburg, 1753), 252–53; 1 March 1773, *L’Avantcoureur* (Paris, 1773), 134; Antoine-Augustin Parmentier, *Les pommes de terre, considérées relativement à la santé & à L’économie* (Paris, 1781), 32, 176–80; *Encyclopédie méthodique: Arts et métiers mécaniques* (Paris, 1783), 2:196; James Anderson, “Of Ardent Spirits Afforded by Potatoes,” *Letters and Papers on Agriculture, Planting &c Selected from the Correspondence-Book of the Society Instituted at Bath* 4 (Bath, 1788), 43–52; *Report of the Committee of the Board of Agriculture Appointed to Extract Information from the County Reports and other Authorities Concerning the Culture and Use of Potatoes* (London, 1795), 177; Gabriel Alonso de Herrera, *Agricultura general . . . corregida según el texto original . . . y adicionada por la Real Sociedad Económica Matritense* (Madrid, 1819), 3:253; and Lisbet Koerner, *Linnaeus: Nature and Nation* (Cambridge, MA: Harvard Univ. Press, 1999), 132, 149.

3. *The Gentleman’s Magazine and Historical Chronicle* 34 (London, 1764), 599; Sten Lindroth, *Kungliga Svenska vetenskapsakademiens historia 1739–1818*, part I, vol. I (Stockholm: Kungliga Svenska vetenskapsakademien, 1967), 261–62; and Koerner, *Linnaeus*, 120, 132, 149.

4. By this I mean *Solanum tuberosum*, the “ordinary,” “white,” or “Irish” potato, not the botanically-distinct sweet potato, or *Ipomoea batatas*, although, as this article indicates, the histories of these two New World plants are intertwined.

5. He is also immortalized in the culinary term “Parmentier,” denoting a dish garnished with potatoes: Auguste Escoffier, *Le guide culinaire* (Paris: L’Art Culinaire, 1903), 36, 202, 237, 244, 370, 499, 627–28.

6. Julien-Joseph Virey, "De la vie et des ouvrages d'Antoine-Augustin Parmentier," *Bulletin de Pharmacie et des Sciences Accessoires* 2 (1814), 60–61.
7. "Es innegable que D. Enrique Doyle promovió en España el cultivo de las patatas y que su tratado, manifestando los usos y utilidades de estas raíces, llamó la atención de nuestros labradores hacia este ramo de agricultura, que siempre se habían mirado con indiferencia, y aun con desprecio" [It is undeniable that Don Enrique Doyle promoted the cultivation of potatoes in Spain, and that his treatise on their uses highlighted their utility to our laborers, who had always viewed them with indifference, and even disdain"], reported the preface to a promotional Spanish text: Enrique Doyle, *Tratado sobre el cultivo, uso y utilidades de las patatas o papas, corregido y considerablemente aumentado* (Madrid, 1804), unpaginated "advertencia." Or see Jean Antoine Nicolas de Condorcet, *Vie de Monsieur Turgot* (London, 1786), 29; Letter from Robert Kyd, 1791, in *The Indian and Pacific Correspondence of Sir Joseph Banks, 1768–1820*, ed. Neil Chambers, 5 vols. (London: Pickering & Chatto, 2008), 3:388; and *Dictionnaire encyclopédique des sciences médicales* (Paris, 1877), vol. FAA-FET: 229. "The lower classes, to whom this vegetable is now the greatest blessing that the soil produces, . . . were the last to become acquainted with this valuable root. So difficult is it to overcome prejudices in ignorant minds!," complained Henry Phillips in his *History of Cultivated Vegetables* (London, 1822), 2:86–87.
8. Kenneth Kiple, *A Moveable Feast: Ten Millennia of Food Globalization* (Cambridge: Cambridge Univ. Press, 2007), 136–37. See also Redcliffe Salaman, *History and Social Influence of the Potato*, ed. J.G. Hawkes (Cambridge: Cambridge Univ. Press, 2000 [1949]); B.H. Slicher Van Bath, *The Agrarian History of Western Europe. A.D. 500–1850*, trans. Olive Ordish (London: Arnold, 1966), 267–68; William Langer, "American Foods and Europe's Population Growth 1750–1850," *Journal of Social History* 8, no. 2 (1975), 53; Maguelonne Toussaint-Samat, *A History of Food*, trans. Anthea Bell (Oxford: Blackwell, 1994), 711–26; and William McNeil, "How the Potato Changed the World's History," *Social Research* 66, no. 1 (1999), 71. Emma Spary, *Feeding France: New Sciences of Food, 1760–1815* (Cambridge: Cambridge Univ. Press, 2014), 62, 86, reviews such literature.
9. F.K. Eagle and Edward Younge, eds., *Collection of the Reports of Cases, the Statutes, and Ecclesiastical Laws Relating to Tithes*, 4 vols. (London, 1826), 2:228; and Eric Evans, *The Contentious Tithe. The Tithe Problem and English Agriculture, 1750–1850* (London: Routledge & Kegan Paul, 1976).
10. Rev Charles Layfield v. Thomas Ayscough et al, Croston, 1686, Lancashire Record Office, Preston, PR 718; Hugh Poole rector v. Tim Hodgson, Bebington, 1701, Chester Consistory Court Papers EDC 5 Series, 1697–1702, Cheshire Record Office, Chester; Elizabeth Save v. Henry Thwaites, Kirkby Malzeard, 1736, National Archives, Kew [henceforth TNA] E134/10Geo2/Hil3; Eagle and Younge, eds., *Collection of the Reports of Cases*, 2:91, 141, 149, 189, 258, 310, 313, 380–98, 552, 588–89, 648, 690–91; Salaman, *History and Social Influence of the Potato*, 452; Evans, *The Contentious Tithe*, 7, 47, 53; Joan Thirsk, *The Agrarian History of England and Wales, 1640–1750* (Cambridge: Cambridge Univ. Press, 2011), 1:64; and David Zylberberg, "Fuel Prices, Regional Diets and Cooking Habits in the English Industrial Revolution (1750–1830)," *Past and Present* 229 (2015), 112.
11. "In the Eighteenth-Century Press," *Archivium Hibernicum* 19 (1956); Christian Vandenbroeke, "Cultivation and Consumption of the Potato in the 17th and 18th Century," *Acta Historiae Neerlandica* 5 (1971); Michel Morineau, "The Potato in the Eighteenth Century," *Food and Drink in History*, ed. Robert Forster and Orest Ranum, trans. Elborg Forster and Patricia Ranum (Baltimore: Johns Hopkins Univ. Press, 1979); Eloy Terrón, *España, encrucijada de culturas alimentarias: su papel en la difusión de los cultivos americanos* (Madrid: Ministerio de Agricultura, Pesca y Alimentación, Secretaría General Técnica, 1992), 143–44; Santiago Ibáñez Rodríguez, "El diezmo en la Rioja (XVI–XVIII)," *Brocar* 18 (1994), 192; L.A. Clarkson and E. Margaret Crawford, *Feast and Famine: Food and Nutrition in Ireland 1500–1920* (Oxford: Oxford Univ. Press, 2001), 62; and J. David Palanca Cañon, "Introducción y Generalización del Cultivo y Consumo Alimentario y Médico de la Patata en el País Vasco," unpublished D.Phil. dissertation, Univ. del País Vasco, 2011, 71, 75, 77, 240–50, 263, 266.
12. Contrast the descriptions in *Collection of the Reports of Cases*, ed. Eagle and Younge, 2:589 with John Aikin, *A Description of the Country from Thirty to Forty Miles Round Manchester* (London, 1795), 45–46, 204, 237–38, 285, 306, 362.
13. Thomas Griffith v. William Allerton, 1698–9, TNA, C 6/414/31; *Act of Tonnage and Poundage, and Rates of Merchandize* (Edinburgh, 1705); Salaman, *History and Social Influence of the Potato*, 224–25, 451; J.G. Hawkes and J. Francisco-Ortega, "The Potato in Spain during the Late Sixteenth Century," *Economic Botany* 46, no. 1 (1992); J.G. Hawkes and J. Francisco-Ortega, "The Early His-

tory of the Potato in Europe,” *Euphytica* 70 (1993); Thirsk, *The Agrarian History of England and Wales, 1640–1750*, 1:64; Clarkson and Crawford, *Feast and Famine*; and Lili-Annè Aldman, personal communication, 2015, citing material from the Landsarkiv in Vadstena (Sweden): Drevs församling: LIb:1 (1635–1650), 19–149, 207–65, and Långasjö församlin: LLa: 1 (1651–1667).

14. Olivier de Serres, *Le theatre d'agriculture et mesnage des champs* (Paris, 1603), 513–14; John Parkinson, *Paradisi in Sole Paradisus Terrestris* (London, 1629), 516 (quotation); and Vitale Magazzini, *Coltivazione toscana* (Florence, 1669), 16.

15. John Evelyn, *Kalendarium hortense* (London, 1666), 19 (quotation); *The Compleat Planter and Cyderist* (London, 1690), 245–47; Gervase Markham, *The Husbandman's Jewel* (London, 1695), 7; William Turner, *An Almanack for the Year of our Lord God 1701* (London, 1701), 17; and George Parker, *The Gardeners Almanack* (London, 1702), 33.

16. Stephen Switzer, *The Practical Kitchen Gardiner* (London, 1727), 217–19 (quotation), 378.

17. For potatoes in the Cornish diet see David Henry, *The Complete English Farmer, or, A Practical System of Husbandry* (London, 1771), 276; and Arthur Young, *Annals of Agriculture and Other Useful Arts* 24 (London, 1795).

18. John Gerard, *Herball, or General History of Plantes* (London, 1597), 782; Carolus Clusius, *Rariorum Plantarum Historia* (Antwerp, 1601), 80; Gaspar Bauhin, *Prodromos theatri botanici* (Frankfurt, 1620), 89; Giovanni Dominici Sala, *De alimentis et eorum recta administratione liber* (Padua, 1628), 12, 54, 65, 77; and Theodor Zwinger, *Theatrum Botanicum* (Basel, 1696), 893.

19. Marx Rumpolts, *Ein new Kochbuch* (Frankfurt am Main, 1581), 16b, 143b; *Good Huswife's Jewell* (London, 1596), 20v; Lancelot de Casteau, *Ouverture de cuisine* (Liège 1604), 95; John Murrell, *A New Book of Cookerie* (London, 1617), 4, 80–81; Johann Royer, *Eine gute Anleitung wie man . . . Garten-Gewächse . . . nützen solle* (Braunschweig, 1651), 104–5 (quotation); Joseph Cooper, *The Art of Cookery Refin'd and Augmented* (London, 1654), 123; Hannah Woolley, *The Queen-like Closet or Rich Cabinet* (London, 1672), 249; Elizabeth Jacob and others, *Physical and chyrurgicall receipts, 1654–c.1685*, Ms 3009, fol. 107, Wellcome Library, London [henceforth WL]; Edward and Katherine Kidder, *Collection of cookery and medical receipts, Ms 3107*, fol. 21, WL; and Manuscript recipe book, c.1700, fol. 4, Sophie D. Coe manuscript cookbook collection, MC 844, box 1, folder 1, Schlesinger Library, Harvard Univ. [henceforth SL].

20. For such distinctions see for instance Johann Sigismund Elsholtz, *Diaeteticon* (Cölln an der Spree, 1682), 31–32 (quotation); or Charles Carter, *The Complete Practical Cook* (London, 1730), 109–10, 124–25.

21. For other examples see *Frauenzimmer-lexikon* (Leipzig, 1715), cols. 1979–81; Henry Howard, *England's Newest Way in All Sorts of Cookery* (London, 1708), 14; T. Hall, *The Queen's Royal Cookery* (London, 1709), 98, 100–01; William Salmon, *The Family-Dictionary, or, Household Companion* (London, 1710), 390, 408; *Collection of cookery and medical receipts, c.1685–c.1725*, Ms 1796, fols. 36–37, WL; *Recipe book of the Godfrey-Faussett family of Heppington, Kent, Ms 7998*, fols. 19, 79, WL; E. Smith, *The Compleat Housewife* (London, 1739), 9, 132–33, 139; *Collection of Receipts in Cookery, Physick and Surgery* (London, 1746), 131–32; English manuscript cookbook, American Institute of Wine & Food Recipe books, c.1690–c.1830, MC 675, box 1, SL; Pierre-Joseph Buc'hoz, *Manuel alimentaire des plantes* (Paris, 1771), 485–86; Lucas Rigaud, *Cozinheiro moderno ou nova arte de cozinha* (Lisbon, 1785), 396, 403; and Sara Pennell, “Recipes and Reception: Tracking New World Foodstuffs in Early Modern British Culinary Texts, c. 1650–1750,” *Food and History* 7, no. 1 (2010).

22. Juan Altimiras, *Nuevo arte de cocina, sacado de la escuela de la esperiencia económica* (Barcelona, 1758), 140–41. The recipes for exquisite puddings appear in the 1770 Gerona edition, 154–62.

23. *Diccionario de la lengua castellana* 5 (Madrid, 1737), 111, 161–62.

24. Guillermo Bowles, *Introducción a la historia natural y de la geografía física de España* (Madrid, 1775), 231; Joseph Quer y Martínez and Casimiro Gómez de Ortega, *Continuación de la Flora española* (Madrid, 1784), 6:319–20; Enrique Doyle, *Tratado sobre el cultivo, uso y utilidades de las patatas ó papas, é instrucción para su mejor propagación* (Madrid, 1797), 17–18, 21, 34, 82; Jose Lucas Labrada, *Descripción económica del Reyno de Galicia* (Ferrol, 1804), 224; José Canga Argüelles, *Diccionario de hacienda para el uso de los encargados de la suprema dirección de ella* ([London], [1826]), 1:111;

and Juan Piqueras Haba, “La difusión de la patata en España (1750–1850): El papel de las Sociedades Económicas y del clero rural,” *Ería: revista cuatrimestral de geografía* 27 (1992).

25. This designation distinguished the potato (*Solanum tuberosum*) from the sweet potato (*Ipomoea batatas*), which in Spanish was sometimes referred to as the “batata de Málaga,” or potato from Malaga.

26. On the royal order see Enrique Doyle, *Instrucción formada de orden del Consejo por D. Enrique Doyle, para el cultivo y uso de las patatas* (Madrid, 1785); and Doyle, *Tratado sobre el cultivo, uso y utilidades de las patatas*, 9–11.

27. For potato-promotion elsewhere in Europe, see for instance *Verhandlungen und Schriften der hamburgischen Gesellschaft zur Beförderung der Künste und nützlichen Gewerbe* 1 (Hamburg, 1790), 72; Ilmar Talve, “The Potato in Finnish Food Economy,” *Food in Perspective: Proceedings of the Third International Conference on Ethnological Food Research*, ed. Alexander Fenton and Trefor Owen (Edinburgh: J. Donald, 1981); Eszter Kisbán, “The Beginnings of Potato Cultivation in Transylvania and Hungary: Government Policy and Spontaneous Process,” *The Origins and Development of Food Policies in Europe*, ed. John Burnett and Derek Oddy (London: Leicester Univ. Press, 1994), 180–81; Colum Leckey, *Patrons of Enlightenment: The Free Economic Society in Eighteenth-Century Russia* (Newark: Univ. of Delaware Press, 2011); Regula Wyss and Martin Stuber, “Paternalism and Agricultural Reform: the Economic Society of Bern in the Eighteenth Century” and Juliane Engelhardt, “Patriotic Societies and Royal Imperial Reforms in Denmark, 1761–1814,” both in *The Rise of Economic Societies in the Eighteenth Century*, ed. Koen Stapelbroek and Jani Marjanen (Basingstoke: Palgrave Macmillan, 2012), 169, 224; David Gentilcore, *Italy and the Potato: A History, 1550–2000* (London: Bloomsbury, 2012); Spary, *Feeding France*; and Jóhanna Þ. Guðmundsdóttir, “Viðreisn garðræktar á síðari hluta 18. aldar: viðbrögð og viðhorf almennings á Íslandi,” *Saga* 52, no. 1 (2014).

28. *Hints Respecting the Culture and the Use of Potatoes* (Whitehall, 1795); *Times*, 11 Nov. 1795; and Salaman, *History and Social Influence of the Potato*, 512–13.

29. On Quesnay see Liana Vardi, *The Physiocrats and the World of the Enlightenment* (Cambridge: Cambridge Univ. Press, 2012).

30. On food security’s eighteenth-century roots see for instance David Nally, “The Biopolitics of Food Provisioning,” *Transactions of the Institute of British Geographers* 36:1 (2011).

31. François Quesnay, “Fermiers,” 1756, *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers* 6, ed. Denis Diderot and Jean le Rond d’Alembert, ARTFL Encyclopédie Project, ed. Robert Morrissey, <https://encyclopedie.uchicago.edu/>. The translation is courtesy of the *Encyclopedia of Diderot & d’Alembert Collaborative Translation Project*: François Quesnay, “Farmers,” 1756, *The Encyclopedia of Diderot & d’Alembert Collaborative Translation Project*, trans. Nelly S. H. Hoyt and Thomas Cassirer (Ann Arbor, MI), accessed at <https://quod.lib.umich.edu/d/did/>.

32. “Pomme de terre, Topinambour, Batate, Truffe blanche, Truffe rouge,” 1765, *Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers* 13, ed. Denis Diderot and Jean le Rond d’Alembert, ARTFL Encyclopédie Project, <https://encyclopedie.uchicago.edu/>.

33. Spary, *Feeding France*, 167–202 (quotation on 179).

34. 10 Feb. 1799, *Feuille de Cultivateur* (Paris).

35. Spary, *Feeding France*, 167–202 (decrees on 178). For illustrative examples see Claude-Marc-Antoine Varenne de Béost, *La cuisine des pauvres* (Dijon, 1772); Voltaire to Parmentier, 1 Feb. 1775, in *Revue d’histoire de la pharmacie* 25:100 (1937), 200; and Antoine Augustin Parmentier, *Traité sur la culture et les usages des pommes de terre, de la patate, et du topinambour* (Paris, 1789).

36. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2 vols. (London, 1776), 1:86.

37. James Riley, *Population Thought in the Age of the Demographic Revolution* (Durham: Univ. of North Carolina Press, 1985); Sylvana Tomaselli, “Moral Philosophy and Population Questions in Eighteenth-century Europe,” *Population and Development Review* 14 (1988); Andrea Rusnock, *Vital Accounts: Quantifying Health and Population in Eighteenth-Century England and France* (Cambridge: Cambridge Univ. Press, 2002); and Yves Charbit, *The Classical Foundations of Population Thought From Plato to Quesnay* (London: Springer, 2011).

38. Michel Foucault, *Security, Territory, Population: Lectures at the Collège de France, 1977–1987*, ed. Michel Senellart, trans. Graham Burchell (New York: Palgrave Macmillan, 2009).
39. Jonas Hanway, *A Candid Historical Account of the Hospital for the Reception of Exposed and Deserted Young Children* (London, 1759), 10 (quotation), 13.
40. Edme Bégouillet, *Traité des subsistances et des grains, qui servent à la nourriture de L'homme*, 6 vols. (Paris, 1780), 1:252.
41. Pietro Maria Bignami, *Le patate* (Bologna, 1773), 4. Or see Louis Lémery, *Traité des aliments*, ed. Jacques Jean Bruhier, 2 vols. (Paris, 1755), 1:xxxix–xxx.
42. For quinoa and wild rice see Joseph Dombey to André Thouin, Lima, 1 Dec. 1778, *Joseph Dombey: Médecin, naturaliste, archéologue, explorateur du Pérou, du Chili et du Brésil*, ed. Ernest-Théodore Hamy (Paris: Librairie Orientale et Américaine, 1905), 42; and Anya Zilberstein, “Inured to Empire: Wild Rice and Climate Change,” *William and Mary Quarterly* 72, no. 1 (2015).
43. Charbit, *The Classical Foundations of Population Thought*, 115–34.
44. Louis-Sébastien Mercier, *Tableau de Paris* (Amsterdam, 1783), 8:159, 162.
45. On Bourbon science and statecraft see Ernest Lluch and Lluís Argemí i d'Abadal, *Agronomía y fisiocracia en España* (Valencia: Institución Alfonso el Magnánimo, 1985); Francisco Javier Puerto Sarmiento, *La ilusión quebrada: botánica, sanidad y política científica en la España ilustrada* (Madrid: Consejo Superior de Investigaciones Científicas, 1988); José Enrique Covarrubias, *En busca del hombre útil. Un estudio comparativo del utilitarismo neomercantilista en México y Europa* (Mexico City: Univ. Nacional Autónoma de México, 2005); and Santiago Castro-Gómez, *La hybris del punto cero: ciencia, raza e ilustración en la Nueva Granada* (Bogotá: Pontificia Univ. Javariana, 2005).
46. Joaquín Xavier de Uriz, *Causas prácticas de la muerte de los niños expósitos en sus primeros años*, 2 vols. (Pamplona, 1801), 1:6–7. Or see Pedro Rodríguez de Campomanes, *Discurso sobre el fomento de la industria popular* (Madrid, 1774), 136; Bernardo Ward, *Proyecto económico, en que se proponen varias providencias, dirigidas á promover los intereses de España* (Madrid, 1779), 70; and José del Campillo y Cosío, *Nuevo sistema de gobierno económico para la América* (Madrid, 1789), 261.
47. See for instance 17 March 1789, *Gaceta de Madrid*, 196; *Memorial literario, instructivo y curioso de la corte de Madrid* 21 (1790), 365; 24 March 1794 and 3, 10 Aug. 1801, *Correo Mercantil de España y sus Indias*, Madrid, 188, 490, 508; 24 April 1798, *Correo mercantil e economico de Portugal*, Lisbon; *Junta Pública de la Real Sociedad Económica de Amigos del País de Valencia* (Valencia, 1801); Piqueras Haba, “La difusión de la patata”; Pasqual Bernat, “Manuel Barba y Roca (1751–1824), un agrónomo ilustrado en la España del siglo XVIII,” *Llull* 27 (2004); and Luis Riera Climent and Juan Riera Palmero, “Los alimentos americanos en los *Extractos de la Bascongada* (1768–1793): el maíz y la patata,” *Llull* 30 (2007).
48. See for example *Semanario de agricultura y artes dirigido a los párracos*, Madrid: 21 Nov. 1799, 23, 30 Jan., 27 Feb., 6, 13, 29 March, 3 April, 19 June 1800, 9, 16 July 1801, 24 Sept., 18 Nov., 9 Dec. 1802.
49. 30 March 1797, *Semanario de agricultura y artes dirigido a los párracos*.
50. Doyle, *Tratado sobre el cultivo, uso y utilidades de las patatas*, 4–5 (quotation), 78–79, 85.
51. Doyle, *Tratado sobre el cultivo, uso y utilidades de las patatas*, 6.
52. Doyle, *Tratado sobre el cultivo, uso y utilidades de las patatas*, 24–25, 33, 81. For the Irish as evidence of the potato's nutritious qualities, see for instance Samuel Engel, *Traité de la nature, de la culture et de l'utilité des pommes de terre* (Lausanne, 1771), 59; Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 1:201–2; Parmentier, *Les pommes de terre, considérées relativement à la santé & à l'économie*, 195; Parmentier, *Traité sur la culture et les usages des pommes de terre, de la patate, et du topinambour*, 17–18; “Eulogium on a POTATOE by an AMERICAN,” 28 April 1791, *Daily Advertiser*, Kingston (Jamaica); and David Lloyd, “The Political Economy of the Potato,” *Nineteenth-Century Contexts* 29, nos. 2–3 (2007).
53. Doyle, *Instrucción formada de orden del Consejo*, 26–27; and Doyle, *Tratado sobre el cultivo*,

uso y utilidades de las patatas o papas, corregido y considerablemente aumentado, 7.

54. Doyle, *Tratado sobre el cultivo, uso y utilidades de las patatas*, 8, 24, 31.
55. Jaime Bonells, *Perjuicios que acarrear al género humano y al estado las madres que rehusan criar a sus hijos* (Madrid, 1786); Uriz, *Causas prácticas de la muerte de los niños*, 1:85 (quotation), 2:127–30, 157; and Antonio Arteta, *Disertacion sobre la muchdumbre de niños que mueren en la infancia, y modo de remediarla, y de procurar en sus cuerpos la conformidad de sus miembros, robustez, agilidad y fuerzas competentes*, 2 vols. (Zaragoza, 1801–2), 1:16. On the death of foundlings as “a political loss for the state,” see also Marie France Morel, “Théories et pratiques de L’allaitement en France au XVIIIe siècle,” *Annales de démographie historique* 1 (1976); Joan Sherwood, *Poverty in Eighteenth-Century Spain: The Women and Children of the Inclusa* (Toronto: Univ. of Toronto Press, 1988); Donna Andrews, *Philanthropy and Police: London Charity in the Eighteenth Century* (Princeton: Princeton Univ. Press, 1989); and Isabel dos Guimarães Sá, “Circulation of Children in Eighteenth-Century Portugal,” *Abandoned Children*, ed. Catherine Panter-Brick and Malcolm Smith (Cambridge: Cambridge Univ. Press, 2000), 29 (quotation).
56. 1 Oct. 1784, *Gaceta de Madrid*, 820.
57. Thomas Andrew Knight, “On Potatoes,” *Transactions of the Horticultural Society of London* 1 (London, 1812), 188.
58. Antonio Campini, *Saggi d’Agricoltura del medico Antonio Campini* (Turin, 1774), 393 (quotation).
59. See for instance Carl Linnaeus, *Skånska resa år 1749* (Stockholm, 1751), 155–56; Parmentier, *Les pommes de terre, considérées relativement à la santé*, 223; Frederick Morton Eden, *The State of the Poor, or a History of the Labouring Classes in England, from the Conquest to the Present Period*, 3 vols. (London, 1797), 1:508; Joseph-Julien Virey, “Pomme-de-terre, ou papas des Américains: Recherches sur son origine et L’époque de son introduction en Europe,” *Nouveau dictionnaire d’histoire naturelle* 27 (Paris, 1818), 537–38; and Charles Morren, *Belgique Horticole* (Liege, 1853), 3:14.