The Réveillon Riot, which broke out in April 1789, seemed a harbinger of the coming Revolution, signaling the growing militancy of Paris' popular classes. The Great Fear and the municipal revolutions that rocked much of France in the summer of 1789 contributed mightily to the abolition of feudalism and the promulgation of the Declaration of the Rights of Man and Citizen. All featured the breaking of machines. On the other side of the Channel, the Luddite movement of 1811 to 1817 petrified England's industrial entrepreneurs to such a degree that it still lends its name to those who oppose mechanization or the introduction of new technologies. On both sides of the Channel, machine breaking was an important feature of popular action during the age of Revolution.

George Rudé undertook the most important comparative investigation of crowd activities during the age of Revolution. Taking up Eric Hobsbawm's elaboration of crowd action as "collective bargaining by riot," Rudé explored the ways in which the survival of traditional values and ideas was the key issue in arousing popular responses like machine breaking, a theme adopted and adapted from E.P. Thompson's exposition of a "moral economy" for the English crowd. In his reconstruction of the mentalité of the crowd, Rudé hoped to demonstrate the essential rationality of the English popular classes' focus on
violence against property rather than persons and the heavy-handedness of state repression against all forms of popular agitation. Informed by the path taken by Revolutionary violence in France and caught within the confines of a Fabian predilection for non-violent trade unionist forms of organization, Ruđé groups Luddism with the Captain Swing riots of 1829-1832 as the most impressive instances of popular organization and activity in Britain until a more politicized—a more French-style—popular movement arose—Chartism.¹

Thompson puts even greater emphasis on the machine breakers. In The Making of the English Working Class, he claims that the Luddites had genuine revolutionary potential and that their widespread destruction of machines came at a turning point in the relationship among labor, entrepreneurs, and the state. Luddism followed on the heels of the abrogation of paternalist legislation dating from the Elizabethan era and the passage of the Combination Acts in 1799-1800. These statutes removed the state from the complex equation of relations between employer and employee and undermined a long-standing customary moral economy. Thompson placed Luddism in a political continuum that witnessed a growing identification between the interests of laissez-faire industrial capitalists and the actions of the British state as a means of illustrating the possibility for revolution during the early industrial era.²


² E.P. Thompson, The Making of the English Working Class (New York: Vintage, 1963), 452-602. For a similar view from recent years
Following in the giant footsteps of Hobsbawm, Rudé, and Thompson have come a host of talented researchers including Maxine Berg, Adrian Randall, and John Rule. They have provided us with a much more nuanced account of the English crowds involved in machine breaking. Randall argues convincingly that it was the nature of the local community that determined how breaking machines was conceivable. Berg adds suggestively that in the 1730s and again in the 1770s the displacement of female labor was a crucial source of anti-machinery sentiment. Rule asserts that resistance to machinery in provincial England was intimately linked to the issue of apprenticeship. These investigations are largely free of the ideological confines that hem in the interpretations of Hobsbawm, Rudé, and Thompson. On the French side, Steven Kaplan and Leonard Rosenband have devoted considerable attention to the machine-breaking aspects of the Réveillion Riots, while Bill Reddy has done a superb job placing the widespread destruction of machines in Normandy in 1789 within the context of the rise of what he terms "market culture."

Based on this recent work and my own exploration of machine-breaking incidents in several provinces over a seventy-five year period, I would like to return to some comparative themes set forth by Rudé in 1964.4

A few generalities concerning the scope of machine-breaking in the eighteenth and nineteenth centuries are necessary. In the eighteenth century, British labor militancy was more widespread, more deeply rooted in the localities, and more violent than in France where industrial laborers were less well-organized and less prone to violence. In England, machine breaking was a consistent and persistent element of industrial work relations from the late seventeenth century well into the nineteenth. It was part of the laborers' "moral economy," based in custom, on established legal protections, and on the power of local officials, notably the county justices of the peace, to set wages.5 When their moral economy was violated through what frequently was termed an "innovation" either in the manner of payment, mode of work, a new division of labor,


4 Such issues are the subject of a chapter entitled "The Other 'Great Fear': Labor Relations, Industrialization, and Revolution" in my new project: The Path Not Taken: French Industrial Policy in the Age of Revolution, 1750-1830 (Cambridge, MA: MIT Press, forthcoming).

5 This 1563 law is known as the statute of artificers, 5 Elizabeth. It stipulated the length of the workday and gave the justices, county sheriffs, and mayors the power to fix wages annually at the Easter quarter sessions. It is worth pointing out that even the occasional enforcement of such a measure was far beyond the capacities of the Bourbon state much less the Valois. James Moher, "From Suppression to Containment: Roots of Trade Union Law to 1825," British Trade Unionism 1750-1850: The Formative Years, ed. John Rule (London: Longman, 1988), 77.
or through the introduction of new technologies, and the state did not intervene, English laborers had recourse to various tactics. These included the petition, various forms of intimidation, "combination" (i.e. the expansion of unions of laborers), the strike, and machine breaking. In many, perhaps most, cases, intimidation, protest, and direct action led state officials to impose concessions in favor of custom on innovating entrepreneurs in the name of the public good.⁶

In the eighteenth century, the militancy of British laborers compared to their French counterparts was well known. After the Gordon Riots of 1780 in London, Louis-Sébastien Mercier observed that such "terror and alarms" on the part of the English popular classes could never take place in Paris.⁷ For Mercier, events "took a course unimaginable by Parisians; for it appears that even in disorder the crowds were under some kind of control. For instance, a thing which a Frenchman can hardly credit; the houses of certain unpopular men were fired, but their neighbours not touched; our people in the like circumstances would show no such restraint."⁸ Presciently, Mercier made the point that the lack of self-discipline of the Parisians would rapidly lead a disturbance to spiral out of control. Such a situation did not occur before 1789, but

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in that fateful summer, machine breaking in Paris, Picardy, Normandy, Champagne, and the Forez forever transformed the nexus among the laboring classes, entrepreneurs, and the state that governed shop-floor relations and the realities of French industrial production.9

In the context of the industrial recession caused by the Anglo-French Commercial Treaty of 1786, both economic elites and laboring classes shared deep misgivings about mechanization, particularly English-style textile machines then being constructed and diffused at record rates, and its effect on unemployment.10 These concerns are well represented in the cahiers de doléances and seemed to culminate in the Réveillon Riots which took place in Paris' Faubourg Saint-Antoine on 27-28 April 1789. During these riots, crowds estimated at up to 2,000 sacked the homes of two important manufacturers, Dominique Henriot and Jean-Baptiste Réveillon. Some machines found in workshops in Réveillon's rambling mansion at Titonville were destroyed.

Although laborers destroyed industrial machines, this event

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was fundamentally about subsistence: a crowd composed mostly of inhabitants of the Faubourg in competing or related industries sought to prevent a wage cut and to stop Réveillon from infringing on the customs of various trades, thereby threatening their jobs.\footnote{See Kaplan, "Guilds," 355-83 and Rosenband, 481-510.}

In July 1789, a much more widespread assault on industrial machinery took place as part of the emergence of revolutionary politics. Curiously, historians have consistently undervalued the contribution of machine breaking to the Revolution of 1789.\footnote{Frank E. Manuel, "The Luddite Movement in France," \textit{Journal of Modern History} 10:2 (June 1938), 180-83.} In 1789, the most significant bout of machine breaking took place in the heartland of French industry in Normandy, but other outbreaks took place in Paris, in and around the industrial centers of Abbeville, Saint-Étienne, and Troyes.

In Rouen, three days of determined food rioting beginning on 11 July culminated in the attack of 200-300 woolens workers from Darnetal on the industrial faubourg of Saint-Sever across the Seine from Rouen. Joined there by several hundred other rioters, this crowd, composed mostly of hand workers, destroyed only English- or English-style textile machines. Hundreds of spinning jennies and carding machines were wrecked before the city's militia confronted the crowds, killing five. The French version of Richard Arkwright's water-frame was also destroyed and the pieces burned publicly, an act of great symbolic as well as practical import. Such incidents took place not only in Rouen proper but in a broad swath of territory along the right bank of the Seine. These events occurred at the same moment as the attack on the Bastille.

Crowds in Rouen also destroyed English-style textile machines on 19-20 July and again on the night of 3-4
August. Further machine breaking took place on 19 September and again on 17 October, but this time the crowds were led by artisans. In the end, hundreds more spinning jennies were taken apart and the pieces consigned to the flames. In Normandy, machines using new technologies were also destroyed in Louviers, Argentan, and in several places in the pays de Caux.13

Norman machine breaking was organized and rapidly caused enormous property damage, a far different pattern than in eighteenth-century Britain. The Bureau of Encouragement of Rouen reported that "in a single day, the misguided people have destroyed the benefit of nearly 100,000 livres of expense and more than 15 months of work undertaken on their behalf."14 The machines broken between July and October 1789 were enormously expensive. Their value was roughly equivalent to the total value of a year's foreign trade in manufactures for the entire French nation.15


15 This conclusion is based on the actual costs of these machines found in Ibid. and the value of French foreign trade calculated by Jean-
What the crowd wanted in breaking these machines cannot be divorced from the revolutionary moment. In July and August 1789 especially, rioting was a reflection of popular concern about the deepening subsistence crisis and of profound popular dissatisfaction with municipal and provincial political leadership. To these complaints must be added certain motivations intrinsic to the industrial laboring classes. According to a respected member of Rouen's legal community, the artisans who led the October riots took to the streets solely because of their hatred of "the machines used in cotton-spinning that have deprived many workers of their jobs." The new machines not only threatened employment levels; they also transformed industrial practice. Because the English-style machines lowered fabrication costs, laborers had to work much longer hours in order to make ends meet. In the pays de Caux, complaints surfaced with increasing regularity beginning in the spring of 1788 concerning the long hours for hand-workers caused by competition from mechanical spinning. The workday there reached seventeen to eighteen hours for the poorest families with all family members having to contribute their labor.

Yet these machines were not just a target of those involved in the textile industries. Jean-Pierre Allinne has analyzed the professions of the one hundred forty-one men and forty-one women arrested for machine breaking during

François de Tolozan, Mémoire sur le commerce de la France et de ses colonies (Paris: Moutard, 1789).

16 Jean-Baptiste Horcholle, Evenements de la Révolution française à Rouen de 1789 à 1801, n.d. [1801], Bibliothèque Municipale [hereafter BM] de Rouen Y 128*.

the summer of 1789. He found that less than thirty percent (forty-five men, eight women) worked in professions associated with textiles. In fact, the single largest occupational grouping was agricultural day laborers (twenty-eight) while almost thirty percent of the women arrested for machine breaking were prostitutes. Nor could the presence of sixteen soldiers (nine percent) among the machine breakers have comforted either the embattled authorities or skittish industrial entrepreneurs. Such findings reinforce the conclusion that in Normandy in 1789 rage against the machine could not be divorced from revolutionary agitation. The same is true for machine breaking in Troyes which took place during a subsistence riot that led to the murder of the royal mayor and the public mutilation of his corpse.

This was not necessarily the case for other machine-breaking French crowds in 1789. In Saint-Étienne, machine-breaking crowds were composed of textile workers, miners, and artisans in the metallurgical industries. The target of their ire was not only new machines but also new industrial techniques brought by foreign workers that might lead to short-term unemployment by improving the productivity of labor. The smoking debris of innovative textile and metal-stamping machines led the frightened town fathers to send all the "foreign" workers home. Defense of custom and jobs was accentuated by a distinct xenophobia largely missing from the situation in Normandy despite the focus on "English" and "English-style" machines.

After 1789, there were minor machine-breaking flare-ups in Lille, Paris, Roanne, and Vincennes aiming to

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prevent the introduction of new labor-saving machinery. After 1791, however, French machine breaking appears to have gone into abeyance until the Restoration. Post-1791 French crowds did not break machines. Laborers found other means of expressing their grievances, the economic opportunities for introducing new machinery were generally lacking, or state oppression—either military or legal—proved too formidable. My research suggests that the lack of machine breaking after 1791 appears to have had more to do with the boom and bust economy of the period, the relative labor shortages of the Napoleonic era, and the firm hand of a series of French governments when faced by popular unrest rather than with the anti-combination Le Chapelier Law stressed in recent years by William Sewell and Steve Kaplan.\(^\text{19}\) The demands of the French machine-breaking crowds of 1789 had as much to do with hopes for political reform and especially with subsistence as with the day-to-day realities of industrial production. I do not have the space to elaborate here, but it is one of the chief conclusions of my larger study that this association of machine breaking with revolutionary politics made the phenomenon in France so much more effective than its English counterpart.

In England, machine breaking had been a considerable and customary part of industrial relations for more than century before it assumed a darker and more tragic place in the folklore of industrialization with the Luddite movement of 1811-1817. Named after a supposed Leicester stockinger's apprentice named Ned Ludham who responded to his master's reprimand by taking a hammer to a stocking

frame, the followers of "Ned Ludd," "Captain Ludd," or sometimes "General Ludd" targeted this machine for destruction. The movement began in February 1811 in the Midlands in the triangle formed by Nottingham, Leicester, and Derby in the lace and hosiery trades. Protected by exceptional public support within their communities, Luddite bands conducted at least a hundred separate attacks that destroyed about a thousand frames (out of 25,000!) valued at £6,000-10,000. By the time Luddism in the Midlands died down in February 1812 it had already inspired the woolen workers of Yorkshire to action in January. A third outbreak took place in April among the cotton weavers of Lancashire. Armed crowds attacked factories in both places, and thousands participated in these activities, including many whose livelihoods were not threatened directly by mechanization. Despite the heterogeneous and cross-sectoral composition of the "crowds" involved, the Luddites generally destroyed only those machines that they regarded as innovations or that threatened employment, leaving other machines alone. The specific causes of these three outbreaks varied, not only according to region, but also by sector. Collectively, these initial episodes of Luddism caused perhaps £100,000 of damage. Further waves of machine breaking which destroyed a few hundred additional stocking frames took

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20 Rudé, The Crowd, 79.
22 This figure comes from Francis O. Darvall, Popular Disturbances and Public Order in Regency England (New York: Oxford University Press, 1934), 259-60, 209-10, cited by Rudé, The Crowd, 92. It seems curious that no recent commentator has attempted to provide even a tentative range of the value of the destruction caused in these two waves of Luddism.
place during in the winter of 1812-1813, the summer and fall of 1814, and the summer and fall of 1816, sputtering on into early 1817.\textsuperscript{23}

In comparison to their French counterparts, the Luddites were far more focused on work-place concerns. They aimed to prevent their own redundancy at the hands of the machine and to maintain customary forms of production, traditional shop-floor habits, and the relatively generous pay scales characteristic of the English workplace in the eighteenth century. Maxine Berg has termed this concern on the part of the workers "the Machinery Question."\textsuperscript{24} The machinery concerns of West Country shearmen, lace and hosiery workers in the Midlands, and cotton weavers in Lancashire were also more deeply rooted in the community and were not tied into an epic subsistence crisis or the immanent collapse of political authority. Thus, machine breaking by the English laboring classes was rebellious in its nature and inspiration rather than linked inextricably to the emergence of a revolutionary moment as in France in 1789.

On both flanks of the Channel, laborers in certain industries and in some locales sought to prevent "innovation" in the nature of work on the part of the entrepreneur by breaking machines. But where the French industrial entrepreneur could not count on the repressive apparatus of the state to keep control of the laboring classes due to the emergence of revolutionary politics, the British state, despite the distractions of war with Napoleonic France, deployed an impressive amount of coercion to

\textsuperscript{23} Rudé, \textit{The Crowd}, 80, 89.
protect entrepreneurial interests. In a fashion far removed from the ideology of laissez-faire, 12,000 troops were sent to stop Luddism—more men than Wellington had on the Iberian Peninsula. On 14 February 1812 Parliament passed a bill making frame breaking a capital crime. In 1814, the Elizabethan apprenticeship statutes were repealed and the power of local officials to regulate wages was also eliminated. The enrollment of property-owners in a "patriotic" militia that could be and was used to confront direct action by the popular classes was supplemented by an army of spies deployed by the government to blanket the most restive districts. The regular armed forces were also redeployed; 155 military barracks were constructed in industrial districts between 1792 and 1815. E.P. Thompson summed up the effects of these repressive measures: "England, in 1792, had been governed by consent and deference, supplemented by the gallows and the 'Church-and-King' mob. In 1816 the English people were held down by force." Machine breakers in England hoped to forestall shop-floor and work-related innovation that stemmed only partially from mechanization. English machine breakers were also protesting the withdrawal of the English state from a paternalist role in economic relations as signaled by the abrogation of Elizabethan-era work statutes and the

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26 Thompson, 451, 474, 529, 544-45, 605. The quotation is from the final page. See also Randall, *Before the Luddites*, 248.
vastly increased use of unfree labor in industry. A staggering one-third of the workers in the early factories were unable to leave their positions because of either apprenticeship restrictions or parish appointments. Laborers trapped by the increasing identification of the British state with the interests of entrepreneurs employed a customary form of shop-floor disobedience to protect their way of life and mode of production. The scale and scope of Luddism illustrates that the laboring classes recognized how much of an innovation the new identification of the state with industrial entrepreneurs was likely to be.

In France, machine breaking, as an aspect of revolutionary politics, was much more successful in preventing certain kinds of innovation in the world of work. Although the French state passed a number of important legal reforms such as the Le Chapelier and Allard Laws, mechanization and the development of the factory system were largely postponed until the Consulate. This delay resulted from French entrepreneurs' lack of confidence that the repressive power of the state could protect them from workplace reprisals. The Terror only reinforced the unwillingness of French entrepreneurs to innovate when faced by the threat from below. Oversimplifying the situation, we might say that French machine-breaking crowds largely got what they wanted, whereas machine breaking in England only accelerated the very trend they were acting to forestall. Perhaps the most fundamental reason why machine-breaking crowds on either side of the Channel had such different levels of success is that "Ned Ludd" did not have a guillotine at his disposal.