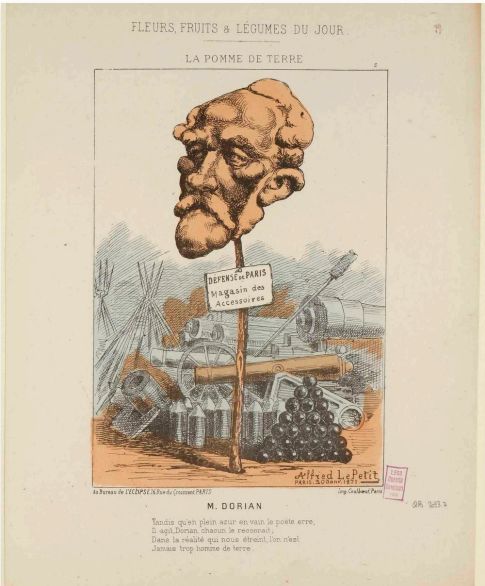




Salvation and Suffering: Potato

Nola Rettenmaier, Alexander Betz, and Jessica Gómez

Woven into the history of the potato, from its Indigenous domestication in the Andes to its prevalence in diets around the world today, are the contrasting themes of comedy and tragedy, sustenance and toxicity, manna and misery. Playful and comedic interpretations of the potato abound, as seen in the cartoon by Alfred Le Petit from the 1871 collection *Fleurs, Fruits & Legumes Du Jour*. It lampoons Pierre-Frédéric Dorian, the French Minister of Public Works, by likening him to the humble and earthen tuber. Translated into English, the text reads, "While the poet wanders in vain through the ether, Dorian acts, as everyone knows; In the reality which we find ourselves in, one can never be too much a man of the earth [*homme de terre*]." The clever wordplay of *homme de terre/pomme de terre* (French for potato) alludes to Dorian's role in weapons manufacturing and policy; unlike poets, he is a grounded person of action—or so one might think. Despite his prominence in the politics of defense, Dorian refused to take a position during the popular uprisings of October 31, 1870, which likely accounts for his inclusion in this 1871 satirical publication.



Alfred Le Petit, *Fleurs, Fruits &...*

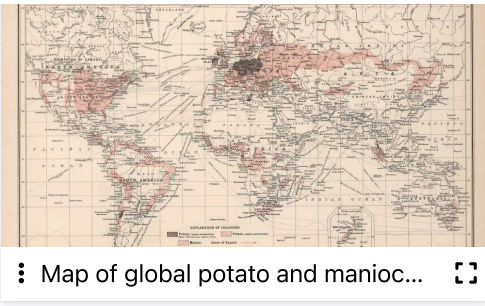
In sharp contrast to the humorous irreverence of Le Petit, the realm of caricature art also yields potent depictions of suffering and privation associated with the potato. In Honoré Daumier's illustrations, the archetypal Irishman is shown as emaciated, ravaged by the 1845–1852 potato famine, and presented in juxtaposition to caricatures of England's John Bull as a plump colonial oppressor. Daumier's work serves as a provocative interjection by another national entity, France, into the fraught space of the Britain-Ireland dialectic, presumably to reinforce and promote France and its republican, anti-monarchist ideals.¹ In this way, the caricatures suggest a connection between the potato and events of transnational significance that this essay will explore.



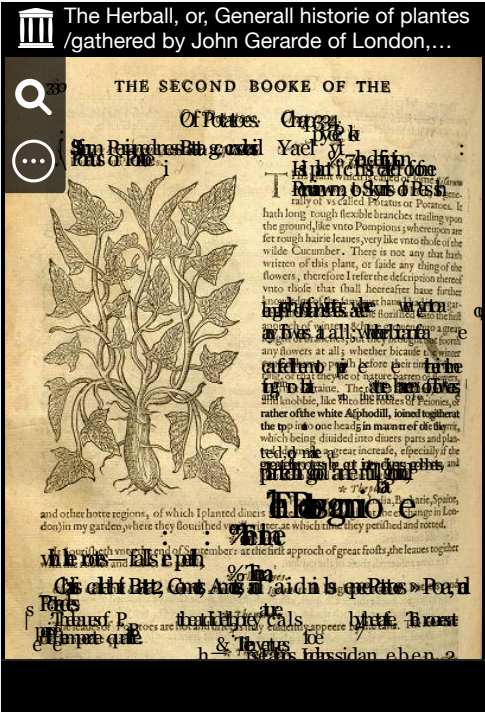
Honoré Daumier, *Ce qu'on appelle l...*

Over the millennia, the potato has been the subject of diverse associations, meanings, and values. This multivalence is a product of societal context, and this essay will examine the perceptions and role of the potato in different societies including South America prior to European colonization, Great Britain, France, the United States, as well as through the broader lens of contemporary transnationalism. During the colonization of the Americas, the potato—along with other plants of dietary and economic value—underwent a transatlantic migration that saw its introduction into Europe. In the wake of this, attempts to integrate the potato into the fabric of European agriculture and food consumption were met with fierce resistance and debate across the social spectrum.

These controversies saw the potato cast in terms of the perennial conflict between nature and culture. In contrast to bread, the archetypal staple food and staff of life, the potato was viewed as dangerously organic and chthonic, representative of the threat posed by disordered nature to culture and civilization.² Well-intentioned efforts to combat food scarcity and promote the nutritional value of the potato clashed with ingrained attitudes that stigmatized the tuber as unhealthy, inferior to wheaten bread, and a danger to ordered society. Today, science seeks to ameliorate the vulnerability intrinsic to the potato—and which is largely responsible for its tragic associations—by introducing genetic material from wild relatives endemic to Latin America. That the potato has long been implicated in global movement, migration, and profound historical change speaks to the potential for plants to serve as archives in their own right.



Map of global potato and manioc...

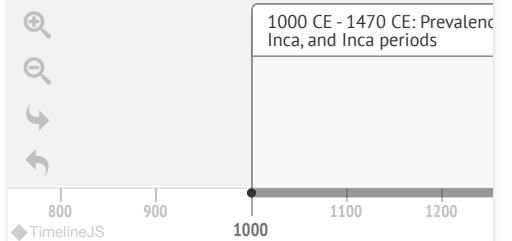


The potato plays a significant role in the histories of famine and social inequality, poverty and migration, war and colonialism. In its native range, the potato's singular capacity to mobilize labor enabled the consolidation of Incan imperial power; on a global scale, it helped fuel European conquest and colonialism.³ Historical tragedies such as the Irish Great Famine have cemented the potato's association with hardship and suffering in the collective imagination, a theme that persists in narratives of refugees and internment camps. These tangled social and cultural histories compel us to interrogate how one plant, taking root in different societal contexts, has come to embody such contrasting associations.

1000 – 1470

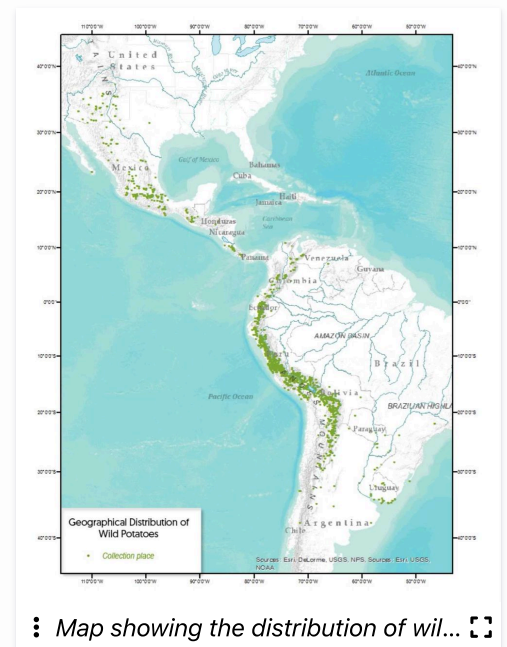
1000 CE - 1470 CE: PREVALENCE IN LATE-CHIMU, PRE-INCA, AND INCA PERIODS

The potato is a staple crop for Andean Indigenous communities. Potato motifs appear in earthenware and pottery, including representations of Axomamma, the potato goddess.



What Is a Potato?

The potato, *Solanum tuberosum*, belongs to the Solanaceae family: a collection of flowering plants commonly known as nightshades. Like many other members of the nightshade family—such as tomatoes and eggplants—potatoes are laced with toxic compounds called glycoalkaloids, which early cultivators reduced through selective breeding to make them edible for humans.⁴ Curiously, unlike most crops, the portion of the potato plant used for human consumption is little more than a swollen section of the stem, known as the stolon. While the exact place of origin for the potato remains a point of debate, its native range stretches from the southwest reaches of present-day United States to the slopes of the Andes Mountains in Central Argentina.⁵ A key contributing factor to the potato's expansive native range is its viability in nearly any soil or climate, aside from soils high in saline or alkaline materials.⁶ As a result, its ability to grow just about anywhere has made it easily adoptable into many societies around the world regardless of their geographies, from wet coastal lowlands to arid terraces high above sea level.



The part of the plant that comes readily to mind—its carbohydrate-rich stolon extending underground—also serves an unexpected purpose: to self-propagate without sexual reproduction.⁷ Potatoes in the wild can reproduce through two different means, sexually through pollination with other potato plants or asexually through their stolons. The former increases genetic variation by allowing genes to flow between different individual potato plants, while the latter produces genetically identical offspring when environmental pressures limit the number of diverse partners available for reproduction.⁸ The potato's capacity for asexual reproduction has been a boon for both the plant and humans alike, allowing for easy cultivation of self-propagating, nutrient-rich tubers. However, its asexual propagation does not come without risk: stagnation caused by lack of genetic diversity opens new vulnerabilities for the plant and the human populations that rely on it.⁹ Current estimates mark the potato's domestication beginning around 10,000 years ago, when early cultivators began selecting individual wild potato plants with larger, nutrient-rich stolons and lower levels of glycoalkaloids for further propagation.¹⁰ As a result, what is commonly referred to as the potato plant actually consists of seven cultivated species and 228 wild species grown throughout the world, with additional varieties, caused by inter-species hybridization, stretching into the thousands.¹¹



⋮ Mary Dillon, *Heritage Potatoes*, 201... [↗]

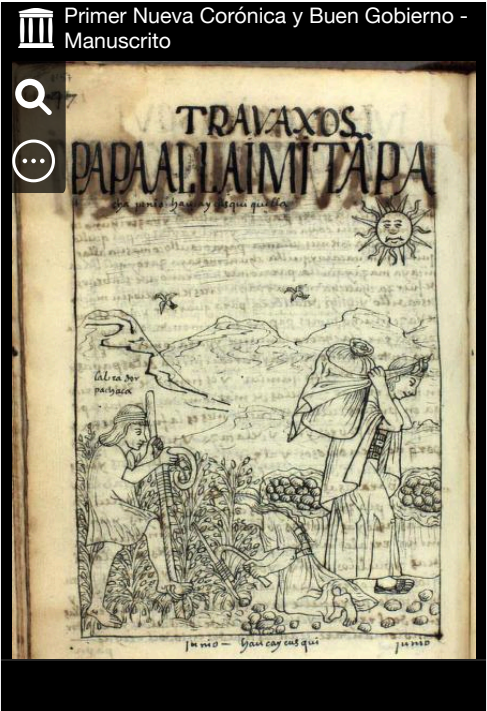
Pre-Columbian History

Indigenous to the Peruvian-Bolivian Andes mountains of South America, the potato has been and continues to be a vital food source for Indigenous communities while remaining vulnerable to disease. It also has had a long-standing cultural and social significance to those communities. In his book, *The History and Social Influence of the Potato*, physician and biologist Redcliffe Salaman uses archaeological materials dating back to the late-Chimu, pre-Inca, and Inca periods (roughly 1000 to 1470 CE), to show how potatoes became common motifs in pottery and earthenware. Interestingly, they were anthropomorphized as humans, with eyes and facial contours, and vice versa, as humans were rendered tuberosous, with varying degrees of realism in their decorative aspects.¹² So important was this crop that it became a part of Incan mythology and ritual, as represented by Axomamma, the divine goddess of potatoes and one of the daughters of the famous Pachamama, the Earth Mother.¹³



⋮ Representation of Axomamma, the... [↗]

Potatoes, along with corn and quinoa, became crucial food crops that Indigenous farmers and communities worked together to plant, harvest, and circulate as part of a complex system of labor and trade that helped sustain the dietary needs of populations dispersed over mountainous terrains. Andean farmers wielded tools, such as the *ayacho* (a mattock with blades) and *taclla* (a foot plough) in Quechua, to break and shift soil for the planting. The labor required to grow and harvest potatoes was formalized under the Incan Empire, in a system called *mit'a* (a turn or season), which required each man and woman of a community to work cooperatively by reciprocating labor and to contribute to the state.¹⁴



Incan calendars depicted potato planting and harvest. This can be seen in the manuscript *First New Chronicle and Good Government* (*El Primer Nueva Corónica y Buen Gobierno*) written by Felipe Guamán Poma de Ayala in 1615 and included in Inca Garcilaso de la Vega's *The Royal Commentaries of the Incas* (*Comentarios Reales de los Incas*). Three months of the year were notable for potato planting and harvest: January, June, and December. De la Vega detailed that January was the month for “work in the potato fields; a man and woman are seen with hoes in their hands.” In June, “potatoes are dug with spades.” And in December, “potatoes and quinoa are planted.” The illustration for December “shows a peasant being helped by a woman to make a hole in the earth with a spade driven in by a mallet, while a second woman is preparing to place a potato in it.”¹⁵



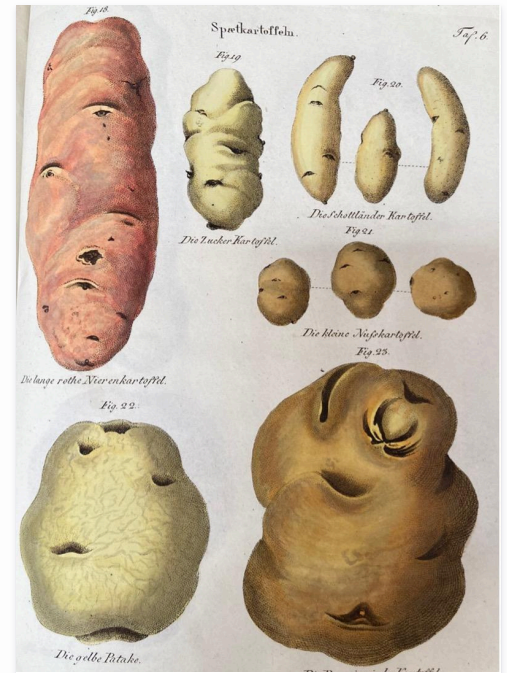
Image from *Primer...*



Image from *Prim...*

The British Potato Debates

The potato arrived in Europe via Spanish sailors, and from the Basque provinces it spread through northern Italy, the Low Countries (including Flanders and the Southern Netherlands), Franche Comté, Alsace, and the Rhineland. Basque fishermen introduced the potato to Ireland. Generally, its diffusion followed the Spanish Road linking Spain's territories in Northern Italy and the Low Countries. The potato's introduction to central and northern Europe followed on the heels of the Thirty Years' War (1618–1648) and it was embraced by peasants who celebrated its capacity to evade military requisitioning, unlike grain.¹⁶ This potential to alleviate the threat of civilian starvation is referred to by Nally and Kearns as "survival ecology."¹⁷ However, the potato's association with peasants and subsistence farming became a stigma, and it emerged as a target for debates about poverty and class.



Monographie der Kartoffeln, Figure...

In England in the late eighteenth and early nineteenth centuries, economists and agricultural theorists were mired in what came to be known as the potato debate. The crux of the debate was the perceived juxtaposition between potatoes and grain, with ramifications for English peasants and direct relevance to the history of British colonial rule in Ireland. Some argued that potatoes came from the earth and were consumed in their natural state, unlike bread, which was the finished product of a complex process through which raw nature was transformed. Some thus considered bread to be a symbol of culture and community. In contrast, those who depended on potatoes—as was the case with the Irish—were seen as being closely bound to the soil and estranged from culture.¹⁸ In reality, English peasants consumed potatoes as well, and a 1796 guide to their cultivation testifies to their importance in northern England, especially in Lancaster: "Potatoes are the chief maintenance of the lower classes of people here." Despite contemporary attitudes espoused by the debates, the author went on to claim that "They are also in great estimation amongst persons of higher rank." The author stipulated, however, that "Notwithstanding the excellent qualities peculiar to this root, the uses of it have not been well understood, nor the cultivation of it much practised in the southern counties of England."¹⁹ Despite its cultivation and consumption in England, disparaging the potato and those who consumed it became a convenient means of suggesting English cultural superiority over the Irish.



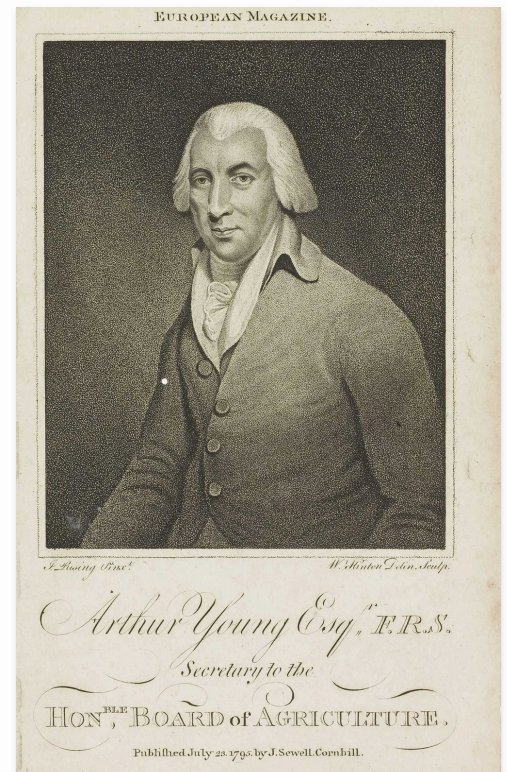
John Cary, 'Lancashire...', from...

Among the debaters, the potato also bore an unwelcome association with Irish Catholicism and its “ineradicability.” Like the faith of the Irish people it sustained, the tuber was able to resist destruction and maintain its “subterranean vitality.”²⁰ In the eyes of the English, the Irish people—who ate potatoes and also believed they consumed the body of Christ in the form of the Communion wafer—were seen as embodying two extremes of backwardness: the tuber’s “degrading carnality” and the Host’s false transcendence.²¹ In addition, the potato’s vulnerability to disease rendered it a symbol of “biological uncertainty,” a reminder of human frailty and mortality, and by extension, the uncertainty embedded in an economy dependent upon human bodies.²²



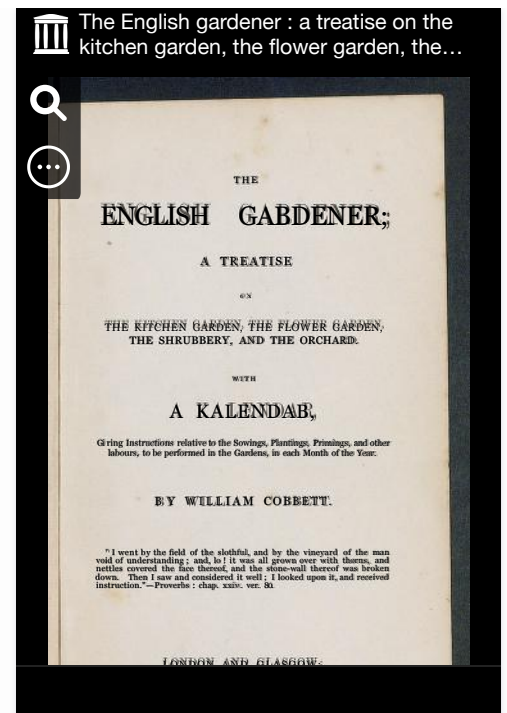
: Vincent Van Gogh, *The Potato...*

The potato debaters rejected the earlier efforts of agricultural reformers like Arthur Young, who sought to promote acceptance of the potato and its cultivation on private allotments of land to feed the lower classes. Those who opposed Young’s Enlightenment ideals feared that his plans for its cultivation would position the potato—and those who consumed it—outside of the population-regulating apparatus of the grain economy. The potato patch was thought to encourage unchecked population growth among the lower classes and the proliferation of an unproductive labor pool.²³ Young’s opponents often subscribed to a new set of capitalistic values that cast traditional subsistence practices as pernicious and slothful rather than tenacious and resourceful.²⁴ Descriptions of the Irish peasantry from the 1770s—1830s are lurid exercises in conveying abjection and extreme poverty, though such accounts were evidently motivated by divergent goals. To support his reform agenda, Young detailed the conditions he found in the “miserable-looking hovels” he encountered during his travels in Ireland, painting a picture of smoky, windowless, and rudimentary living quarters in which humans and animals cohabitated.²⁵



: Portrait of Arthur Young, by W....

William Cobbett, a journalist with sensationalist instincts and one of the most ardent opponents of the potato, spoke of “miserable shed[s]” and “holes” where people lived and dined, alongside their livestock, on potatoes: “nasty, filthy hog-feed.”²⁶ Cobbett’s dehumanizing language portrays potato eaters as scarcely better than animals, living in filth and misery. In keeping with these sentiments, Cobbett opens his entry on the potato in *The English Gardener* by stating unequivocally that the potato is to be used “merely in company with meat, and not to be used as a substitute for bread...as a substitute for bread, it is the most wasteful thing that can possibly be used.” Far from being suitable for human consumption, he considered potatoes to be “inferior” livestock feed compared to a host of other vegetables.²⁷



In general, the reliance by Irish Catholic peasants on potatoes contrasted with the diets of Protestant landowners, who were influenced by English gardening practices and cultivated a diversity of crops on their estates, thus—by their perspective—improving the land and taking advantage of its productivity.²⁸ The class division evident in gardening and cultivation practices comported with an enduring, biblical-tinged rhetoric about the Irish peasant classes dating back to the seventeenth century. In the eyes of English contemporaries, Ireland was untamed, unbroken nature, like Eden before the Fall, its bounties unharnessed by a sybaritic, unindustrious populace.²⁹ This view served to justify the negative characterizations of the Irish given voice in the potato debates. Controversy surrounding the potato also linked back to traditional food culture in Europe, which held that vegetables that grew under the ground were the lowliest sort of food.³⁰ During the Industrial Revolution, potatoes would come to be embraced by employers: as cheap and plentiful foodstuff, it enabled them to justify paying workers the lowest living wage.³¹



New Food for a New Republic: The Potato in France

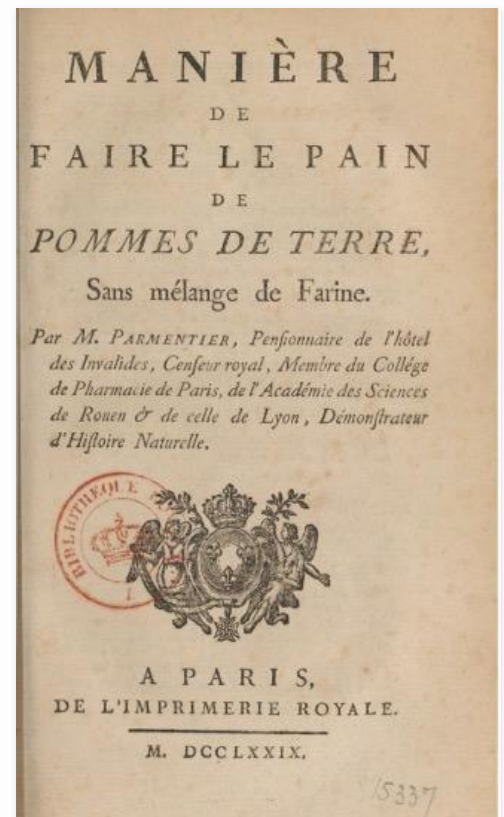
The anxieties, uncertainties, and contradictions wrapped up in the potato, which obstructed its mainstream acceptance in Britain, were echoed in France. French efforts to promote the potato as a substitute for bread were perceived as an extension of Enlightenment thinking: the triumph of science and reason over superstition and deeply ingrained foodways. The charge was led by the pharmacist and food scientist Antoine-Augustin Parmentier, in the context of food riots and new empirical approaches to nutrition and diet in the 1760s and 1770s. Driven by widespread food insecurity and the goal of identifying bread substitutes, advances in food chemistry enabled the isolation of compounds such as gluten and starch from wheat and potatoes. Parmentier made waves by claiming that starch was the ideal “alimentary substance,” rather than gluten, at a time when bread was considered the God-given food of the French people.³²



François Dumont, *Antoine...*



In 1779, Parmentier published the treatise, *Method of making bread from potatoes, without adding flour* (*Manière de faire le pain de pommes de terre, sans mélange de farine*), in which he elaborated on the results of his experiments in baking pure potato bread, which had been thought impossible.³³ As one of the virtues of making bread from potatoes he cited the utter self-sufficiency involved in the operation: “all is under the control of he who makes potato bread, & the process will not be difficult, once one acquires the skill.” Unlike when milling grain into flour, one does not have to rely on the “discretion of an unfaithful or inept miller.” To make bread from grain, one must contend with the “distance to the mills, the time that one loses by going there to wait one’s turn and mind one’s grain, and the necessity of keeping the flour for a certain time in order to use it with some profit.”³⁴ One does not have to worry about any of these obstacles when one makes potato bread. Strikingly, the characteristics that Parmentier applauds in the potato—self-reliance, self-containment, the lack of a social, communal dimension—are the same traits that the English anti-potato faction singled out to condemn the potato.



Antoine-Augustin Parmentier,...



To win over the public to the potato, Parmentier first sought to promote its charms among the highest social stratum. He invited renowned economists and agronomists to elaborate potato dinners and attended the court of Louis XVI and Marie Antoinette, where he presented the rulers with a bouquet of potato flowers.³⁵ Given these attentions, it is perhaps ironic that Parmentier's attempts to gain the potato greater acceptance among French people, mainly Parisians, coincided with the waning of the Old Regime and the seismic social and political shifts instigated by the French Revolution. The potato's subsequent widespread adoption in France accompanied the creation of the new Republic. The covenant between rulers and the people—formerly consecrated by the guarantee of bread—had been broken, leaving room for new food alternatives, such as the potato, to take root.³⁶ In *Feeding France*, Emma Spary suggests that those who advocated for dietary alternatives to wheat and bread, such as Parmentier, “contributed...to the erosion of the Old Regime.”³⁷



⋮ *La Botanique, 'La Pomme de Terre,' ...* ⋮

Underground Subsistence: The Low Countries and Central Europe

Narratives of the potato's adoption in Europe are not without ambiguity. While Enlightenment thinkers such as Young and Parmentier doubtless played a significant role, one would be remiss to discount the efforts of peasants across Europe, who took the initiative to cultivate this “migrant vegetable.”³⁸ As Europe moved away from traditional agrarian society, and land was parceled out and commodified under a new economic order, it became necessary to adopt a means of subsistence that required little land for productivity. Nally and Kearns invoke the research of Rebecca Earle to argue the significance of this overlooked narrative: “As peasants became proletarians the potato rose in importance as both a lifeline and an enabler; it allowed workers to survive on the little land left to them and it enabled their social reproduction from extremely meager resources.”³⁹ The authors also cite the potato's essential “furtive” quality as facilitating its embrace by peasant communities; by remaining concealed belowground, it enabled their survival and persistence during times of conflict, when armies would commandeer aboveground food resources.⁴⁰ This was especially true in Alsace, “nearly always the primary theater of war in Europe,” as well as the Low Countries.⁴¹ Indeed, the Netherlands by the 1840s were distinguished by potato cultivation and consumption, like Ireland, and like Ireland, the potato in the Netherlands came to be associated with poverty and famine.⁴² The potato's role in early modern Europe bespeaks its paradoxical connotations of resilience and vulnerability. It possesses the unique ability to thrive in almost any environment, no matter how hostile the soil to other crops, and could be grown in surreptitious locations such as riverbanks and ditches.⁴³



⋮ Vincent Van Gogh, *Peasant and...* ⋮

The Irish Famine

That the potato could be tied up in globally consequent social change is nowhere more evident than in Ireland. The Irish Potato Famine of 1845–1852 marked the culmination of a centuries-long fraught relationship between its land and people, a history of disenfranchisement from which the potato was inextricable. In the aftermath of the Cromwellian wars, Irish land dispossession under the Commonwealth Acts of 1652 and 1653 precipitated a shift in the Irish people's relationship to the potato as a source of food.⁴⁴ While the potato had been cultivated in Ireland as a food crop for several generations, the Commonwealth Acts forced the Irish to accept the potato as their primary source of sustenance.⁴⁵ Prior to these legislative measures, English military campaigns—which aimed to anglicize Ireland and brutally suppress rebellion—routinely implemented scorched-earth tactics that destroyed crops and left people starving.⁴⁶ Salaman addresses the Irish tragedy at length in his book, arguing a complicity between the potato's domination of Irish diets and the continuation of the cottier system, in which all land was held by Anglo-Saxon landlords. The latter was responsible for the poverty of the vast majority of Irish people and by extension, the magnitude of devastation wrought by the famine.⁴⁷ He traces a merciless and unrelenting cycle whereby the sole reliance on potato cultivation, which reduces the cost of living and labor to their lowest point, perpetuates poverty, and vice versa: "It is not too much to say that for close on 300 years the potato both stabilized and perpetuated the misery of the Irish masses."⁴⁸ Nally and Kearns sum up the pre-famine situation in Ireland by writing, "the wretched cottier and the mighty landlord were bound together by the material affordances of this migrant vegetable."⁴⁹



⋮ Vincent Van Gogh, *Potato Planting*... ⌂

It is worth noting that the Irish had become exclusively dependent on a small number of potato varieties, in particular the blight-prone variety called "Lumper."⁵⁰ The blight, caused by the infection of potato plants by the *Phytophthora infestans* fungus, affected potato crops throughout Western Europe. However, only in Ireland did it precipitate the Great Famine, characterized by immense suffering, the death of over one million people, and the subsequent mass migration of over two million Irish people, particularly to North America.⁵¹ The potato is intertwined with two parallel histories of transatlantic movement: the first, the exchange of food crops—notably the potato—between the Americas and Eurasia, and the second, the migration of Irish people to America. The latter had historical and social reverberations not only for Ireland, but also for the development of the United States.



⋮ Parallel maps showing Irish diaspor... ⌂

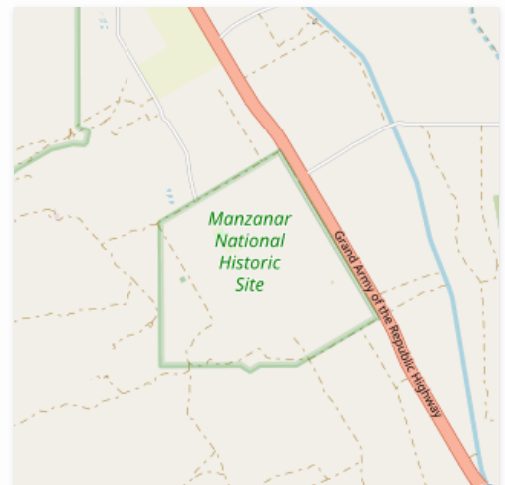
Manzanar War Relocation Center

The potato's ability to take root in places where other crops cannot find purchase results in it appearing in unexpected moments in human history. An example of this is captured in American photographer Ansel Adams' 1943 photograph of a potato harvest, *Farm, farm workers, Mt. Williamson in background, Manzanar Relocation Center, California*. Rows of tilled earth run diagonally across the frame, each attended to by individuals sheltering from the sun under their wide-brimmed hats. In the distance, mountains crest as though they, too, were dug by a great plow coursing through the earth—if only we could stand upon their heights, perhaps we would be met with continuing rows of peaks and troughs just like the foreground. Based on the landscape, one could be forgiven for imagining this to be an image of the potato's ancestral fields in the foothills of the Andes. And yet, the photograph's title tells us otherwise. As is often the case with the potato, this image tells a complex story of relocation and struggle in a harsh landscape. Who were these laborers, and why were they there?



⋮ Ansel Adams, *Farm, farm workers,...* [↗]

Manzanar was an incarceration camp in Owens Valley, California, created by the United States government for the forced relocation and detainment of Japanese Americans during the Second World War.⁵² At its peak, Manzanar held 10,046 people within the single square mile of its confines. Needing a crop that could produce a high density of nutrition in the rugged terrain of the high Sierra Mountains, the government selected the potato as one of the staple foods of the prisoners' diet, planting it on a 118-acre field alongside a number of other crops such as melons, tomatoes, and cabbage.⁵³ Adams, acclaimed for his photographs of landscapes and natural scenes, visited Manzanar four times between 1943 and 1944. What he doesn't include in his photographs are the barbed wire fences and guard towers that encircled life within Manzanar.



⋮ Manzanar [↗]

The potato was a locus of agricultural labor and sustenance for Japanese Americans in California even prior to their forced incarceration. For example, images such as Dorothea Lange's 1942 photograph, *Stockton, Calif. Apr. 1942. Cutting potato seed on an industrialized farm where, before evacuation, persons of Japanese ancestry did all the work* captures the centrality of the crop to the geography of the American West and the communities within it. As Japanese Americans were forcibly relocated to camps in the High Sierras, the potato was made to follow.



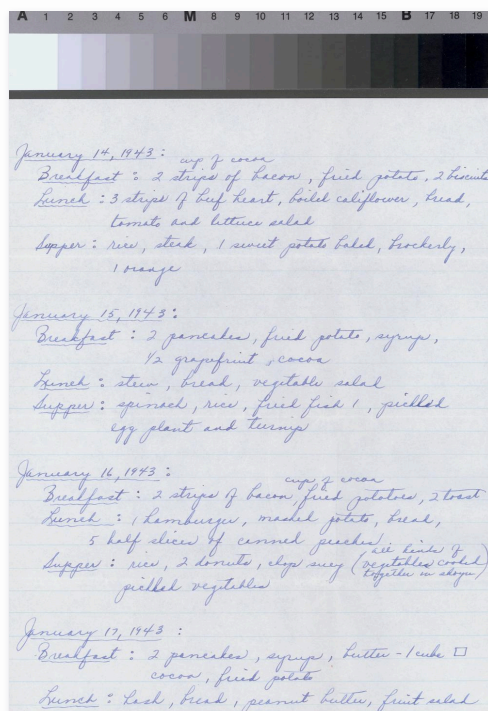
⋮ Dorothea Lange, *Stockton, Calif. A...* [↗]

The potato and the materials surrounding its production became a mainstay of life in all the Japanese incarceration camps—not only as a source of food but also as a source for artistic and cultural creation. For example, in her graphic novel *Citizen 13660*, depicting daily life as a prisoner in the San Bruno and Topaz camps in California and Utah, artist and writer Miné Okubo wrote that “art and hobby shows were of great interest. The residents exhibited vases and desk sets of wood, toys, stuffed animals and dolls...and beautiful hats made of citrus-fruit wrappings woven with potato-sack strings. Ingenious use was made of everything that could be found in the center.”⁵⁴ The potato and its various parts provided sustenance for the prisoners, simultaneously providing a bedrock of their diet while being interwoven into their clothing and daily-lived experiences. In her illustration *Art and hobby show, Central Utah Relocation Project, Topaz, Utah, 1942–1944*, Okubo shows how arts objects made by the prisoners out of accessible materials, such as the strings from potato sacks, were displayed and celebrated.



Miné Okubo, Art and hobby show,...

However, while the potato’s presence in the prisoners’ diets provided some nutritional relief against hunger, it quickly became a symbol of the claustrophobic banality of incarcerated life. Louise Ogawa—a prisoner at the Poston Incarceration Camp in Poston, Arizona—wrote often to her friend Clara Breed back home in San Diego. In one of her letters Ogawa describes a week’s worth of meals. While the inclusion of other items might superficially suggest a degree of dietary variety, Ogawa’s records reveal the relentless recurrence of the potato, which was served at least twice every single day. For example, on January 16, 1943, Ogawa described the day’s meals as the following: “Breakfast: 2 strips of bacon, cup of cocoa, fried potatoes, 2 toast. Lunch: 1 hamburger, mashed potato, bread, 5 half slices of canned peaches. Supper: rice, 2 donuts, chop suey (all kinds of vegetables cooked together with shoyu), pickled vegetables.”⁵⁵ Even with other available foods, the potato in its different preparations remained an inescapable daily constant. The ubiquity of the potato was a core component of daily life in incarceration camps across America, from Ogawa’s experience in Arizona to Okubo’s in California.



Louise Ogawa, Letter to Clara Bree...

While recalling her experience of going for a meal in the camp’s mess hall, Okubo wrote: “At the dishware and the silverware counter I picked up a plate, a knife, and a fork. I wiped my plate clean with my handkerchief and held it out to the first of the cooks, who was serving boiled potatoes with his hands...the entire space was filled with long tables and backless benches. Each table was supposed to accommodate eight persons, but right now each was a bedlam of hungry people. We looked for an empty place but could find none. The air was stuffy and, having temporarily lost our appetites, we decided to forget about eating.”⁵⁶ Okubo’s illustration *Inside the mess hall at Tanforan Assembly Center, San Bruno, California, 1942* captures the scene. The potato’s presence in the lives of Okubo and her fellow prisoners permeated every part of life. After long days of forced labor under the harsh California sun spent cultivating the plant—with nothing but the brims of their hats made from its shipping materials to seek shelter under—it was the boiled tubers of the potato that awaited the prisoners in cramped mess halls and narrow tables. It is no surprise Okubo lost her appetite.



Miné Okubo, Inside the mess hall at...

A Plant Archive of Survival

We often ask plants questions such as: Where are you native? How many variants exist? What environment do you strive in? What are you most vulnerable to? Humans ask—at times demand—these questions of plants, and the answers are held not only in science, but also by communities fighting to preserve their native plants. Each answer is a story, and more stories continue to be collected, creating a plant archive of survival. What does the plant archive of the potato tell us? In the public imagination, the potato exists within two dominant narratives.



The first narrative lies in the potato's monoculture and consumption value as a crop, as different countries and communities have made it a vital part of their diet. As the plant scientist Tiina Särkinen wrote, "We commonly treat the plants beneficial to us—those we cultivate and depend upon—as distinct and disconnected from plant diversity in the wild. But our crops all have their origins in wild biodiversity and have wild ancestors."⁵⁷ The *how* or *when* behind the movement of a plant's "wild ancestors" across the globe isn't always easy to pinpoint. Still, the effects of its cross-cultivation transform a plant's ability to survive.



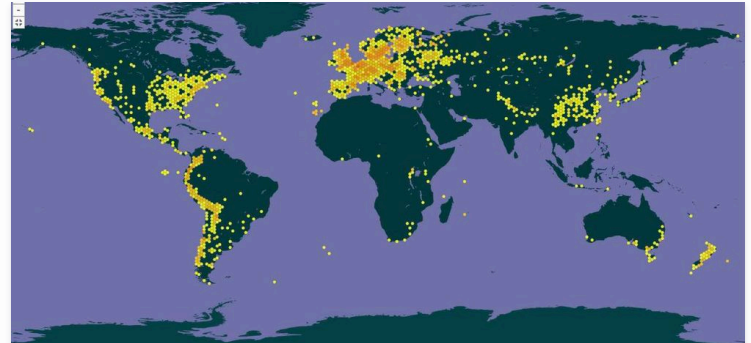
The second narrative centers on famine and the risk of monoculture, both to biodiversity and to communities that have become dependent on the monocrop. Beyond the Irish famine, there are other lesser-known moments when the infection of potato crops caused famine, otherwise known as late blight, that decimated potatoes: in 1843 Pennsylvania, 1921 Soviet Union, and 2003 Papua New Guinea. Given the potato's vulnerability to disease and climate change, "community conservationists of the Potato Park [in Peru] decided in 2011 to send more than 1,500 seed samples of their own varieties to be stored in the *Svalbard Global Seed Vault*."⁵⁸ Communities and countries within Latin America are taking steps to protect the potato's many variants. The International Potato Center (CIP), whose main headquarters is in Peru, works with more than twenty countries across Africa, Asia, and Latin America to enhance food security.



A Plant Archive of Resistance: the Edinburgh Potato

Along with the collection of seed samples, research across the globe to find a blight-resistant gene through networks similar to the CIP has been ongoing in Peru, Chile, Mexico, the Philippines, Lithuania, and sub-Saharan Africa.⁵⁹ And another research effort in the fight against the potato's late blight is being conducted in Edinburgh, Scotland. Due to the "understandable interest in the Edinburgh potato given its proven resistance to late blight over many years," a collaboration between the James Hutton Institute, the Royal Botanic Garden Edinburgh and SASA, have "recreated the Edinburgh potato (*Solanum × edinense*) by controlled crossing of the cultivated potato with the wild species *Solanum demissum* found naturally in Mexico."⁶⁰ The fight to find a

genetically resistant variant to blight, through a "controlled crossing" using this wild species from Mexico, creates an ongoing and shifting story of plant resistance. If we consider potatoes and their movement, in this case, the wild species from Mexico into Edinburgh, as a form of plant travel narratives, then we can read their histories of blight not necessarily as being antithetical to an archive of survival, but as being one of resistance to disease and decimation.



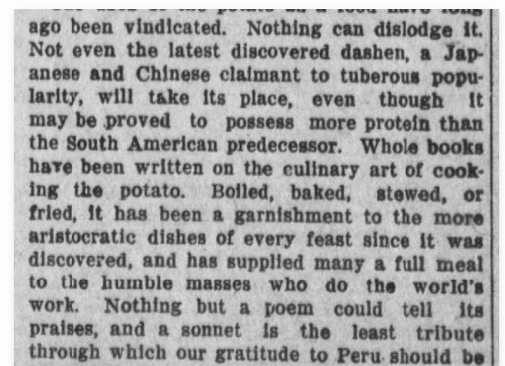
⋮ Distribution of the *Solanum Tuberosum*. Source: Global...

Such "controlled crossings" can be applied to what Carmen Lamas has called the "Latinx return" or "Latin American return," which charts "an endless circuit of arrivals and departures" across existing divides. In her book, *The Latino Continuum and the Nineteenth-Century Americas*, Lamas explains how, when studying or recovering the lives and experiences of Latinx people, "we find markers—geographic, political, affective, aesthetic, and imaginative—that speak to the comings and goings of Latin Americans to the U.S. and back again to their home countries... They all speak of what I call the Latinx return, an endless circuit of arrivals and departures."⁶¹ Lamas reminds us that the crossing of the divide does not only have to involve an actual person returning, but also in the circulation of the translated works Latin American authors have published within the United States, Latin America, and beyond.



⋮ Map of Mexico.

Potatoes and the fight to find a genetically resistant variant begs whether the "Latino continuum" can be more-than-human—one found within the texts of plants that are neither entirely Latin American nor European. Gardens, deserts, and the environment are storied archives. When we read each plant and ecosystem as a text, their narratives reflect a historical coming and going. The wild species being brought from Mexico and cultivated to recreate a resistant Edinburgh potato not only offers the chance to read a different "Latin American return" outside of the geographical area of the Americas, but also one that extends beyond published texts and people who return to their country of origin, to include plants. The duration for which the Edinburgh potato will remain resistant is unknown, and scientific research conducted in Edinburgh is ongoing. Research to cultivate a resistant potato will hopefully also benefit not only Latin American countries but also other countries in need, and be conducted collaboratively within their communities. In doing so, we may begin to unearth and tend to the tangled roots of questions we ask of plants at every twist and turn.



⋮ *The Southern Herald*, March 15,...

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