Infrastructures of Injury: Railway Accidents and the Remaking of Class and Gender in Mid-Nineteenth Century Britain

By

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Abstract

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As steam-powered industrialization intensified in mid-nineteenth century Britain, the rate and severity of workplace injuries spiked. At the same time, a range of historical dynamics made working class people individually responsible for bearing the effects of industrial injury and carrying on in the aftermath of accidents without support from state or company. By the midcentury, railway accidents were represented as events that put on display the moral character of individual rail workers and widows, rather than — as in radical rhetorics of previous decades — the rottenness of state or company bureaucracies. Bearing injury or loss in a reserved manner came to appear as a sign of domestic virtue for working class women and men, though the proper manifestations of this idealized resilience varied by gender. Focusing on dynamics in the railway and nursing sectors, and in the sphere of reproduction, *Infrastructures of Injury* shows how variously situated working class subjects responded to their conditions of vulnerability over the second half of the nineteenth century. These responses ranged from individualized or family-based self-help initiatives to — beginning in the 1870s — strikes, unionization drives, and the looting of company property. Ultimately, this dissertation tells a story about how working class cultural and political practices were remade through the experience of injury and loss.

For my grandparents

Contents

Introduction *1*

Chapter One *16*
Bearing Shock: Gaskell's *Cranford*, Gender, and the Self-Management of Industrial Injury at the Midcentury

Chapter Two *51*
The Life of Roger Langdon: Injury and Knowledge Making on the Railways

Chapter Three *83*
The Wooden Brain: Unevenness and the Crisis of Industrial Injury in Marx's Late Work

Chapter Four *115*
Antagonisms of Gender and Grade in Early Railway Trade Unionism

Afterword *139*

Notes *150*

Bibliography *176*

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Introduction

> The true picture of the past flits by. The past can be seized only as an image which flashes up at the instant when it can be recognized and is never seen again. 'The truth will not run away from us': in the historical outlook of historicism these words of Gottfried Keller mark the exact point where historical materialism cuts through historicism. For every image of the past that is not recognized by the present as one of its own concerns threatens to disappear irretrievably.[1]
>
> — Walter Benjamin

"My mate killed at Stafford. I worked the train Back." Such is the entirety of Thomas Baron's diary entry for 4 March 1859. That year, Baron was employed as a fireman on the London and North Western Railway. The mate to whom he refers was probably an engineman, who ordinarily would have driven back from Stafford to Preston. Baron's spare prose in this entry is typical. His diary simply chronicles days of work: departure and arrival times, destinations, and names of enginemen. In the 4 March entry through, the laconic prose is unsettling. Work comes too quickly — too matter-of-factly — after death. There seems to be a coldness in Baron's simple: "I worked the train Back." A few entries later though, he mentions attending a funeral at Bolton for his deceased co-worker, which perhaps suggests that the unsettling quality of the earlier entry should not be ascribed to the author's lack of personal regard — a regard that also registers in Thomas' reference to his co-worker as "my mate." Instead, I want to suggest that we can better understand this unsettling quality of the prose with reference to the text's form — the work chronicle — and to the conditions of railway work in the 1850s from which this modern variant of the chronicle emerged.

Baron's chronicle reliably records basic information — names, places, numbers — drawn from his work experience. In this, it is similar to forms of record keeping required of early railway servants. Jack Simmons suggests that Baron's diary "has, at first sight, the appearance of a fair copy made from rough notes — possibly based on the diarist's pay sheets."[2] Simmons invites us to imagine the twenty-five year old fireman, standing perhaps at a side-table in the Preston railway shed, copying notes from work documents into a personal diary. The information that railway servants recorded each day in work logs was typically added up and then filed away. Supervisors used this information to quantify fuel expenditures, engine wear, workers' wages, and locomotive speeds. These records enabled managers to surveil, compare, and grade railway employees and to more efficiently manage the railway system. What then was Thomas Baron doing in reproducing such records for himself? Taking up the role of supervisor in relation to his own life? Perhaps in keeping a diary he was *subjecting* himself to new technologies of labor discipline, articulating his identity as a collection of work logs.

Viewed from this angle, the entry of 4 March 1859 introduces a hitch in the process of record keeping as subject formation. Railway servants who endured a

coworker's death on the rails would not have been expected to record this fact in their work log, and certainly not to refer to the deceased as "my mate"; though they might have been interrogated about the events that precipitated the injury-inducing accident. And yet Thomas Baron records in his diary the death of his mate. He draws this event into the chronicle of his life, subjecting it to the narrative reduction characteristic of the form of the work log. Injury is made information.[3]

We can approach the effects of this anomalous inclusion from various directions. From one side, the entry of 4 March appears to reveal the cruelties of the accelerated pace and affective reductions characteristic not only of the work chronicle as a form of representation, but also of the work chronicled through this form. The entry breaks narrative conventions by introducing a death in one sentence and ignoring it in the next. His mate's death seems to drop precipitously from the text. The truncated verbal phrase in the first sentence — "My mate killed at Stafford" — makes even the fact of the death ambiguous. The sentence could read either as, "My mate [was] killed at Stafford," or "My mate killed [whom?] at Stafford." By conspicuously disappearing his mate's death, the entry suggests that the imperatives of the railway schedule and of the chronicle form similarly put off spontaneous mourning, and thus do violence not only to the deceased but also to the would-be mourner. In this account, Baron's reference to the death of his mate contingently casts into relief the damaging necessities of work and form. The entry of 4 March is the anomaly that reveals the flaw in the structure.

But what if, instead of treating the work chronicle and the work chronicled as parallel or interlocking structures, we considered the work chronicle as orthogonal to, even potentially set against, the labor process out of which it emerges. In this account, Baron's reference to his mate's death would not so much appear to be anomalous, but rather foundational. Perhaps Baron was finding a form that enabled him to mark, in the language of the work log, injuries and losses that were either precipitated or treated as non-events by institutional powers, including the state and the railway company; at once putting on display and holding out against the erasure of working class death. In his 12 December 1860 entry he writes: "Shead [i.e. on shed] and Buring [burying] child." On 4 January 1862 he, "saw Maddox hung at Stafford."[4] Baron's entries, particularly that of 4 March 1859, reveal injury and loss to be foundational experiences for workers caught up in new modes of labor discipline. Injury shadows work. It appears as an essential counterpart to the inexorable rhythms of the era of labor peace on the railways that spanned the 1850s. The working class subject's individualized responsibility for bearing injury and carrying on after loss appear, from this angle, to be conditions through which a certain kind of historical necessity is lived — through which class subjection is at once suffered and registered as such.

For Thomas Baron and others vulnerable to industrial injury at the midcentury, two qualities of *loss* thus seem to blur together: loss as in broken attachments, and loss as in defeat or subjugation. In Baron's diary entry of 4 March, the impossibility of spontaneous mourning in response to his mate's death mediates these two dimensions of loss. The lived coincidence of *broken attachments* and *subjugation* in the experience of working class subjects is the crux around which *Infrastructures of Injury* will turn. By the 1850s, the general strikes, struggles for union recognition, and mass Chartist mobilizations of the previous three decades had given way to a period of relative labor peace—a peace which, "with the regularity of the seasons, produce[d] its list of those

killed and wounded in the industrial battle."[5] With the intensification of coal-driven and steam-powered industrialization, the rate and severity of workplace injuries spiked.[6] At the same time, a range of historical dynamics rendered working class subjects individually responsible for bearing the effects of industrial injury; for carrying on, without support from state or company, in the aftermath of accidents. How this responsibilization took hold at the midcentury is a central concern of the studies to follow. Not only did rail and other industrial workers have trouble imposing workplace safety measures through collective action, but legal and insurance reforms restricted workers and their heirs' standing for compensation in the event of workplace injury. These institutional reforms were accompanied by shifts in representations of rail accidents and in discourses of injury. By the midcentury, accidents were broadly understood to put on display the moral character of individual rail workers and widows, rather than — as in radical rhetorics of previous decades — the rottenness of state or company bureaucracies. Bearing injury or loss in a reserved manner came to appear as an ethical norm, a sign of domestic virtue, for working class women and men, though the proper manifestations of this idealized resilience varied by gender. The responsibilization of those most exposed to railway injury was not, however, merely an external imposition (authored by state or insurance bureaucracies, or by discourses of a presumptively bourgeois cast). Even as working class subjects such as Thomas Baron found cultural and aesthetic forms — from the work chronicle to the spiritualist séance — that rendered uncanny the injurious conditions of their lives and that held out against the erasure of working class death, working class populations generally responded to midcentury conditions of material constraint in ways that followed from, and reinforced, their responsibilization.

Men whose wages enabled them to set even a small amount of money aside each month tended to begin investing in nascent workers' benefit funds, to deposit wages in savings banks, or to insure against loss in other ways. Those employed in higher grades contributed to an emergent, multi-sectoral culture of improvement and mutual aid at the midcentury. In doing so, they separated themselves from lower-grade employees, who generally could not afford to participate in such risk management schemes. The atomization of workers' relation to industrial injury thus tended to exacerbate fractures of grade and employment status. This atomization also interacted with nascent shifts in gender divisions of labor, which were beginning to militate against married women's full-time waged employment. Given gender and age-based restrictions on labor market participation, working class women faced acute immiseration in the event of a spouse's fatal workplace injury. While forms of individualized risk management sought to secure against this eventuality in a way that shored up the couple form, generally these sanctioned methods were inadequate to the task. In this way, gender hierarchies, like hierarchies of grade, were exacerbated by the midcentury responsibilization of those dependent upon the railway industry for survival. It was not until the 1870s, with the breaking forth of strikes and unionization efforts along the rails, that collective forms for confronting workplace injuries and their immiserating effects took shape. While this moment of collective action drew its strength from unemployed or lower-grade workers' acts of sabotage and looting, and from railway widows' efforts to confront company and state bureaucracies, the durable institutions of working class struggle that emerged out of this moment tended to re-solidify hierarchies of grade and gender, and in doing so to limit

the scope of their antagonism to the powers that rendered working class populations vulnerable to injury and immiseration.

I. Historical Residua

In considering the hiatus of working class antagonism during the period of 1850-1870, I am returning to a problem, and to a historical conjuncture, that preoccupied theorists across the disciplines in the 1970s and 80s.[7] In the field of British history, social historians writing in the aftermath of E.P. Thompson's *The Making of the English Working Class* (1963) took up the question of what happened to the working class after it had been made. How, in the decades immediately following its early nineteenth-century composition as a self-consciously antagonistic social force, did the British working class become essentially dormant? As Geoff Eley and Keith Nield note, the 1970s saw the emergence of a rich historiography on mid-nineteenth-century reconstructions of British working class culture and politics.[8] Historical work in this vein proposed various explanations for the hiatus of class militancy between roughly 1850 and 1870, including shifts in the structure of imperial capitalism, the emergence of more conservative cultural forms across working class populations, such as cultures of improvement and self-help, the forging of new forms of political consensus, and the contingent unravelling of Chartist political discourse. But as debates on this hiatus unfolded, and as British historians received and reworked poststructuralist theoretical interventions, some of the categories that had set these historical inquiries in motion were jettisoned or fundamentally reworked.[9] The very question — "How was the British working class neutralized at the midcentury?" — came under scrutiny, as historians pulled away at some of the presuppositions that had rendered this question legible and timely.

Two key presuppositions cast into doubt over the 1970s and 80s were, first, the existence of a shared working class experience, and second, the political and historical saliency of this presumed shared experience. *Experience*, a key category of Thompsonian social history, came under scrutiny at once for its naive empiricism and for its transcendental entailments. With respect to the former — empiricism — the notion of a shared class experience grounded in social divisions of labor and in workers' collective agency seemed to forget the multilayered discursive construction of identity, the non-class-boundedness of key cultural and political forms through which workers' experiences were mediated, and the fractures internal to the working class, particularly in terms of gender, grade, nation, and race. In terms of the latter — transcendental entailments — the category of class experience provided the explanatory lynchpin of Thompsonian social history, which assumed that the agency of class subjects determined social relations, and that such relations in turn determined political realities and large-scale historical transformations. Not only were these presuppositions challenged theoretically — most notably by Joan Scott in *Gender and the Politics of History* (1988) — they also seemed to be eclipsed through historical research.[10] In his 1983 *Languages of Class*, Gareth Stedman Jones sought to demonstrate that Chartism was more a variety of populism than of class radicalism, and that its unravelling in the late 1840s was an effect of contingent political shifts — above all, certain reformist measures taken by

parliament — that rendered the Chartist narrative of state corruption implausible.[11] In this way, Stedman Jones' account of midcentury historical shifts reasserted the determining force of discursive and political transformations, partially displacing the Thompsonian prioritization of labor/social dynamics.

By the late 1980s — a decade defined in Britain by the defeat of the 1984-5 miners' strike and by associated reconfigurations of the Labour party and Left associations, which could no longer rely as heavily upon a base of industrial unionists[12] — the historical significance of industrial labor organizing could no longer be presupposed. At this moment, nineteenth-century historians turned their attention to midcentury cultural and political shifts — shifts that were understood to affect the forms of agency available to working class subjects (among others), but that were not presumed to be determined by the dynamics of class antagonism as such. While historical work on nineteenth-century Britain thus departed from the problematics of post-Thompsonian social history, much of this work, at least through the 1990s, nevertheless bore traces of an earlier concern with the midcentury neutralization of social antagonism. James Vernon, in *Politics and the People* (1993), showed how the practices and material cultures mediating political activity in Britain shifted over the nineteenth century.[13] Politics increasingly came to be enacted through the private reading and voting activities of male heads of households, rather than through mass gatherings, with their flags, ribbons, and other accouterments, as well as their complex networks of patronage, which had earlier in the century offered ways for those formally denied voting rights to assert their political standing. Vernon's monograph took up a Foucaultian problematic concerning the making of docile, liberal subjects through emergent disciplinary forms of power, and built upon Patrick Joyce's study, in *Visions of the People*, on languages of populism in the making of political subjects over the second half of the nineteenth century.[14] Mary Poovey, in *Making a Social Body* (1995), similarly drew upon Foucault's work in historicizing the midcentury formation of the "the social" as a sphere of activity separate from other spheres — "the political" and "the economic" in particular.[15] This delineation of the social, which also involved its feminization (as Denise Riley first argued in *Am I that Name?* [1988]),[16] naturalized emergent forms of state regulation, enabled new forms of knowledge to be produced about the poor, and recast as "social problems" what otherwise might have been understood as dimensions of industrial capitalism. Here, "the social" appears not so much as the historically-determinative world that sits behind the "sonorous phrase[s]" of economics and politics, as Thompson would have it,[17] but rather as a relatively recent invention that helped fracture and redistribute the forms of agency available to variously situated subjects.

Two years later, Anna Clark published *The Struggle for the Breeches* (1997). While less directly in conversation with poststructuralist approaches as either James or Poovey's works, *The Struggle for the Breeches* demonstrated how gender antagonisms significantly determined the making of the British working class.[18] Clark's temporally- and conceptually-expanded scope vis-a-vis Thompson allowed her to significantly recast the story of nineteenth-century class formation,[19] showing that, in the aftermath of the adoption of the New Poor Law in 1834 and of intra-class clashes over women's employment in textile factories, broad segments of the working class came to adopt norms of domesticity and the ideology of separate spheres. Implicitly, then, Clark presents the making of the British working class as coterminous with its unmaking, as

ideals of domesticity not only fractured the class via gender hierarchy but also made it susceptible to a range of atomizing, disciplinary technologies at the midcentury, some of which will be considered in the first half of *Infrastructures of Injury*. Clark's work contributed to broader feminist historical conversations in the 1990s on the gendering of class identities and relations — conversations shaped as well, in the context of British history, by the works of Catherine Hall, Sonya Rose, Leonore Davidoff, and Carolyn Steedman.[20] Kathleen Canning notes that this period of feminist historical work complicates narratives of the decline of class as an analytical category, suggesting that this category was being rethought in generative ways for histories of labor and gender at least up through the nineties.[21]

While these works from the 1990s bear traces of an earlier concern with the post-1848 neutralization of social antagonism — and also pose new problems concerning class- and gender-differentiated subject formation and about the determining force of political and cultural transformations — by the 2000s, even a lingering concern with the mid-century collapse of antagonisms had been wiped away. As Vernon notes in a brief "state of the field" essay from 2007, British historians seemed in the early 2000s to have lost interest in mid-nineteenth-century transformations. He notes that social historical research since 1970 had:

> defused and provincialized the Big Bang accounts of the Industrial Revolution that had enabled the Victorians to be presented as the first moderns. The view of modernity as a rupture, catastrophic or not, forged climactically by the 1850s, gave way to such a revisionist emphasis on continuity that the end of the *ancien regime* became endlessly deferred and the nineteenth century grew ever longer. Paradoxically this has had two apparently contradictory historiographical consequences: first, an often uncritical reclamation of the advent of modernity in the eighteenth century (premised on cultures of consumption, new forms of statecraft, imperial expansion, even now a British Enlightenment); second, a stress on the endurance and adaptation of the aristocratic structures of the *ancien regime* (gentlemanly leaders and capitalists, landed monopolies, deference) so that the Victorians only came of age during the twentieth century (inflecting the formation of Labourism, the welfare state, critiques of mass culture, and the regulation of sexuality). Clearly the result of this scholarship is that the so-called Victorian age no longer occupies a privileged place in accounts of the advent of modernity in Britain; indeed it no longer makes much sense as a category at all given that it lacks the singular character once claimed for it.[22]

Vernon draws attention here to the recent splitting of historiographical attention to either end of the long nineteenth century. He has since attempted, somewhat against the grain, to re-situate the moment of British modernity in the mid-nineteenth century, showing that population growth and transit innovations — particularly road and railway construction — enabled significant mobility and urbanization over this period, which necessitated cultural and political forms for managing the ubiquity of anonymous interactions, while also provoking new initiatives for re-grounding experience in local contexts.[23] Vernon's account of modernization puts to the side the question of industrialization, its determinants and effects, even though arguably the story of midcentury railway expansion cannot be told without an attention to growth in associated industries, and to

dynamics of capital accumulation more broadly. As Gareth Stedman Jones noted in 1983, midcentury railway construction, "lessened the impact of cyclical crisis, stimulated coal, iron, steel and machine production, and resolved the crisis of profitability. More than any other single factor, it assured the successful transition to a modern industrial economy."[24]

While Vernon returns to the midcentury moment in a way that partially puts industrialization to the side, Geoff Eley argues from another angle for the de-prioritization of industrial production and its particular labor regimes. Eley's 2007 essay, "Historicizing the Global, Politicizing Capital: Giving the Present a Name,"[25] argues that a shift in historical emphasis toward forms of bonded labor, including slavery and domestic servitude, especially as they shaped late eighteenth and early nineteenth-century dynamics of accumulation, would make for more adequate histories of the present, in which:

> the de-skilling, de-unionizing, de-benefiting, and de-nationalizing of labour via the processes of metropolitan deindustrialization and transnationalized capitalist restructuring … have also been undermining that claim [of "the centrality of waged work in manufacturing, extractive and other forms of modern industry for the overall narrative of the rise of capitalism"] from the opposite end of the chronology…. Today the social relations of work are being drastically transformed in the direction of the new low-wage, semi-legal, and deregulated labour markets of a mainly service-based economy increasingly organized in complex transnational ways. In light of that radical reproletarianizing of labour under today's advanced capitalism, I want to argue, the preceding prevalence of socially valued forms of organized labour established after 1945, which postwar social democrats hoped so confidently could become normative, re-emerges as an extremely transitory phenomenon.[26]

Eley's assertion of the anomalous quality of Fordism is also made by Brett Neilson and Ned Rossiter in "Precarity as a Political Concept, or, Fordism as Exception" (2008), though Neilson and Rossiter also emphasize, in a way that Eley does not, the unsafe, unregulated, and coercive conditions of pre-1930s industrial waged labor, including in its relatively well compensated forms, such as (certain grades of) railway and manufacturing work.[27] This difference in emphasis casts in relief a consequential conflation, or gap, in Eley's schematization of modern labor regimes — an elision that may partially be attributable to the shifts in periodization that, as Vernon notes, have recently drawn attention away from the mid-nineteenth century. While Eley is careful to note the late arrival of regulation to industrial sectors of waged labor, he nevertheless argues for the de-emphasis of industrial labor as such on the grounds of its historically anomalous quality. But were nineteenth-century regimes of waged industrial labor more similar to post-war labor regimes, or to the forms of bonded labor, especially domestic service, that Eley juxtaposes with industrial waged labor? Railway workers were, after all, referred to as servants, were subject to the "master-servant" legal doctrine,[28] and were routinely jailed following accidents for which they were found responsible.[29] The studies to follow will provide some ways of thinking in a comparative way about pre-Fordist industrial waged labor, even though this schematizing approach to histories of labor partially misses the point.

For Eley, as for Neilson and Rossiter, the aim ultimately is to recast histories of labor under capitalism in light of emergent, twenty-first century labor regimes, and in a way that does not assume as a historical norm Fordist regimes of labor.[30] From this angle, the study of mid-nineteenth-century regimes of labor — industrial and otherwise, waged and bonded — and of the particular historical dynamics that enabled and followed from the "temporal coexistence" of distinct forms of labor and of wageless life,[31] would appear especially timely, insofar as contemporary labor regimes — from academic to automobile manufacturing sectors — tend to polarize around a shrinking core of increasingly less secure waged positions, on the one hand, and growing pools of contingent, seasonal, and otherwise hyper-exploited labor, on the other.[32] Given these contemporary dynamics, and for historical reasons identified by Maxine Berg in her critical review of Eley's 2007 essay, I want to hold open a place in contemporary labor history for de-provincialized studies of the mid-nineteenth-century moment of mechanization and labor restructuring. As Berg notes:

> Contrary to Eley's argument, capitalism did centre around industrial production in manufacturing, but that industrial production on a mass scale, providing for huge domestic and global markets, was an Indian and Chinese achievement. It was not 'a phase to be found overwhelmingly in the West' nor did it last for 'a remarkably brief slice of historical time'. British and other European industry did not surpass this until the nineteenth century. It did so because it mechanized. Technology drove forward industry which previously expanded through labour intensification and reorganization. That labour intensification was an Indian, Chinese, African, Caribbean and American story as much as a European one…. This is an old story told by Marx, the ascendancy of creating 'relative surplus value' over 'absolute surplus value'. It took longer to achieve than we once thought. Pomeranz's coal resources were only extensively harnessed to steam-powered industry in the nineteenth century, and likewise it was not until then that North American land-reserves provided the grain and raw cotton resources which allowed for Britain's world manufacturing hegemony….[33]

The forms of mechanization and labor process restructuring that began in earnest around 1840 — theorized by Marx in *Capital* as the turn to relative surplus value extraction, and in the *Grundrisse* as the real subsumption of labor to capital — introduced dynamics of accumulation, immiseration, and antagonism that were distinct from what came before. As I will discuss in more detail in Chapter Three, for Marx, both waged and unwaged workers tended to be made relatively superfluous under conditions of real subsumption, insofar as the accelerated, machine-driven quality of production made small-scale producers unable to compete in markets saturated with machine produced and distributed goods, while also exposing industrial workers to injury by dangerous machinery.[34] These dynamics of superfluity remain, or have emerged anew on a global scale, as features of our contemporary moment. The nineteenth-century moment of industrial mechanization should thus still be recognized as a consequential turn.

My project seeks to explain the relative stability of nineteenth-century labor regimes in the decades that immediately followed the first turn to large-scale mechanization — the midcentury moment when "coal resources were extensively harnessed to steam-powered industry." The project foregrounds industrial injury and its

management, showing how the potentially socially explosive effects of injurious and unregulated labor regimes in the metropole were contained over the third quarter of the nineteenth century, not only through new management techniques and forms of state (non)intervention, but also through emergent cultural forms, discourses of injury, and gender ideologies, all of which tended to forestall effective class composition and mobilization.

In emphasizing the "subjective," discursive, and institutional determinants of (thwarted) class antagonism in the early age of steam, my project offers something of a rejoinder to Timothy Mitchell's *Carbon Democracy* (2011).[35] Mitchell argues that the relative fixity and linearity of coal-based industrial infrastructures over the late nineteenth and early twentieth centuries offered a strategic advantage to industrial workers in Western Europe and North America, who could effectively interrupt processes of extraction and circulation, and thus press demands for unionization, industrial regulation, workers' compensation, and other social benefits. Workers' strategic situation enabled them to forge new forms of democracy, which ultimately would be codified in Fordist social and industrial compromises.[36] Mitchell then suggests that, with the turn to oil-based production over the twentieth century, the working class — particularly in oil-producing regions of the Middle East — found itself in a relatively weak position, insofar as the oil industry generally does not concentrate masses of waged workers at sites of extraction and tends to involve shipments by sea or pipeline, relying to a lesser degree on fixed, interruptible infrastructures operated by masses of workers. There is some reason for skepticism though in relation to Mitchell's assertion of oil infrastructures' "fluidity," especially in light of recent, relatively effective strikes of north American refinery workers, port workers, and (crude-by-)rail workers, or of consequential strikes by oil and transit workers near the Suez Canal during the 2011 Egyptian uprising. Mitchell's large-scale narrative of the making and unmaking of democratic forms of governance in the bifurcated age of carbon emphasizes above all how class and political dynamics are shaped by technical and environmental conditions, which makes for a compelling narrative but obscures key determinants of the histories he charts. In arguing for the determining force of environmental and infrastructural conditions, he tends to portray coordinated resistance to injurious or exploitative conditions as a historical constant, which downplays the contingencies, and determining force, of the "subjective" side of social movements.

Infrastructures of Injury will thus redraw histories of labor and political life in the era of carbon, showing how strategically situated industrial workers in Britain failed for decades to assert power over their conditions of labor, and suggesting some of the ways these impasses of collective organizing were partially overcome by the turn of the century. I will show how working class populations' relative effectiveness in blocking industrial infrastructures was determined in significant part by the associational bonds, or at least passing alliances, established between waged and unwaged workers, including unemployed men and married women, the latter of whom were coming to be excluded as a class from the wage relation.[37] Mitchell's narrative of industrial democratization ignores the agency of wageless and indirectly waged populations.[38] But, as I will show in Chapter Four, the first major wave of strikes and union organizing along British railway lines — which followed management speedups and spikes in the rate of fatal injuries over the 1870s — was driven in part by unemployed men who looted warehouses attached to

picketed rail stations, and by women who led mass funeral marches in response to their husbands' accident-induced deaths. Along similar lines, the great railroad strike of 1877 in the US involved explosive convergences of wageless populations and railway employees, who together undertook rail blockades and widespread looting, and in some cities even captured for a time certain organs of state power. In San Francisco though, the 1877 strike took the form of anti-Chinese pograms — a turn toward xenophobic labor politics that, as we will see in Chapter Four, was taken as well by early British railway unionists.[39]

Divisions within the working class — of gender, grade, race, nation, and work status — are thus foregrounded in what follows. In focusing on divisions of grade and employment status, my research harkens back to 1970s historical debates on the making of the so-called aristocracy of British labor.[40] It also draws on more recent feminist histories of labor, such as Anna Clark's *The Struggle for the Breeches*, which show how the making of the British working class was conditioned by gender ideologies and intra-class gender antagonisms. And it builds upon studies of the global, imperial situation of British labor politics, considering the appearance of racially exclusionary discourses within railway labor periodicals, and showing how the turn to settlement schemes amongst fired unionists deflected class antagonism and shored up bonds of racial privilege across and beyond the Empire.[41] While my project concerns itself with these broad questions of midcentury class composition, the materials and histories I bring to bear on these questions are necessarily partial. The chapters to follow attend particularly to transformations in British railway, domestic, and nursing labor, especially transformations that bear on dynamics of industrial injury and its management.

II. Class Fractures

Midcentury railway labor regimes were distinctive in a number of ways. Railway companies established relatively elaborate differentiations of grade (with enginemen and stationmasters at the top, and undifferentiated 'laborers' at the bottom), and were perhaps the first to institute on a large scale internal labor markets, whereby higher grade positions were filled primarily through promotion of workers already employed by the company.[42] In this way, railway labor regimes entailed significant stratification, but also a certain security of employment over time. Perhaps the most significant impediment to workers' long-term employment was their exposure to industrial injury — an exposure that, while somewhat unevenly experienced (those working in rail yards were most at risk), nevertheless affected those inhabiting all grades. These distinctive conditions of railway labor underwrote the establishment of a marked aristocracy of labor within the industry. Workers in higher grades (especially enginemen, guards, and stationmasters) were paid enough in wages to set some money aside — either in savings or through benefit funds — in preparation for their potential injury. Their capacity to individually prepare, however inadequately, for workplace injury made for relatively atomized responses to accident-induced injury, as well as for a consequential divide within the railway workforce, wherein relatively secure workers separated themselves from the broader mass of undifferentiated laborers and lower-grade employees, who had little

capacity to participate in benefit funds or other dimensions of an emergent culture of self-help and improvement.

In order to begin coming to terms with the parameters of this emergent culture of improvement and self-help, Chapter One will consider midcentury penny periodicals that presented themselves as improving reading material. Midcentury improving periodicals can be read as disciplinary technologies. Not only in their content, but also in their form — to the extent that the two can be conceptually distinguished — such periodicals inculcated in their readers a range of normative practices for responding to risk and injury. Through readings of Gaskell's *Cranford* and Rathbone's "Mignionette," we will see how midcentury periodicals, particularly via serialized novels and short stories, enabled readers to imaginatively inhabit moments of shock and subsequent acts of affective self-management. Periodicals also trained readers in norms of domestic life, in the propriety of the male wage earner / female housewife division, and in various modes of savings and insurance, presenting such techniques of calculation and risk management as critical to the realization of working class subjects' health, respectability, and economic improvement. In reading midcentury improving periodicals as disciplinary technologies generative of gendered norms of subjecthood, I will be drawing upon Foucaultian historical and literary work, particularly of the late 1980s and early 1990s, including Nancy Armstrong's 1989 *Desire and Domestic Fiction*, which showed how midcentury novels written by women helped remake gendered norms of liberal subjecthood and naturalize emergent forms of institutional power.[43]

But I will also be returning to a somewhat earlier problematic, associated with 1970s and 80s materialist feminisms: that is, the study of shifting forms of social reproduction.[44] Midcentury improving periodicals did not simply affect political cultures by remaking gendered norms of liberal subjecthood or by producing generically docile bodies; these periodicals also helped make new kinds of workers, and thus new gender divisions of labor and class relations. Juxtaposed with stories of affective self-management and articles on insurance options were technical drawings of furniture and machines, as well as accounts of the kinds of self-discipline that employers were looking for in potential employees. In this way, periodicals prepared working men for emergent forms of industrial labor, which often required participation in company-run benefit funds, the reading of technical illustrations or instructions,[45] affective or care work (i.e. toward passengers on railways), record-keeping, and sobriety.

Meanwhile, improving periodicals and advice manuals for women circulated new norms of domestic labor. As we will see in Chapter One, midcentury manuals addressed to women depicted domestic labor as a form of nursing. New mothers were provided with advice for observing and caring for children that was justified on the grounds that it aligned with up-to-date nursing practices. And married women were encouraged to relate to their husbands as nurses would relate to patients. Readers' imagined husbands were presumed to be engaged in dangerous, exhausting industrial labor, and thus to require at home similar, if less elaborate, forms of attention and care to those offered by "reformed" nurses in newly established industrial hospitals. Reformed nurses were largely defined in terms of age and marital status — they were figured in midcentury discourse as youthful, conscientious antidotes to "workhouse maids," who were imagined to be older and relatively undisciplined. Thus, the imposition of norms associated with reformed nursing upon married women projected an ideal life course for working class women, wherein

early training in nursing then served them as they moved on to nurse their children and wage-earning husbands.[46] This idealized life path was shadowed, however, by the possibility that wage-earning husbands would suffer fatal or debilitating injuries at work, and thus that working men's access to the wage upon which these new domestic norms and divisions of labor relied would abruptly end, casting married women and their children — at least those without financial reserves or family support — into severe impoverishment.[47] While, in the 1830s and 40s, nascent forms of compensation were available to railway widows, by the early 1850s, as we will see in Chapter One, a series of legal and institutional reforms had all but eliminated such support, meaning that women whose husbands were fatally injured at work generally could rely only on individual savings or family support.

If norms of unwaged domestic labor for married women were being recast in terms of reformed practices of waged nursing, an inverse process was taking place with respect to masculine norms of industrial labor. As I discuss in Chapter Two, distinct ideological set-pieces — what Fredric Jameson refers to as ideologemes — regarding railway workers that tended to pull in opposing directions were tenuously resolved over the 1850s insofar as the attentional labors of railway work were reimagined as acts of paternal regard. This redescription of railway labor as domestic virtue (a double erasure, insofar as it relied on an understanding of parental labor as non-work), allowed for the forms of attentional and care labor required of workers to be naturalized, and at the same time for workers to continue to appear as relatively resistant to pain. Workers were imagined to be immune from the shocks and other injuries of railway travel — a portrayal that picked up on broader class and gender discourses of injury. But this portrayal sat awkwardly in relation to the requirement that rail workers relate to passengers in caring ways that would calm their nerves before rickety, drafty, and dangerous travels by rail. Were rail workers unfeeling or hyper-sensitive? The dissonance of these ideological and practical imperatives was partially resolved by recasting railway work as a form of paternal regard, which naturalized and categorically isolated the forms of care manifested by railway workers. In thus redescribing railway work, class and gender discourses of injury that downplayed the harms suffered at work by proletarian men could be maintained, passengers could trust that they were being taken care of, and the labors of rail transit could be safely tucked out of view.

At the midcentury, class relations were thus re-stabilized through gender and class discourses of injury[48] — discourses drawn together in part over the remains of railway accidents. This discursive reconstruction of class and gender relations took shape not only through periodicals and other print publications; but also through state, insurance, and company practices; as well as through the everyday acts of self-making and mourning undertaken by working class women and men. Rosalind Williams has famously argued that, in relation to the broader history of workplace accidents, railway accidents were unprecedented, insofar as their "victims were more likely to be persons of wealth and status," and thus that they helped bring about "a certain democratization of disaster."[49] This assessment is perhaps plausible for the earliest years of railway travel in Britain, during which time accidents were widely understood to affect passengers and workers in similar ways, and to give reason for alliances, or at least mutual regard, across class and other social divisions. By the early 1850s though, the situation appeared otherwise: through legal reforms, new insurance regulations, and shifts in railway

management, the lives of railway workers and their family members were in the process of being sharply devalued in relation to the lives of passengers, while the relative monetary value of deceased passengers' lives was being graded according to their income level.[50] In the 1846 *Fatal Accidents Compensation Act*, parliament granted to the heirs of fatally injured passengers the right to sue railway companies for compensation, while, by the early 1850s, the heirs of fatally injured workers were explicitly denied this right and were cut off from forms of company support and legal remedy that had existed in previous decades. In other words, *contra* Williams, the shared exposure of railway passengers and workers to accident and injury did not ultimately result in the democratization of disaster, or the making of industrial injury in its various manifestations into a broadly shared matter of public concern; rather, this shared exposure is better understood, as least with respect to the 1850s and 1860s, as a condition of possibility for a differential valuation of passengers and workers' lives, as well as a more fine-grained grading of life within these categories. In this way, the crisis of railway injury occasioned innovations in the discursive grading of life and loss – innovations that, insofar as they were generalized, helped restabilize class and gender relations on somewhat new bases over the third quarter of the nineteenth century: that is, in terms of uneven distributions of security in life and responsibility for injury.

From the perspective of the present, there is something uncanny about how industrial injury was managed in the 1850s. The ways working class subjects were made individually responsible for dealing with the effects of accidents and injuries resonates strikingly with recent social and cultural dynamics in overdeveloped countries, which have rendered individuals newly responsible for managing their own health conditions, retirement planning, education, child- and elder-care responsibilities, and other needs that had previously been at least partially socialized, or addressed through state and employment benefit programs. Moreover, as suggested above, forms of insecurity associated with pre-Fordist industrial work, while never universally overcome, seem to be gaining a new ascendancy with the dispersion of subcontracting and of private contract-based employment — labor regimes that lack workers' compensation benefits. In a somewhat broader frame, the notion that social hierarchies appear above all in disparities of life chances, of lives' grievability, or of whether injuries to different bodies are seen as such also seems to be of the moment, most pertinently in relation to ongoing struggles against the devaluation of Black lives, but also in a way that picks up on the concerns of those acting in concert against sexual violence, global health disparities, and neocolonial forms of occupation and counterinsurgency.[51] Perhaps these resonances can be ascribed to a problematic presentism in my approach to mid-nineteenth-century industrial injury. What I would want to suggest instead is that the midcentury moment, in particular the aspects of this moment foregrounded in what follows, form what Benjamin would refer to as an "image of the past" that can, perhaps fleetingly, be "recognized by the present as one of its own concerns."

III. Chapter Outline

Three of the four chapters to follow are oriented around particular primary texts. Chapter One composes a close reading of the first installment of what would become Elizabeth Gaskell's novel, *Cranford* (1851); Chapter Two considers a semi-autobiographical, genre-crossing text about a railway stationmaster, entitled *The Life of Roger Langdon* (1909); and Chapter Three offers a figural and historical reading of Marx's *Capital*. The conceptual and historiographical interventions of these chapters are built up initially through fine-grained readings of these sources — readings that seek to map the overdetermined historical conditions of such texts' emergence, to outline not only what they say but also how they help remake readers' capacities for action, and to chart their ideological limits. By employing ideological critical approaches in reading the sources that make up *Infrastructures of Injury*, I will be taking a cue from Carolyn Leskjak's argument for the continuing necessity of dialectical and ideological critical reading practices in the face of a turn in cultural and literary studies toward techniques of "surface" reading.[52] Ideological critical approaches will allow me to read in the archives of post-1848 working class culture a series of missed connections. As Jameson put it in 1981, ideology is best understood "in terms of *strategies of containment*, whether intellectual or (in the case of narratives) formal."[53] In order to read evidence of containment or closure in mid-nineteenth-century cultural materials, it is necessary to assume the possibility that things might have been, and might yet be, otherwise. And history — including the conjunctures that immediately preceded and followed from the period to which I will attend — offers at least some support in maintaining this assumption.[54]

Across the four chapters of *Infrastructures of Injury*, I will work with varied modes of ideology critique. In Chapter One, I will seek to locate clues in the occluded, "unthought" problematics of literary works for how gender relations were being remade at the midcentury, and for some of the unresolved tensions of emergent orders of gender and labor. In particular, I will be considering how norms of nursing and of women's indirectly waged domestic labor were reconstructed over the 1850s. In Chapter Two, I will look at the ideological homologization of the individual body and the railway network, especially as this association took shape in medical discourse, asking how this homologization of the body and the rail system tended to obscure the structurally injurious qualities of the latter. Chapter Two will also consider how incompatible discourses of railway labor were tenuously resolved insofar as such labor was imagined along the lines of paternal watchfulness. Here domestic ideologies will appear as participating in a double erasure, downplaying both the labors of domestic life and the strains of railway labor. In Chapter Three, I will attempt to set Marx's dialectical work in motion, drawing out from a figural reading of particular metaphors in *Capital* a story about some of the fundamental tensions in Marx's theoretical project, and of how these conceptual tensions relate to historical dynamics relevant to labor and injury across nineteenth-century imperial networks. Finally, in Chapter Four, I will find in early railway union journal articles materials for the making of a respectable, masculine unionist subject, while also marking moments when this project of subject formation faltered. As Chapter Four demonstrates, the emergence of railway unionism in the 1870s was an ambiguous step: unionization at once enabled collective struggles against injurious conditions of labor and life — struggles that previously had been largely foreclosed — even as it embedded in what would become a key organ of working class

struggle some of the regressive intra-class hierarchies and fractures that had flared up and taken on new forms at the midcentury.

Chapter One

Bearing Shock: Gaskell's *Cranford*, Gender, and the Self-Management of Industrial Injury at the Midcentury

On August 9, 1851, a *Times* reporter named Samuel Phillips published an exposé about the bookstalls of British railway stations. Having visited every railway terminus in London, he concluded that a "worthless mass" of "unmitigated rubbish" was being sold to railway passengers by a hodge-podge of unqualified salespersons, whom he described as "without credit, without means, without education, without information." The lone exception to Phillips' unsparing judgment was the "wholesome" bookstall he found at Euston station, run by the company of W.H. Smith & Son, which had been granted monopoly rights in 1848 by the London & North Western Railway (LNWR) to operate bookstalls along its line. Phillips' article, which was excerpted in journals and reissued in pamphlet form, boosted the profile of W.H. Smith & Son around the same time that the company was being granted monopoly rights to operate bookstalls along a number of other British railway lines.[55] As W.H. Smith & Son assumed control of bookstalls on lines radiating from London, they displaced local booksellers who had been granted standing by companies to sell literature at the stations. "At one fell swoop," as Phillips describes this process of displacement on the LNWR line, "the injurious heap was removed."[56] The term "injurious heap" can be read as referring at once to the purportedly "injurious" effect of cheap fiction on the sentiments of passengers — earlier Phillips had spoken of the "injurious aliment" fed to passengers' "hungry minds" — but also to the bodies of booksellers themselves. As Aileen Fyfe notes, early railway stalls "acquired a reputation as sinecures for injured railway employees or their widows, who… presented their newspapers and novels 'in amicable jumble with beer-bottles, sandwiches, and jars of sweets.'"[57] As we will see in what follows, the displacement in the early 1850s of injured workers and widows from railway bookstalls was part of a broader process of dispossession, in which railway workers and their heirs were denied forms of compensation and support that companies had begun to provide over the 1840s.

The "cleaning up" of railway bookstalls was also part of the process by which a cheap *literature of improvement* came to crowd out, at least to a certain extent, the melodramatic and "scurrilous" penny periodicals and books of previous decades. As early as 1853, when W.H. Smith & Son boasted seventy railway bookstalls, the *Times* asserted that the ascendant distribution company, with the support of publishing houses committed to educational and domestic literature, had successfully transformed the quality of reading material available to the masses of those who passed daily through railway stations: "[T]he rubbish and the dirt have been swept away."[58] Beginning with a reading of Elizabeth Gaskell's *Cranford*, I will attend in what follows to the displacements of injurious literature and of injured bodies suggested by this vignette of the railway bookstall, showing how these two processes — of rail workers' dispossession and of literature's *improvement* — bore a more than incidental or passing relation. Gaskell's

Cranford, published serially in Dickens' *Household Words* between 1851 and 1853, registers in its form these interrelated displacements — displacements that were remaking the circuits of publication and distribution through which *Cranford* passed on its way to its earliest readers.

I. Shock Absorption in Gaskell's *Cranford*

In the opening chapters of *Cranford*,[59] shock appears to be contagious. When Captain Brown, a railway employee who had recently settled in town, is struck and killed by a train, the shock of his death spreads rapidly across Cranford. Stunned residents mass in the streets, "listening with faces aghast" to those who had witnessed the accident (22). One of these witnesses — an unnamed railway carter whose job it was to transport goods from the station to local consumers — is collared by Miss Matilda Jenkyns (hereafter, Miss Matty) and dragged back into her sister Deborah's house so that he can deliver the shocking story to the Jenkyns sisters and to Mary Smith, the novel's first person narrator. The carter, "shudder[ing] at the recollection," tells the three women that Captain Brown had been waiting for a train, absorbed in the latest installment of Dickens' *Pickwick Papers*,[60] when he heard the steam whistle and looked up to see a little girl walking across the tracks. Leaping up, the Captain pushed the child to safety, but then tripped and was struck by the locomotive. The three women hear as well from the carter that someone has been sent to tell the Captain's two daughters of their father's death.

In these early scenes of *Cranford*, Gaskell depicts railway workers as bearers of shock; while the Captain directly suffers the train's devastating impact, the carter brings to others the story of the event. Rather than delivering goods from the station to local residents, he transmits to them some part of the psychic devastation he has endured in witnessing the Captain's death. Having seen and heard from him, Miss Jenkyns becomes ill, "as if she were going to faint," and calls upon the narrator to open a window (23). Railway workers thus appear to maintain a two-sided relationship with industrial shock: they both enable its dissemination and are undone by its more acute manifestations. In *Cranford*, each side of this relationship is realized, in part, through rail workers' engagements with serialized literature. Had he not been reading Dickens' *Pickwick Papers,* we are invited to imagine, the Captain might have seen and protected the child, and have been out of the train's path before it reached the station. Elsewhere in the novel, he is shown reading while walking, nearly colliding on his way with Miss Jenkyns (20). His absorption in literature seems to prevent him from performing the "constant watchfulness while on duty" prescribed by midcentury railway workers' manuals.[61] The pleasures of reading pull away at the perceptual discipline demanded by his job, exposing him to the shock of an abrupt meeting on the street, an unanticipated railway whistle, and, ultimately, the locomotive's physical force.

While Gaskell directly depicts the Captain's exposure to devastating industrial shock, his role in disseminating to others a shock he has not personally suffered is more allusively rendered. Like the carter though, the Captain transmits shock to the novel's protagonists by delivering to their parlor a story from the station. In his case, however, the story is fictional: he reads to the women of the town an unsettling story from the latest

installment of Dickens' *Pickwick Papers*, which he had received just that morning, following its arrival to the station by train.[62] Captain Brown's delivery of the story takes place at a party held in Mary Smith's honor upon her return to Cranford. Before the Captain's arrival at the party, Mary worries that, being the only man invited, he might disrupt the easy sociability generally enjoyed by the women of the town (11). Initially, it seems that her concern might be misplaced, however, as he "immediately and quietly assumed the man's place in the room; attended to everyone's wants, lessened the pretty maid-servant's labour by waiting on empty cups, and bread-and-butterless ladies; and yet did it all in so easy and dignified a manner…" (12). The Captain's prompt, unobtrusive way of caring for the other guests is consistent with the ideal of service demanded of railway workers, particularly of guards and station-masters, who were responsible for attending to the needs of passengers in gentle ways that would make them feel at ease. Railway employees were encouraged by their training manuals to manage the feelings of others, and in this way to perform what we would now refer to as affective labor.[63]

The Captain's skillful performance of such labor falters, however, when he decides to read aloud a passage from the latest installment of Dickens' *Pickwick Papers*: "He read the account of the 'swarry' which Sam Weller gave at Bath" (14) — a passage that depicts a coachman, who normally wouldn't speak at such an event, nervously telling those assembled that a man named Mr. Wiffers had decided to resign his post, following which: "Universal astonishment fell upon the hearers. Each gentleman looked in his neighbor's face, and then transferred his glance to the upstanding coachman."[64] Mr Wiffers himself then explains his decision, which was prompted by his master having forced him to eat cold meat: "It is impossible to conceive the disgust which this avowal awakened in the bosoms of the hearers. Loud cries of 'Shame!' mingled with groans and hisses, prevailed for a quarter of an hour."[65] The shock suffered by those present at the "swarry" is echoed in the agitation experienced by Miss Jenkyns in listening to the story: she responds with disgust to the excerpt from Dickens' *Pickwick Papers*, and then, as if to clear the air of a bad odor, reads in a "high-pitched majestic voice" from Samuel Johnson's *History of Rasselas* (14), comparing this eighteenth century work favorably against the new serialized literature (of which Gaskell's *Cranford*, published serially in Dickens' *Household Words*, formed a part). Miss Jenkyns' rejoinder spurs a brief literary debate between the Captain and herself, which ends when he curses the author of *Rasselas* and she decides to ignore her interlocutor indefinitely. In reading from Dickens' *Pickwick Papers*, the Captain transmits a narrative of shock from the printed page into the air of the parlor, and in doing so allows a literary depiction of shock to gain a certain animation and to disrupt what otherwise may have seemed a placid sociability.

While Deborah and the Captain work to patch up their relationship in the weeks immediately prior to his accidental death, it seems that Miss Jenkyns nevertheless nurses her dissatisfaction with the Captain's reading habits into her old age. Following an ellipsis in the novel, spanning the 1830s through the early 1850s, Mary Smith is shown returning to Cranford and making the rounds of her friends' homes, stopping in on an elderly Miss Jenkyns. When she arrives, she finds Miss Jenkyns being read to by Flora, Captain Brown's granddaughter. Miss Jenkyns interrupts Flora to take up again her defense of Samuel Johnson, asking Mary if she "ever read the 'Rambler'? It's a wonderful book — wonderful! and the most improving reading for Flora'." Mary wonders if this is so, given Flora's apparent inability to read half of the words without

spelling, but all the while Miss Jenkyns carries on with her literary musings: "'better than that strange old book, with the queer name, poor Captain Brown was killed for reading — that book by Mr. Boz [Dickens' pen name for the *Pickwick Papers*]…" (29). Again, Mary responds by sounding an ironic note, mentioning that, throughout Deborah's monologue, Flora surreptitiously had been scanning Dickens' *A Christmas Carol*.

While Deborah Jenkyns' literary and moral traditionalism is made an object of light humor in the opening vignettes of *Cranford*, her dissatisfaction with the new serialized fiction nevertheless helps enable a reflexive turn in the novel.[66] Through Miss Jenkyns' judgment of the Captain's habits of reading, particularly her insistence that the Captain was "killed for reading" the *Pickwick Papers*, the narrative puts in play the question of how serial literature shapes its readers, for better or worse, including those readers drawn from the industrial working class.[67] At the time of *Cranford*'s publication, the question of popular literature's effects upon working class readers was a matter of active debate, which largely turned on the category of *improvement* and involved the marking out of moral lines between literary genres, plot devices, and modes of publication.[68] William Greg's 1849 essay in the *Edinburgh Review* evaluates Gaskell's first novel, *Mary Barton,* in these terms, arguing that the novel risks "exasperat[ing] the prejudices" of working class readers rather than encouraging them to participate in what he presents as an already well-established movement of workers' self-improvement.[69] As Greg tells the story, this movement was leading workers to abandon an earlier, antagonistic stance toward factory owners, and to cultivate instead frugal and sober habits of living in order to insulate themselves from periodic economic crashes, illnesses, and episodes of unemployment.[70] Greg feared that Gaskell's first novel, with its "startling" rendering of John Barton's intractable class animosity, would undercut industrial workers' newly forming habits of self-discipline, which he appears to have assumed were cultivated more by the reading of account books and tracts of political economy than melodramatic literature.[71]

Reading with reference to Greg's review of *Mary Barton*, it is possible to discern in the opening installment of *Cranford*, at least in its treatment of Captain Brown, a starkly "pessimistic" portrait of serial literature's social effects, with particular reference to the problem of industrial shock and injury. We might even say that Gaskell has composed a vignette that confirms William Greg's fears about the effects of the new popular fiction on its working class readers. Serial literature appears in the opening chapters of *Cranford* to be directly caught up in the circuits of shock that it depicts: Captain Brown's reading of the *Pickwick Papers* seems to impinge upon forms of self-discipline that, if maintained, would allow this representative[72] working class character (and reader) to better protect himself and others from accidents and injuries. The book blocks his view of the industrial circuits he'd been charged with overseeing, preventing him from exercising a "constant watchfulness while on duty." And *Pickwick Papers*' sensational episodes seem to compel him to set his discretion aside at Mary's party, which helps bring about a temporary social disturbance. The injuries suffered and inflicted by the Captain while reading — from startling and outraging Miss Jenkyns to being struck by the train — can thus be read as staging a spectrum of shocks, from benign to terminal, that working class readers of popular fiction might bear.

If Gaskell seems to depict, through the character of the Captain, a series of shocks that readers of cheap publications might suffer and pass on, she also presents a model of

how someone might *bear up* in the face of loss, and in doing so interrupt the contagious spread of shock. When Jessie Brown, the Captain's younger daughter, is told of her father's death, she faints immediately. Upon being brought back to consciousness though, she first concerns herself with the feelings of her terminally ill sister. "Shivering with feelings to which she dared not give way," Jessie insists that her sister "cannot live many days, and she shall be spared the shock" (23). While Jessie ultimately does tell of their father's death just before her sister passes away, prior to this final moment she manages to hide her grief from her sister.

Jessie Brown's management of her outward expression of emotion spares her sister from suffering a sense of loss, and also appears to produce a lasting mutation in her own relation to the loss of her father. She emerges from this process with an intensified sense of her capacity to act in the world, expressing an interest in seeking employment as a nurse, housekeeper, or saleswoman, and responding in a self-possessed way when her former lover, Major Gordon, upon reading of her father's death in a newspaper, returns to Cranford and asks her to marry him. While she seems to process the loss of her father in a way that reproduces her capacity to act in the world — albeit within the gendered and classed constraints to which she is subject — there is nevertheless one moment when, in speaking with the narrator, Miss Jessie appears to be undone by grief:

> Miss Jessie began to tell me some more of the plans which had suggested themselves to her, and insensibly fell into talking of the days that were past and gone, and interested me so much, I neither knew nor heeded how time passed. We were both startled when Miss [Deborah] Jenkyns reappeared, and caught us crying (27).

Jessie and Mary here share a moment of grief that seems to pull them from the flow of time. Their interaction comes into focus for the reader in an indirect way, following a subtle narrative deferral and displacement. The reader only learns that the two women have been crying after Miss Jenkyns appears on the scene. In a sense, the reader perceives Jessie and Mary's shared tears from the perspective of Deborah, who "caught us crying." The narrative voice is unsettled in this scene: just as Mary describes her sensation of being pulled from the flow of time, the narrative voice seems to separate itself from any grounding in a particular character's body and point of view. The voice and flow of the narrative falls into reverie here, only to find its footing once more upon Deborah's disruptive appearance. There is a disorienting quality to this moment of narrative re-grounding, as the voice of the text seems for a second to have tied itself to the body and point of view of Deborah — the character responsible for shocking Mary and Jessie back into a normative relation with time. This is the second time in the narrative that Deborah prevents Jessie from mourning privately. Earlier, she insists on accompanying Jessie to the Captain's funeral, despite what Mary imagines to be Jessie's longing to "give way, for one little half-hour, uninterrupted by sympathy, and unobserved by friendship" (24-5).

Gaskell's novel presents as heroic Jessie's work of shielding her invalid sister from the grief of their father's death; the novel's narrative voice also takes on this labor, falling into reverie and folding over itself in the above-discussed scene of Mary and Jessie's shared suffering, rather than depicting for the reader in a more direct way the grief that passes between the two young women. The novel's sympathetic rendering of Jessie's attempt to take in, neutralize, and hide the shock of her father's death serves as a

counterpoint to its depiction of Captain Brown's two sided relation to industrial shock, wherein the Captain both disseminates and is undone by such shock. In this way, *Cranford* establishes a polarity between the characters of Jessie and her father, which maps out divergent, perhaps gendered, ways that individuals might respond to or be affected by industrial shock, and also begins to bring into focus different, though not necessarily incompatible, ways of incorporating shock formally within serialized fiction. In the narrative mode associated with Captain Brown, the text keeps pace as shocking stories and their devastating emotional effects pass from one character to the next, some of whom, with blanched faces and trembling hands, appear to be overcome by the news of the Captain's death. Such bodily displays of psychic devastation draw upon conventional gestures of melodramatic theater, just as the accelerated narrative rhythms of these scenes follow the pacing of melodramatic dialogue.[73] In this melodramatic narrative mode, the reader is caught up in the transitivity of grief, pulled quickly from one injured or mortified body to the next, and faced with the possibility that her reading habits might compel her, like Captain Brown, to bear abrupt shocks.

In the narrative mode associated with Miss Jessie, on the other hand, the reader, like Jessie's invalid sister, seems to be partially shielded by formal disruptions and digressions from direct encounters with shock's devastating effects. The text folds over itself in order to maintain a certain discretion, allowing Jessie to grieve for the most part "unobserved" and "uninterrupted" by the reader. Rather than showing directly her periods of intense suffering, Jessie is brought to the attention of the reader almost exclusively in her more self-possessed moments — moments when she takes on the role of the nurse, interrupting the contagious spread of shock by absorbing and neutralizing her own and others' grief. While the immediate aftermath of Captain Brown's death is drawn in sharp relief, through stock melodramatic narrative techniques, Miss Jessie's suffering and labors of endurance are drawn with fainter lines, the novel undertaking in these moments what Hilary Schor refers to as an "effort at concealment." Schor reads *Cranford* as a study in narrative silences, where details and digressions at once displace dramatic events, while also allowing hints of "a quiet violence of tragic loss, one completely unlike the ferocity of a Napoleonic invasion or a Tennyson narrator, but one that is felt deeply in the daily rhythms of Cranford."[74] The novel's immersion in the daily, often melancholically inflected, rhythms of Mary's acquaintances, along with its sustained efforts of narrative concealment, allow for a "deep feeling" to saturate the experience of reading. Some indication of this effect is suggested when Mary notes, with respect to Jessie: "She could even smile — a faint, sweet, wintry smile, as if to reassure us of her power to endure; but her look made our eyes fill suddenly with tears, more than if she had cried outright" (25). Perhaps *Cranford*'s mode of narrative discretion carries the emotional force it does in part because its formal operations — its reveries, digressions, ellipses, and moments of splitting (i.e. between narrator and narrative voice) — replicate some of the temporal and affective qualities of grieving life,[75] allowing them to take form and to shape the texture of the novel.

The initial installment of *Cranford* can be viewed as a force field that is distributed around the poles of Captain Brown and Miss Jessie, two working class characters who come to exemplify the divergent narrative modes through which their lives and losses are made to appear to the reader. The melodramatic mode, associated with Captain Brown, appears and then quickly exhausts itself at the scene of his death.

Miss Jessie's act of bearing up then figures forth the mode of narrative concealment that will give form to the remainder of the work. Thus do the Captain and Miss Jessie carry their respective narrative modes. But, to return to the discussion of working class reading introduced above: what are we to make of these two characters as readers? Initially, this question might seem misguided, as Jessie is not portrayed as a character that reads literature. While the Captain's fate appears to be determined by his intensive reading, and while he is shown reading a text that is interspersed with melodrama[76] — the same narrative form that flashes up at the moment of his death — Miss Jessie's actions seem neither to be mediated by, nor illustrative of the effects of, a particular reading practice or set of literary preferences. Nevertheless, Miss Jessie can usefully be seen as a reading character. Viewing her in this way has the potential to bring into focus aspects of *Cranford*'s literary and social project that otherwise might remain obscure.

To take up this claim, it is worth returning to William Greg's review of *Mary Barton*.[77] We can recall that Greg faulted Gaskell's first novel for failing to offer a model of an improved and improving working class character (he seems not to have considered Mary as a candidate for this role[78]), and thus for failing to encourage in its working class readers practices of self-discipline and moral improvement, which, he believed, had already begun to take hold in a stratum of industrial workers. He considers such practices of self-discipline to be useful not because they inoculate individuals from misfortune, but rather because they provide workers with the material and moral resources necessary to weather misfortunes that are likely periodically to occur, including sicknesses or periods of unemployment resulting from market crashes. While he found the character of John Barton dissatisfying, the character of Miss Jessie from Gaskell's later novel would seem to exemplify Greg's idealized, improved and improving working class subject, who responds to loss by bearing up, by avoiding emotional excesses, and by orienting herself toward potential employment. Jessie's response to her father's death is a model of self-discipline and restraint—a model that also sets in motion the narrative form that distinguishes *Cranford,* a domestic novel of concealment and shock absorption. Such a fiction of shock absorption would seem to address Greg's call for an adequate literature of and for workers' improvement.

Miss Jessie can thus be understood as a character whose exemplary act of bearing up constitutes and sets in motion the narrative conditions enabling readers to imaginatively inhabit and more effectively engage in such acts of self-control — her moment of bearing up retroactively establishes, in a play with time and with causality, the textual conditions of its own emergence. This playing with causality is registered in the novel in part through its use of generational descent and of an extended ellipsis, which separates Mary's initial trip to Cranford (sometime in the 1830s), and her later returns, when most of the action of the novel takes place (the late 1840s and early 1850s, the immediate past of the novel's publication date). Upon her return in the late 1840s, Mary encounters Jessie's daughter Flora reading to an ailing Miss Jenkyns, who raises explicitly the question of whether Flora's reading is or could be "improving." At this moment, Jessie's spectral subject formation — the pedagogical and moral formation that would have enabled her to respond as she does to loss — is displaced onto her daughter, who nurses Miss Jenkyns by reading. The ellipsis allows these two moments — Jessie's response to her father's death and Flora's potentially "improving" act of reading — to appear as if almost simultaneous: both events seem to immediately precede the action

around which the novel is focalized and to prefigure the narrative forms through which *Cranford*'s fragmentary plot will be made to appear for the reader. The ellipsis allows the novel to fold over onto itself — a folding of time and narrative that characterizes *Cranford*'s particular form of literary concealment.

But why must Jessie's act of reading be displaced onto her daughter? It would be possible, perhaps, to assume that this displacement simply follows from *Cranford*'s reflexive exploration of its own potential role in establishing a new literature of improvement. In order to avoid taking up speculative forms that would attempt to represent future worlds, the novel is compelled to engage in a play with time and causality, which enables the novel both to suggest the emergence of a literature of improvement in the early 1850s and to show the social effects that could follow from such a literature (in this case, by projecting these effects backwards in time). But the narrative concealment of Jessie's subject formation is not simply a matter of time constraints; this concealment also suggests a contradiction in the novel's conception of the social effects of its narrative form. Miss Jessie, who exemplifies the improved and improving working class subject, cannot be shown reading novels[79] because the process of reading literature, including *Cranford* itself, is at least potentially at odds with the ideal of self-discipline that the novel nevertheless also bears and works to bring into effect. As registered in the novel's depiction of the Captain, reading involves an absorption in the text, a displacement of attention from social and technical processes around which a reader might otherwise organize their faculties of attention and a redirection of such attention to a fictional world. Reading cannot be divorced from *reverie*—a state of being that *Cranford* invests with contradictory valences. On the one hand, the Captain's reveries of reading appear to be responsible for *faux pas* and fatal accidents; on the other hand, the narrative reverie that shields Jessie and Mary from the reader's view not only protects the reader from direct exposure to an act of mourning but also parallels Jessie's exemplary act of shielding her sister from emotional devastation. The text forms a möbius strip that alternately draws together and sets apart moments of destructive inattention and of protective unfocusing—reverie's opposed valences, each of which, in *Cranford*, are associated with and/or realized through the act of reading. In the novel, reverie is associated with risk and with melancholic feeling, while it is also associated with the disciplining of the self and the silent management of loss. The ellipsis and displacement that allow Jessie to appear as a non-reading character thus can be read as aspects of a second-order "effort at concealment" in the novel, whereby the more troubling associations of reading-induced reverie do not as much appear to attach themselves to this exemplary character, but instead are displaced onto other characters (i.e. the blundering Captain, or the melancholic Miss Matty, with her collection of family letters that provoke tearful reminiscences). We might say that Miss Jessie is a reified character: her fraught, textually mediated subject formation is forgotten, displaced onto other characters. She floats free of the printed page, and in doing so paradoxically underwrites, or authorizes, Gaskell's innovative domestic novel of concealment and shock absorption.

Earlier I suggested that the novel's polarization around the figures of Miss Jessie and the Captain outlined opposed, possibly gendered, ways working class subjects might respond to industrial shock, with the Captain bearing shock and Miss Jessie bearing up in the face of shock. But this assessment will have to be qualified. These two characters do

not occupy structurally parallel positions in the novel. There is something more complex happening in their respective characterizations than the mere delineation of binary, gendered subject positions. Miss Jessie is not simply the Captain's counterpart, but rather helps set in place the narrative medium — the field of action — though which the novel's various characters, including the Captain and Miss Jessie themselves, appear and take on meaning. We might understand Jessie's anomalous, even doubled, structural position in light of Nancy Armstrong's account of how women novelists, and novels about women, fabricated a new order of gender and power in nineteenth-century Britain.

> It was at first only women who were defined in terms of their emotional natures. Men generally retained their political identity in writing that developed the qualities of female subjectivity and made subjectivity a female domain. It is fair to say that Sterne's heroes, like Fielding's Joseph Andrews, clearly declared themselves anomalous when they inverted the model and, as males, experienced life as a sequence of events that elicited sentimental responses. In this respect, they came to the reader in a form considered more appropriate for representing a female's experience than that of a male. In nineteenth-century fiction, however, men were no longer political creatures so much as they were products of desire and producers of domestic life. As gender came to mark the most important difference among individuals, men were still men and women still women, of course, but the difference between male and female was understood in terms of their respective qualities of mind. Their psychological differences made men political and women domestic rather than the other way around, and both therefore acquired identity on the basis of personal qualities that had formerly determined female nature alone.[80]

As Armstrong demonstrates, this emergent order of gender was, by the midcentury, meaningfully restructuring working class cultures, organizing such cultures more centrally around gender and sexual identities and their domestic entailments. Such identities, materialized through affectively-charged domestic bonds — marriage in particular — came to be understood as foundations of the self and as primary bases of social power and responsibility. In her account of how this configuration of power/knowledge was forged, Armstrong shows how women at once figured forth the social order of gender as such, while also taking on particular roles and responsibilities within this order and its accompanying domestic ideologies. What Gaskell's characterization of Miss Jessie further reveals is how this renovated gender order came to be implicated in the management of industrial injury and loss. Jessie's labors of concealment and nursing project an ideal of self-discipline in the aftermath of industrial injury that, while gendered, also traverses gender divisions. She, rather than the Captain, can be read as a model for working class men as well, some of whom, railway workers in particular, were being compelled at the midcentury to perform affective labor as part of their waged employment.

As Armstrong shows, the nineteenth-century novel helps reorganize social relations and subjectivity around the imperatives of gender most directly through its marriage plot, a form that is given a new twist in *Cranford.* Jessie's exemplary work of concealment, her processing of grief, was spurred by the need she felt to protect her invalid sister from shock and to provide her with hospice nursing. Her period of nursing precipitated an unexpected coupling — a quick passage into married life that, in his

reading of Jane Austen's work, D.A. Miller would describe as the becoming person of the woman protagonist.[81] The differences that set *Cranford's* marriage plot apart from those in Austen's novels are instructive. In *Emma* or *Pride and Prejudice*, protagonists' coupling follows from their cultivation of style and results in their fall from style. The cultivated, seemingly impersonal wit characteristic of *style* thus mediates various formal elements of the Austenian novel, including characterization (characters are arrayed along a spectrum of style), plot (the turn to marriage is a turn from style), and narrative point of view (Austen's third person omniscient narration, with its arch style, obscures its provenance in a subject position that remains unrepresentable in the novel). For Miller, Austen's style entails a particular labor of concealment: the purported shame of the unmarried woman (ultimately, Jane Austen herself) is held at bay though the cultivation of a cutting, seemingly impersonal style. As we have seen, different labors of concealment structure *Cranford*: namely, a first-level concealment of industrial injury and its devastating psychic ramifications (enacted most dramatically by Jessie), and a second-level concealment of the novel's ambiguous relation to working class subject formation. The setting of Gaskell's novel seems to play up this difference vis-a-vis Austen's logic of concealment. Cranford is a town of spinsters obsessed with literature; an entire world built around the subject position concealed in Austen's novels. We can see this difference as well in Miss Jessie's marriage plot (the only completed marriage plot of Gaskell's novel). Here, Jessie's *nursing* takes the place of Emma's *style*. Both practices involve forms of concealment undertaken without any instrumental orientation to marriage, which nevertheless seem to precipitate a good match. In *Cranford*, Jessie's passage from nursing to marriage seems contingent, even implausible. Major Gordon easily could have missed the newspaper announcement of the Captain's death, and, unlike potential husbands in Austen, he is only introduced to the reader at the moment of his proposal. There is something of a *deus ex machina* in the Major's return. To the extent that his proposal follows from Jessie's nursing, this causality is not immanent to their relations, but appears as a blunt operation of narrative: by offering her a good husband, the narrative validates or rewards Jessie's nursing work, while also sending her packing from the plot.[82] And while the Major's proposal keeps her from the future of waged nursing she had briefly considered following the death of her father, there is little reason to think that Jessie's passage into marriage will be accompanied by her thorough abdication of nursing labor (as with Emma or Elizabeth's abdication of style upon their coupling). In *Cranford*, as in a broader midcentury culture of improvement, nursing is exemplary of feminine domestic virtue. Such work awaits Jessie over the threshold.

The awkwardness of Jessie's marriage implies troubles in the midcentury order of gender. I have suggested that the gender order, especially as it came to mediate working class subjects' lives, was newly charged at the midcentury with the management of industrial injury. *Cranford* helps us understand how nursing — as figure and as practice — helped bring about this mutation in the logic of gender and social power. But it also helps us see some of the fracture points of this emergent order. Jessie's exemplary acts of nursing and of affective self-management are not seamlessly attached to her coupling. As much as nursing is made to figure feminine domestic virtue, something of a hitch remains in its relation to marriage, which was generally understood to be the ideal context for the performance of such virtue. Perhaps this is a matter of the fact that waged nursing — which was being made at the midcentury into a vehicle for a reformed ideology of

feminine virtue — offered one of few lifelong career paths for unmarried women. Waged nursing also offered an alternative to remarriage for working class widows, as Sue Hopkins makes clear in her detailed study of the life courses of midcentury nurses at St. Thomas' Hospital, a third of whom sought employment after being widowed.[83] To borrow and invert a well worn phrase: at the midcentury, waged nurses were "of" but not necessarily "in" the gender matrix.[84] The notion of the nurse as angel suggests this doubled position: at once excessive and foundational to the social order of gender. There is something of this otherworldliness in *Cranford*'s depiction of Jessie. As suggested above: she is a reified figure who seems to float free of the printed page. She processes her grief in an implausibly effective way and seems, for a brief moment, inclined to pursue a life of waged nursing in lieu of marriage. If Jessie carries traces of the midcentury reformed nurse — the angel at the bedside — she bears as well the marks of other ideologically freighted figures from this moment: in particular, the protagonist of the marriage plot and the railway widow.

In what follows, I want to historicize these various associations that cluster around and thus form the composite figure of Miss Jessie. The chapter will track the emergence at the midcentury of a new order of gender, especially as it shaped the lives of working class subjects involved in projects of self-improvement — those who might in the 1970s have been referred to as labor aristocrats. In referring to the "order" of gender, I mean to suggest the various norms that structured domestic life, that defined this life above all in terms of affectively charged bonds between husbands and wives, and that organized the relation of the domestic to other spheres or practices at the midcentury. What is new about the order of gender that comes into being at this moment is how centrally it is concerned with the management of industrial injury. To get at some of the dimensions of this new order, I will show how waged nursing was refigured and reorganized at the midcentury, and how reformed nursing was made into a model for feminized domestic labor.[85] I will also show how emergent institutional and discursive conditions recast norms of railway widowhood in ways that held widows newly responsible for managing their grief and carrying on without support of state or company in the aftermath of their husbands' fatal workplace injuries. Family relations were made into the primary, if not sole, locus of support for working class widows. This responsibilization of the working class family, and of widowed spouses of industrial workers in particular, was produced in part through a new print culture of workers improvement, the coordinates of which will be outlined in the following section. At the chapter's close, I will return to *Cranford* in a way that builds upon these intervening historical reconstructions, focusing on some of the fracture points or instabilities of this new order of gender. This will entail a reading of *Cranford*'s chapter, "Poor Peter," in which Miss Matty recounts how her brother was forced to leave the family home after dressing in Deborah's clothes.

II. Serial Improvement

One week to the day after the publication of *Cranford*'s first installment, Hannah Mary Rathbone's short story, "Mignionette," began serial publication in *The Working*

Man's Friend and Family Instructor, a penny periodical addressed to working class readers, which John Cassell had begun publishing in 1850.[86] "Mignionette" exhibits a number of elements that resonate strikingly with the first installment of *Cranford*, particularly with the novel's depiction of Miss Jessie's act of shock absorption. This resonance may be a matter of direct influence, as Rathbone was the niece of W.R. Greg, and moved in the same social circles as Gaskell.[87] Being W.R. Greg's niece and near contemporary (she was born only seven years after him), it is likely that Rathbone would have been particularly attuned to Gaskell's writings and would have read them with reference to the question of workers' improvement that had preoccupied Greg in his review of *Mary Barton.* Moreover, given the accelerated schedules of periodical publication at the midcentury, Rathbone probably would have had time to read the first installment of *Cranford*—perhaps on the Sunday afternoon following its publication—before dashing off and mailing to London her first *quantum* of "Mignionette," to be published the following Saturday.[88] But regardless of whether Rathbone read *Cranford* before finalizing "Mignionette," the two texts share a number of preoccupations, particularly a concern with modeling for a working class audience the self-management of shock and injury, and with embedding the labors of self-management in a domestic frame.

The story opens by describing how Mrs. Wright, a teacher at a free school for girls, takes in the infant daughter of the curate's widow, who had died during childbirth. The story is primarily concerned with the formation of this orphaned child, Mignionette: her adoptive mother hopes to shape her into a governess "to teach young ladies of the higher rank" (186). Trouble comes quickly to their house, the first glimpse of which appears in the form of Mignionette's reveries. The maid who expresses concern to Mrs. Wright about her adoptive daughter notes that: "when she has a book I've seen her look at the same page for a whole evening. You may take my word for it, mistress, she's either sick or in love" (186). It turns out that both are the case; but we learn first of Mignionette's sickness, a degenerative eye condition "of a species that rendered it doubtful whether a cure would eventually be possible" (186). At the moment of her diagnosis, upon hearing the upsetting news, those present bear up in ways strikingly reminiscent of *Cranford*'s Miss Jessie:

> "Only long practice now enabled [Dr. Hope] to suppress his agitation on hearing what had occasioned [Mignionette] to apply to him for advice; and his voice shook when he gently and cautiously communicated to her his opinion that cataract was forming in both eyes, and of a species that rendered it doubtful whether a cure would eventually be possible.
> 'But it is possible?' said Mrs. Wright, who, pale as marble, never lost her composure for an instant during the examination….
> 'Quite possible,' was the answer….
> 'Certainly—thank you—thank you!' Mrs. Wright replied, and, with one grateful glance from Mignionette, they both returned home, sadly enough; the young one, perhaps, the firmer of the two, for to her the dread prospect had long been comparatively familiar" (186).

As with *Cranford*'s depiction of Miss Jessie, the above passage of Rathbone's story presents as exemplary the work these three characters do to "suppress" grief, to not "lose composure," and to remain "firm" in the face of upsetting news. If anything, Rathbone

depicts even more effective acts of affective regulation, which are explained as emerging from the doctor's "practice" and from Mignionette's having "familiarized herself with the dread prospect." Being acclimated to the practice of bearing up, Dr. Hope and Mignionette are able to avoid "agitation"; they carry their sadness in a less physically demonstrative way than does Mrs. Wright, who even still remains relatively composed in the face of what she experiences as shocking news. The story's didactic project is reflexively put on display at this moment: acts of shock absorption are shown in serial fashion, and are explained as following from characters' having repeatedly inhabited (either through embodied practice or imaginatively) the moment of bearing up — a serial inhabitation of moments of shock and its subjective regulation that the story itself enables for its readers.

While the characters remain composed in the face of Mignionette's diagnosis and of her gradually declining eyesight, her condition nevertheless carries with it strains that initially appear to be unmanageable: "The expenses of her long illness, and her inability to work, had, despite the kindness of their many friends, reduced the finances of Mrs. Wright to their lowest ebb" (187). Mrs. Wright's exposure to poverty and indebtedness compels her to ask for a loan from her friend and fellow teacher, Edward Allingham, who surreptitiously sells his shoes, winter coat, and blankets in order to cover her debts. When his window breaks, he does not have the money to replace it, and so suffers at night from the chill air. Mr. Allingham's act of self-denial and exposure to the elements cause him to contract a severe illness, which requires the doctor's intensive care and is only finally resolved when Dr. Hope gives him blankets, money for a replacement window, and a new coat (202). In this way, the effects of Mignionette's condition ripple through her family's immediate network (as had the shock of Captain Brown's death in *Cranford*), temporarily exposing those who care for her to indebtedness and illness. But these conditions are managed in the story through Dr. Hope's acts of generosity and care. The healing agency of doctors significantly shapes the plot of "Mignionette": just as Mr. Allingham's illness is cured by Dr. Hope's medical attention and gifts of clothing and money, Mignionette's eye condition is ultimately healed by the London doctor to whom she is sent for a visit.

The final conflict of the story revolves around Mignionette's marriage, as both Dr. Hope and Mr. Allingham express interest in marrying Mrs. Wright's recently cured adoptive daughter. Mignionette chooses Mr. Allingham, whom she had imagined marrying during her many reveries of reading, which brings about the young couple's temporary estrangement from the doctor — an estrangement that ultimately is overcome after Dr. Hope is called in to cure their infant child's illness. His act of care allows him to realize the promise of his name, and to "think it possible that he too might some day enjoy the blessings of wife and children, provided only, he could meet with some one as good and as lovely as sweet Mignionette" (203). The story's various sub-plots and thematic concerns are stitched together and tied off in this closing vignette, which is defined by an investment in reproductive futurity: the last illness of the story is cured; the domestic happiness of both Mignionette and Mr. Allingham is restored; and the Doctor is made again into a figure exemplifying self-discipline, generosity, and the agency of healing — a characterization that had been put in question by his initial, wounded response to Mignionette's rejection.

The healing agency of doctors ultimately acts as a *deus ex machina* in "Mignionette," resolving with little trouble the strains that propel the story's various sub-plots. The reliability of this healing agency makes the story into something akin to a morality tale: economic and health troubles that affect its characters are fully resolved, but only after such characters exhibit remarkable acts of self-discipline and generosity: Mignionette bears up gracefully following her diagnosis, and Mr. Allingham sells his clothing to cover Mrs. Wright's debts. In this way, the healing agency of doctors can be understood as the narrative mechanism ensuring that virtuous, improving characters — those who absorb shock and engage in acts of mutual aid — will receive in turn good health, domestic happiness, and economic security.

Rathbone's morality tale condenses in narrative form some of the broader investments of *The Working Man's Friend and Family Instructor* and of other serial publications addressed to an improved and improving stratum of working class readers in the early 1850s. Such periodicals, while not identical to each other in terms of explicit political content, nevertheless shared the notion — materialized in narrative form by Rathbone — that members of the working classes could realize a degree of economic security, health, and familial satisfaction if they undertook both personal and collective efforts at improvement and self-help. These periodicals helped render plausible the notion that the family circle was the proper context for the management of industrial injury. It will be the aim of this section to further characterize the modes of improvement promoted by such periodicals and to situate this literature historically by sketching out some of the links that coupled textually-mediated projects of improvement to particular transformations of labor processes and forms of social reproduction at the midcentury.

The first issue of *The Working Man's Friend and Family Instructor* opens with an essay entitled, "The Education of the Working Classes," which outlines and justifies the project of the periodical.[89] Written by J.C.O. Gardener, this opening essay stages a dialogue with the journal's imagined readers, who are split into two distinct groups. Gardener first addresses his "fellow working men," who are imagined raising a number of objections to the journal's project of education, most significantly that they have neither the time nor the money for such pursuits. Revealing his sympathy with the temperance movement, Gardener responds to these objections by arguing that, if they were to abstain from alcohol, those earning working class wages would have time to read and converse "around the fire in a happy home," and would have money not only to purchase educational periodicals such as *The Working Man's Friend*, but even to pay for their children's education and to "apply to any useful purpose that might be required." He demonstrates the effects, in terms of time and money, of abstaining from alcohol by performing "an easy, but a very serious and solemn calculation":

> The frequenters of the pot-house and the tap-room do not, on average, waste less than two hours of valuable time out of every twenty-four; fourteen hours every week; seven hundred and thirty every year, *worse than lost*. I cannot put the waste of money each evening at *less* than two-pence; this is fourteen pence a week; three pounds and ten pence per annum. Now ten shillings a year would make you a subscriber to a mechanics' institute, or some good book-club, where you would have an opportunity of informing your mind on almost any subject, could have books at home to read to your wife and family, and a free admittance to lectures, &c (3-4).

This passage proposes a calculation of life, where the two hours and two pence spent during an evening at the tap-room are multiplied out over the span of a year and made to appear as significant losses on a projected balance sheet. Such a calculating relation to life, enabled by the abstractions of time and money and by the technology of the book, is assumed and encouraged in much of the midcentury literature of improvement.

The *Family Economist*, another midcentury penny periodical, though with a more manifestly conservative political content and elite narrative voice than Cassell's *Working Man's Friend*,[90] also promotes a calculative relation to life.[91] An 1851 article, "House-Keeping Accounts," argues that maintaining a written balance sheet of income and expenditures is a necessary condition of economic security and success.[92] The article opens with a reflection on complex technical systems, such as railways and factories, noting that these systems are as reliable as they are because they are based upon elaborate accounting mechanisms: "How is it," the text asks, "that railway directors, manufacturers, and tradesmen are able to keep up such a system of order?.... It is because they keep a regular account of all their business transactions written down in books" (3-4). The article suggests that bookkeeping would also be useful for those earning working class wages, and would allow workers to improve their economic situation:

> You have as many hands as a flourishing tradesman, and why should you not flourish as well as he? The difference is that he uses his head, and you don't. He thinks, and you don't. He keeps an account of his outlay and income in a book, and you don't. Therefore, my friends, the first thing you do is to get a book (4).

The article then mentions "The Working-Man's Housekeeping Book," an account book being sold for six pence by the publishers of the *Family Economist*, noting that, while a simple piece of paper will suffice for keeping a balance sheet, "it is best to have order in the book as well as elsewhere" (5). In other articles from the same periodical, readers are presented with technical illustrations of small tables that they are encouraged to construct and use for bookkeeping, letter-writing, or technical drawing.[93] Such technical illustrations were common in midcentury working class periodicals. *The Working Man's Friend*, for example features technical illustrations of clocks in an article, "A Gossip about Clocks," about a visit to a clock manufacturer's workshop. This article describes the historical shift from water clocks, which were calibrated differently depending on the time of year to keep twelve equal increments of time between sunup and sundown, to mechanism-driven clocks, which kept abstract time — a form of time that characterized industrial production processes of the midcentury, and that was reproduced in the abstract rows and columns of account books and balance sheets.[94] As in Gardener's article on workers' education, the presumption in these articles is that if workers had the technical means to look upon an orderly breakdown of their income and expenses, they would almost certainly alter their habits of life: the *Family Economist* article on "House-Keeping Accounts" asserts that, "Once you see how much you spend on beer or gin, you will decide that money is better put into savings" (5). Each of these two improving periodicals, with relatively divergent political orientations, encouraged workers to take up new practices of calculation, to either purchase or build the technical supports for these practices, and thus to redraw their lives as a regularly unfolding account book, in relation to which they should maintain a constant watchfulness.

In "House-Keeping Accounts," such practices of calculation are implicitly invested with the capacity not only to improve workers' economic security, but also to help maintain their physical health and to keep them safe from accident-induced injury. The article suggests that it is the recording of business transactions that allows "the express train [to] speed… along swifter than the wind, bearing its hundreds of passengers to their destination without injury to life or limb" (3). Bookkeeping and other forms of abstract regulation are elsewhere credited with reducing the frequency of collisions and with preventing "a crowd and confusion in the [baker's] shop" (3). The article thus establishes an associative linkage between workers' use of calculative and self-disciplining practices to structure their everyday lives and their continued physical health and safety. This linkage resonates with the association established in Rathbone's "Mignionette" between practices of self-discipline and mutual aid, on the one hand, and familial happiness and health, on the other — an association mediated by the healing agency of doctors, particularly of Dr. Hope. While such an associative linkage depends for its coherence in "House-Keeping Accounts" upon the occlusion of the random, uncontrollable aspects of industrial accidents and injuries — which often were the result of unsafe machinery, accelerated production processes, or other workers' oversights, rather than any failure of attention or discipline by the injured worker — it is nevertheless possible to trace in other articles from these midcentury periodicals an at least somewhat plausible account of how practices of self-discipline and calculation could help to promote physical well-being, or at least to mitigate the harmful effects of industrial injury.

In "The Benefits of Life Insurance," published in the third edition of *The Working Man's Friend and Family Instructor*, Francis Plimley, a gardener from Shepherd's Bush, inflects the standard argument for temperance and bookkeeping with an appeal for male workers to invest in life insurance, friendly societies, savings banks, and other mechanisms for managing risk.[95] Unlike "House-Keeping Accounts," which portrays complex transit systems as orderly and safe operations, Plimley's article notes that accidents in industrial workplaces are frequent occurrences: "[H]ow many thousands, nay hundreds of thousands are there cut off in the prime of life?... [A]re there not accidents continually occurring, that may take the life of you or I…" (42). The severity and significance of fatal accidents are articulated here through quantitative measurement: "how many thousands…" In this way, the article filters fatal accidents through the same abstract register that frames its discussions of drinking alcohol, keeping household budgets, or earning wages: the article suggests that all of these phenomena can be weighed together in the balance of a life.

Plimley appeals to his imagined readers, consisting of "the operative, the artisan, the shopman, the labourer," by referencing their role as primary household wage-earners, as current or potential husbands and fathers. In his account, life insurance ensures that those dependent upon a male worker's wages will not, in the event of his fatal injury, be cast into destitution, "as is the case, too often alas! upon the death of the head of a family" (42). While Plimley's appeal to his imagined readers is primarily pitched in terms of their role as family wage-earners — and thus presumes and helps normalize a gender division of labor that was becoming more typical of working class families at the midcentury[96] — he also appeals in a more generic way to what he imagines to be his readers' concerns about their own physical and mental wellbeing. In addition to

suggesting that life insurance would enable working class men to continue financially supporting their wives and children following their own premature death, Plimley notes that, by abstaining from alcohol and instead taking out life insurance, readers will "feel in the enjoyment of better health alone the advantages you are deriving in so doing," and will have "much comfort" and "the serenity of … mind" which "may to some extent *prolong* your existence" (42). These arguments are presented as responses to the imagined objections that life insurance is sinful, and that the insurance of life ensures death. Against these "superstitious fear[s]," Plimley casts the insurance of life as part of a broader practice of improvement, which not only protects against the destitution of fatally injured workers' family members but also contributes to the health of insured workers themselves.

Plimley's "The Benefits of Life Insurance" is continuous with the broader culture of workers' insurance, mutual aid, and savings that was expanding in scope at the midcentury. As Foster and Crossick demonstrate, the early 1850s saw the establishment of a host of benefit funds, buyers' cooperatives, death funds, insurance schemes, and other means for the pooling of resources and the management of risk by members of the working classes.[97] Additionally, this was a moment when owners of firms — including, as we will see in the following section, many railway firms — began requiring their employees to contribute to insurance and medical funds. These emergent forms of mutual aid and insurance varied by region and industry, and they did not wholly supersede or remake preexisting provident societies. Nevertheless, it is possible to see in the midcentury expansion and regularization[98] of mutual aid and insurance a general cultural shift in practices of self-help — a shift that was determined in part by both the rapid expansion, around 1850, of railway, metalworking, and mining industries, each of which were characterized by relatively frequent and severe accidents, and by the British courts' restriction of working class populations' legal standing to sue for damages following workplace injuries.[99] The emergent midcentury culture of improvement — with its strict forms of affective discipline, its encouragement of technical education, savings, and mutual aid, and its calculative orientation to life — was determined both by an economy-wide shift toward more capital-intensive forms of production and by legal and political responses to this economic shift and to the crisis of injury it generated.

The midcentury shift toward more capital-intensive forms of production and circulation — conceptualized by Marx in his manuscripts of the 1850s and 60s as the real subsumption of labor to capital[100] — not only exposed a broader group of workers to industrial shock and injury, it also brought about alterations in such workers' relations to each other and to the technical means of production with which they were engaged. Strategically-situated workers in expanding, mechanized industries (i.e. drivers, firemen, station-masters, and guards on the railways; cotton-spinners in textile factories; and boiler-makers in machine-manufacturing industries) were expected to manifest an intricate knowledge of particular machinic systems; a capacity to read schedules, technical drawings, and manuals; and a proficiency in keeping written records of, for example, the amount of coal burned or the itineraries of trains. Managers of firms in expanding industries were seeking out at the midcentury a stratum of workers with these technical proficiencies — a situation that Gardener references in his article, "The Education of the Working Classes." Having responded to his "fellow working men[']s]" imagined objections that they have neither the time nor the money for educational

endeavors, Gardener proceeds to make the case for the economic benefits of workers' education. He quotes from a government report, noting that: "Several gentlemen gave evidence, and strongly declared the inferiority of uneducated to educated workmen, not only in operative ability, but in steadiness, peaceableness, reasonableness, sobriety, economy, and general respectability of character," concluding that "educated men are far more likely to be sought after by employers — are more certain of being retained in constant employment; and whatever difference of wages may exist, they will always be enabled to command the highest amount" (5). While this appeal obscures some of the social dynamics that reproduced such wage differentials, including particularly the force of male-dominated craft unions,[101] it does register a particular dimension of midcentury industrial employment patterns — namely, that roles requiring literacy and/or a relatively high-degree of technical proficiency tended to be more highly compensated and to be filled on a longer-term basis than those that relied to a lesser degree upon these capacities, even as these higher paid roles also involved exposure to dangerous working conditions and subordination to a restrictive set of legal norms, under which injured workers and their family members were denied rights of compensation.[102] The *Deodands Abolition Act* of 1846, for example, closed down an emergent, popular legal practice that, over the 1830s and early 1840s, had helped make relatively generous company payouts to railway widows something of a norm. These workplace and legal conditions can partially explain the popularity of midcentury working class educational and training projects, as well as their imbrication with projects of mutual aid, temperance, and affective self-management. Midcentury penny periodicals, such as the *Working Man's Friend* and the *Family Economist*, gathered together articles and stories that addressed working class readers caught up in rapidly-shifting, unsafe industrial circuits, helping to activate and shape these readers' aspirations for respectable lives and their anxieties about accident-induced injuries and impoverishment.[103] Improving periodicals indicated how readers' desires for respectability could be realized and how their fears of injury should be managed, within a domestic frame. These periodicals helped inculcate in an emerging stratum of working class readers the dispositions and interpretive frames that together came to define the project of improvement.

III. Grading Life on the Railways

The experiences of railway workers and their family members show, in a particular context, how emergent practices of improvement interacted with shifting legal, cultural, and workplace conditions at the midcentury, and how saving, mutual aid, affective self-discipline, and other practices of improvement constituted defensive responses to the crisis of industrial injury. Between 1846 and 1851, railway workers and their family members were subjected to a series of legal and workplace transformations that prevented them from receiving from companies or insurance funds adequate compensation in the event of injury. The imposition of such material scarcity on injured workers and their family members corresponded with alterations in the discursive construction of railway workers and of railway widows, figures that came to be judged at the midcentury against the normative imperative to bear losses without recompense.

The emergence of practices of thrift and self-help within the railway industry emerged at the moment of this discursive and material closure. In the early 1850s, as Bartrip and Berman note, many railway firms began to require employees to enroll in a benefit fund as a condition of their employment.[104] In lieu of affirming a right to compensation for injury, railway companies established and administered funds that guaranteed only very limited compensation. On the North London Railway, for example, members "subscribed 2s 8d per annum, for which they received 15s per week when incapacitated and £9, payable to dependents, in the event of death."[105] Generally speaking, these funds did not provide pensions or ongoing payments for those permanently injured or for family members of those killed at work, opting instead for one-time payouts. As Bartrip and Berman suggest, by mandating participation in benefit funds and by offering some financial support to these funds, companies took limited responsibility for the effects of workplace accidents, but more than this, they established a mechanism of labor discipline, as company welfare gave "the [firm] a financial hold over its employees, which might be used in maintaining or improving discipline. It gave scope for rewarding loyal, hard-working, disciplined, and respectable servants and for penalising the inefficient and recalcitrant."[106] Since companies could remove workers from funds or refuse payment to employees or their dependents on pretextual grounds, they could threaten recalcitrant workers with losing access to benefit fund payouts, just as they could threaten workers with losing access to company administered housing and to the deposits many companies required new employees to pay.[107]

Faced with the requirement to join benefit funds and with the disciplining, unreliable quality of company-administered funds, some of the more highly paid railway workers opted to establish their own funds and to utilize other methods of saving and of distributing risk, and thus to participate in an emerging, multi-sectoral culture of workers' improvement.[108] As P.W. Kingsford notes, a handful of railway savings banks were established, generally by railway managers, over the 1850s and 1860s, which provided a higher rate of interest than either the Post Office or the Trustee Savings Banks. While the banks were established by railway managers, they tended to be run by members, and thus, unlike company-administered benefit funds, did not function as relatively direct mechanisms of labor discipline.[109] Additionally, on a number of railways, enginemen, firemen, and guards also established their own benefit funds, which in most cases provided comparable terms and the same limited benefits as company-administered funds. Kingsford notes that the *Locomotive Steam Enginemen and Firemen's Society* and the *Railway Guards Universal Friendly Society*, which respectively had over six thousand members and nine hundred members by 1870, were exceptional in terms of the benefits they offered.[110] In addition to standard benefits, the former provided a disability pension of 5s per week, while the latter provided "permanent sick pay in case of disability and a widow's pension."[111] As Kingsford notes, however, the latter society was "severe on the immorality of members or widows." From an 1851 report on the widows' fund:

> In conclusion, it may be stated, that the object in adopting this plan was, because it was felt to be in *proportion to the means of the members*, although not to the *extent* of their *wishes*. The sum granted weekly is admitted to be small, but it is hoped that the *certainty* of receiving a certain sum weekly will prove a stimulus to exertion on the part of the widow, to make up the

> deficiency of such sum as may be found necessary to support her self and family. On the contrary, the knowledge that *no support* would be rendered except by the *uncertain* hand of CHARITY would doubtless frequently cause the poor widow to despair of ever maintaining her position in the world, or of providing food for her children and being overpowered by the gloomy prospect before her, sink under her troubles, and leave her children living monuments of a system of *thoughtlessness* and *improvidence* too often indulged in by the working classes, but which evil, this Society (being a humble portion of a vast and well directed system of provident and frugal principles, happily rapidly extending) is intended to remedy in a large class of men, daily increasing in number and importance.[112]

This statement, which reads as a defensive response to benefit recipients' assertions of the inadequacy of their payments, casts in relief the closure of horizons that conditioned working class cultures of improvement of the early 1850s. Widows of industrial workers are assumed here to be individually responsible for managing their precarious conditions of life; those in poverty are indicted as generally thoughtless and improvident; and the only imagined collective response to economic immiseration is a minor sum from the fund, seen not as a basic income but as a salve against utter hopelessness. The token weekly sum is imagined as a spur to the kinds of affective discipline and self-management valorized in *Cranford* and "Mignionette." The discursive coordinates hemming in the *Guards Friendly Society* report of 1851 — coordinates evidenced as well in Gaskell and Rathbone's contemporaneous narratives, and in the broader print culture of workers' improvement — can better be understood when considered in relation to a series of regressive transformations in legal, institutional, and workplace practices at the midcentury, including companies' establishment of coercive benefit funds, all of which contributed to making the injury or death of railway workers more a matter of individual, rather than institutional, responsibility. As these more austere material conditions were being set in place, workers' injuries were coming to be understood less as indications of the failures, corruption, or unfulfilled responsibilities of a social system (*á la* the radical, melodramatic discourse of the 1830s and 40s[113]), and instead as either non-events, or as events that revealed the relative moral character of affected working class individuals.

A key aspect of this midcentury discursive closure was the categorical separation of railway workers and passengers—a separation that took place within and across various fields of social practice. By the early 1850s, the lives of railway workers and their family members were in the process of being sharply devalued in relation to the lives of passengers, while limited state protections that had begun to be extended to workers in other industries were being denied to those working on the railways, creating a situation wherein railway accidents were increasingly de-linked, discursively and legally, from other industrial accidents (railway accidents were treated as if they concerned passengers *rather than* workers).[114] Early railway accidents thus became an occasion for the social differentiation of disaster and for the making of workers and their family members individually responsible for managing the effects of industrial injury. In this way, a class divide was codified around 1850 between, on the one hand, those who were responsible only for their own safety and who were granted the standing to sue for damages if injured and, on the other hand, those who were responsible for caring for the exposed or injured

bodies of others and who had no right to compensation if they or their family members were injured or killed on the job.

Prior to this midcentury moment of closure, however, workers and passengers were more likely to be seen as joined in a community of interest, and as entitled, if not to safe conditions of work and travel, at least to compensation following injuries for which they were not responsible. In radical writings and speeches of the 1830s and 40s, for example, accidents were commonly blamed on railway owners' desire for profit and their disregard for the safety of workers and passengers alike: radical discourse figured *the people* as consisting of all those who were exposed to injury due to the greed of railway and other oligarchs. This radical orientation to railway accidents takes form in an anonymous allegorical pamphlet, the 1838 *Ghost of John Bull*, in which a railway owner — introduced as a "commercial aristocrat"[115] — is put on trial along with other members of the political and business elite by a spectral incarnation of John Bull. The elites meet on a railway carriage, and then find themselves cast by an accident into a mythical valley, to which John Bull has retired in order to escape the rampant corruption of the nation's political institutions — a corruption characterized, as in much radical rhetoric of the 1830s, by an alliance of business owners and landed aristocrats against the popular classes.[116] These representatives of the elite are judged in serial fashion by John Bull. He criticizes the railway director for the unsafety of his railway lines and for his company having dug up an ancestral graveyard to lay tracks.[117] But after hearing from "old Humanity" that the railway director "make[s] a practice of providing for those that are hurt or worn out in your service, which is rather an uncommon thing amongst you commercial men,"[118] he tempers his judgment. The relative generosity apparently shown by the railway director toward injured workers sets him apart not only from other "commercial men," but also from a landlord and investor in railway stocks with whom the protagonist, an everyman figure, speaks in an earlier episode of the narrative. The landlord insists:

> [Y]ou seldom hear of a passenger being hurt. Steam carriages are the safest things in the world for respectable people that prefer riding in them to stage coaches. There are some accidents happen from them, to be sure; but they're only among working-men and labourers; and there are so many of them in the country more than are wanted, that they may as well be killed that way as be starved to death…[119]

The landlord's callous speech presents to the reader a viewpoint that the narrative implies is representative of corrupt, elite opinion. When set against the landlord's speech and John Bull's initial judgment then, the railway director's relatively generous regard for injured workers appears exceptional — he appears unlike other "commercial men" or owners of land and capital insofar as he recognizes some responsibility for the conditions of injured workers. Through its narrative engagement with the question of railway accidents, *The Ghost of John Bull* thus sets in place a morally-charged opposition between elite and popular opinion, wherein elites are judged for considering railway workers' injuries to be non-events, while *the people* (along with exceptional elites, such as, perhaps, the railway director) are affirmed in their purportedly shared regard for the well being of both workers and passengers, and in their shared aversion to the corruption and greed characteristic of business owners, politicians, and landowners. This radical discursive framework, which figures railway workers' injury not only as a matter of

public concern but also as a matter that puts on display the ethical condition of company owners and political elites, finds its corollary in a number of concrete practices, in particular the practices of coroners' juries, that materialized in the 1830s and 1840s.

Over the late 1830s and early 1840s, coroners' juries remade British tort law by reviving a medieval legal concept, the *deodand* (or "god-gift"). Evidently unsatisfied with their inability otherwise to hold railway companies financially responsible for the deaths of passengers and workers in accidents, coroners and the juries they convened revised the doctrine of the *deodand*, according to which money could be exacted in lieu of the instrument of injury as compensation for a given injury. In a number of cases, coroners' juries found that railway companies were liable for large sums — up to 2,000 pounds — on the grounds that their locomotive engines and other infrastructures were the instruments of injury, and thus subject to expropriation. In most cases, large deodands were invalidated by the Queens Bench, but, as Elisabeth Cawthon shows, juries often engaged in implicit negotiations with company representatives, who were eager to avoid risking the loss of their legal appeals; in this way juries pressured companies to ensure that widows of fatally injured workers were provided with generous compensation payments.[120] As Bartrip and Burman note, evidence of the pressure exerted by coroners' juries and other legal bodies over the first half of the 1840s can be seen in the steady increase in workers compensation payments through 1845 — a trend that would be reversed over the next half-decade.[121]

In January 1846, following a period of exuberant speculation in railway stocks, which had drawn a wider range of the population into financial investment than had any previous wave of speculation, the market in railway stocks collapsed. The railway crisis of 1846, which set off a broader economic downturn, seems to have intensified negative sentiments about railway companies. Newspapers regularly ran columns charging railway owners with a reckless disregard for the wellbeing of both passengers' bodies and of the broader economy. It was in this context of crisis and outrage that the British Parliament passed new legislation regulating the industry, including legislation on personal injury.[122] Responding to railway companies' intensive lobbying against the revived use of deodands, as well as public pressure for regulatory legislation, Parliament passed in 1846 the *Deodands Abolition Act* as well as the *Fatal Accidents Compensation Act*, generally known as *Lord Campbell's Act*. The *Fatal Accidents Compensation Act* provided family members of fatally injured passengers the legal standing to sue railway companies for damages. In their interpretations of the Act over the following five years, British judges made increasingly clear that the Act did not apply to family members of fatally injured workers, even when such workers were killed as a result of company or co-workers' negligence.[123] In the context of these legal developments, the 1846 abolition of the deodand can be seen as the closing of an emergent, popular practice of workers compensation affecting the railway and other steam-driven industries. In addition to excluding workers' heirs from the protections that had been extended to the heirs of passengers, judges also established over the last years of the 1840s a tort doctrine that tied the rate of compensation to passengers' class status, making companies responsible for providing the heirs of those fatally injured with the income that their killed family members likely would have earned.[124]

The categorical separation of railway workers and passengers, as well as the differential grading of the value of passengers' lives, which British judges established

through their decisions between 1846 and 1851, were mirrored in the practices of benefit funds over the early 1850s. In the final years of the 1840s, three accident insurance companies were formed, including the *Railway Passengers Assurance Company*, which provided that: "Passengers were to be insured as follows: Fatal Injury: £200 third class passengers; £500 second class passengers; £1000 first class passengers."[125] The fund tied its grading of passengers' lives to the "class" of carriage upon which passengers rode. Despite what its name might imply, the *Railway Passengers* fund, at least in its initial years, also offered policies for railway workers, including stationmasters, enginemen, firemen, and guards. Policies were made available to such workers as an inducement for them to advertise the fund to passengers. During the early months of 1850, immediately following the extension of policies to workers on comparable terms as those offered to passengers, at least three fully insured workers were killed and their widows were each offered £500.[126] In November 1850, the managers of the *Railway Passengers* fund, evidently worried about runaway payments to workers' heirs, established for workers' policies "a fixed total disablement benefit of 20s per week (maximum £30)".[127] A similar *post-facto* restriction of workers' rates of compensation occurred in the group policy for employees of the Lancashire and Yorkshire Railway, administered by the *Railway Passengers* fund, which was established in September 1851 but then issued revised rates in June 1852.[128]

In the context of the midcentury restriction of railway workers and their heirs' rights to compensation, the discursive construction of railway widows underwent a mutation. As the above-quoted passage from the 1851 *Railway Guards Universal Friendly Society* report on its widows' fund suggests, the question of the moral standing of those whose family members had been struck down at work obtained a new salience at the midcentury. In November 1851 — the same month that saw the publication of *Cranford* and "Mignionette" — the *Post Magazine* carried a story on the intrigue surrounding what was probably the final £500 payment awarded by the *Railway Passengers* fund to a railway worker's spouse. The story begins by noting that, "an engine driver on the Edinburgh & Glasgow Railway… was crushed so severely that he died. He was insured for £500 and had made a will leaving everything to his wife to whom he had not long been married."[129] The brother of the deceased, who worked on the same engine, apparently saw himself as entitled to a portion of the payout; he threatened his brother's widow, saying that he would claim that his sibling had been drunk at work if she did not promise to share with him some of the claim. She refused, and he ultimately carried out his threat. The story concludes:

> The evidence was contradictory, but the widow was given the benefit of any doubt which existed and the claim was paid…. The false accuser, overwhelmed with shame and, let us hope, remorse, left the country and when the money was paid a week or two ago, the widow was accompanied by a stalwart friend of her late husband who, it appeared probable, would console her in the most effectual way by taking his place.[130]

With this presumptuous concluding line, the *Post Magazine* rewrites the story of a contested insurance claim as a morality tale, pitting an unscrupulous, and ultimately chastened, brother against an upstanding widow. Her refusal to be intimidated by a lie, coupled with her imagined disinclination to pursue a life independent of a husband, appear to legitimize her inheritance. In telling a story of an honest widow's just

compensation and recuperation into married life, the *Post Magazine* makes the railway accident into an event that puts on display the moral substance and domestic virtues of individual working class characters — the railway widow at the heart of the story is affirmed and her compensation validated insofar as her agency is imaginatively bound up in, and oriented toward, marriage.

This discursive imperative — to hem in or foreclose the independent agency of women affected by railway accidents — appears symptomatically in a parodic column about railway compensation published in an October 1850 edition of *Punch*. The column plays upon the midcentury grading of railway life, joking that:

> The Railway Accident Assurance Company will undertake to pay as much as £2,000 for the loss of a life and will give a 'proportionate compensation' for any other injury; but we do not see how the price of the life will enable us to get at the value of a leg, an arm, or any other portion of the body…. There is one thing, however, that it would be utterly impossible to estimate by any rule, mathematical, philosophical or otherwise – we allude to a woman's tongue, which if it should happen to be lost in a railway accident might be a calamity utterly irreparable to the owner but a real blessing to all her friends and neighbors.[131]

The misogynistic joke around which this column is built renders in graphic, literal fashion the rhetorical implication of the above-discussed 1851 *Railway Guards Friendly Society* report: namely, that women affected by railway accidents should bear their losses silently if they hope to appear deserving of support. We can see the same implication in the somewhat later, "Mrs. Shuttle Worsted," a Lancashire dialect tale written by J.T. Staton, in which a working class woman trips on a bottle and injures herself; she declares brashly that she will sue the owner of the bottle for negligence, but ultimately is made liable herself for breaking the bottle of milk. Her act of speaking, in the street, on her own behalf renders her ineligible for compensation, and even, in a reversal of the logic of the deodand, liable for the instrument of her injury.[132] The implication of these vignettes is stark: women affected by accidents should silently bear their losses, lest they be rendered ineligible for sympathy or monetary support. And yet, the concluding joke of the *Punch* column implicitly recognizes the ideological quality of this imperative: the loss of a woman's tongue would be "a calamity utterly irreparable to the owner." The silence of women affected by railway accidents promises them nothing; such silence — the dignified and private *bearing up* — cannot alone keep destitution at bay.

It is interesting to reconsider Gaskell's *Cranford* in the context of the emergence, at the same moment as the novel's publication, of the discursive imperative that working class women affected by railway accidents bear up silently, within a domestic context, following their losses. The novel can be read as reiterating this imperative in its depiction of Miss Jessie's response to her father's death. Jessie processes her grief in a remarkably self-contained way, away from those who immediately gathered in the streets to share their shock. Moreover, as in the *Post Magazine* story discussed above, her self-management of loss appears to be associated with an orientation toward marriage. News of Major Gordon's arrival and intention to propose, carried by Miss Jenkyns, shocks Jessie out of a rare reverie of grief into which she and Mary had fallen. At the moment of her engagement to Major Gordon, Jessie essentially disappears from the novel's plot; the story of her character comes to a close at this moment, just as the story reproduced in the

Post Magazine concludes with a projected marriage. But *Cranford* does not end with Jessie's engagement, nor does it simply reproduce at the level of its plot the imperative that women affected by railway accidents bear up silently: the novel elevates this imperative of concealment into a structuring principle of its form, and in doing so, converts it into an affectively charged vehicle, of what Schor names "a quiet violence of tragic loss." In elevating concealment to a formal principle, Gaskell at once realizes and overcomes the imperative to silence: in the novel, concealment enables the appearance of melancholic feeling—a narrative process thematized when Mary notes that Jessie's labors of affective concealment provoke tears in those she encounters. Moreover, in focalizing its later chapters around a group of unmarried women and single widows, who pool their resources to support Miss Matty after she has lost her savings in a railway stock market crash, the novel shows a world of women's mutual aid the existence of which suggests, if not the superfluity of marriage, at least the possibility that an individual woman's economic devastation could be addressed through means other than marriage — a possibility also raised for Miss Jessie upon the accidental death of her father, when she thought she might work as a nurse, housekeeper, or saleswoman. *Cranford* thus writes against, even as it also reproduces, elements of the midcentury "moralization" of women connected by relations of dependency to the railway industry, who were affected by railway accidents and exposed to economic insecurity upon the injury or death of a wage earning man — typically a husband, but in the case of Miss Jessie, a widower father.

IV. Nursing and Domestic Labor

Cranford's opening of the possibility that Jessie might pursue a career in nursing at once gestures toward a future outside of marriage, and implicitly refers back to the domestic labors of nursing that she had been performing for her sister. Her exemplary unwaged labors of concealment and care make her interest in waged nursing appear sensible. By showing that Jessie had *already been* working as a nurse even as she considers a career in this sector, Cranford contributes to the midcentury reconceptualization of domestic labor as a form of nursing. The midcentury association of waged nursing with unwaged domestic labor corresponded as well to shifts in the representation and organization of the former. The role of the waged nurse, which had previously been treated merely as a menial working class assignment,[133] was made into a vehicle for national/imperial and gender ideologies in a way that raised its status,[134] at the same time as it was rationalized to offer more efficient care to urbanized populations and industrial workforces and to fulfill doctors' desires for more regular reports on patients' conditions.[135] The discursive and institutional shifts that drew nursing and domestic labor into the same frame are evident not only in novels, but also in nurse training and recruitment manuals, as well as in periodicals addressed to mothers.

Over the second half of the nineteenth century, nurse training manuals began to be published and sold to a general readership. Often composed on the basis of doctors' or nurse supervisors' lectures at a nurse training institute, these manuals exhibit a striking multiplicity of address. In J.H. Barnes' *Notes on Surgical Nursing*, based on lectures he delivered at the Liverpool nurse training institute over the late 1860s and early 1870s, the

imagined audience seems to be women in general, rather than simply those who might consider waged nursing. He pitches his discourse on nursing as a discourse on womanhood, despite the continued presence of men in waged nursing roles:[136]

> To nurse or nourish is the distinctive privilege of woman, and few women pass through life without being called on to perform the duties of nurse, either as mothers, wives, sisters, or daughters. Where those demanding care and attention are friends or relations, the office of nurse is not so much an office of duty as of choice, and if not always performed with the greatest amount of skill, usually has devoted to it through heartiness and good-will…. Skill and ability are essential to good nursing, but the nurse that will most beneficially affect her patients and make them feel that it is good for them to have her about them, will be, as a rule, not the most talented nurse, but the nurse with the warmest heart and the largest sympathies — in fact, the motherly nurse. It is not every woman who can reach up to the maternal ideal of feeling and sympathy, but most can approach in their relationship to others the position of sister. In whatever degree, however, the natural condition of the affections may exist, they will still require careful cultivation and development. This may seem a small matter, but such is by no means the case. To be always gentle and considerate, when what is done is received in a surly or unthankful spirit, never to return a sharp and angry word when provoked, but always to give 'the soft answer that turneth away wrath,' requires a great amount of self-possession and control of temper only to be obtained by long practice and severe discipline.[137]

Barnes characterizes nursing as a form of maternal or sisterly care. There is an echo of Gaskell's Miss Jessie in his formulations. Women's family bonds, and the care and attention purportedly formative of such bonds, are construed as the basis of nursing labor, even if they must be molded as well by "severe discipline." Here, the discipline of care work is portrayed as a religious practice — the quote from *Proverbs* gives some sense of the end toward which such discipline aspires.

Barnes' framing of nurse discipline in religious terms is typical of late nineteenth-century discourse on the topic. Louisa Twining, in her *Nurses for the Sick: with a letter to young women*, writes that, "The care of the sick has been left us as the most sacred legacy by our Divine Master…. The question, then, for us is, how have we fulfilled this duty, which devolves upon us all as members of one Christian, social body."[138] Twining's letter is addressed to young women working in northern textile factories. She encourages them to take up nursing rather than carry on with textile labor — which, she argues, is not equally proper work for women, and regardless is becoming relatively closed to them because of gender-based labor market exclusions and mechanization.[139] Shortly after the publication of Twining's *Nurses for the Sick*, William Rathbone V (Hannah Mary's father) funded the establishment of a number of nurse training schools in the industrial north,[140] confirming Twining's claim that nursing was emerging as an alternative area of employment for working class women. As much as nursing remained over the nineteenth century a predominantly working class job, involving its own forms of overwork and unsafety (primarily infection, but also strains from lifting patients),[141] the discourse surrounding this role, as Twining's letter indicates, figured nursing as not simply another form of industrial work. Nursing was presented as a calling, something that elevated the

status of its practitioners, both in class and religious terms. And nursing was made to represent a new ideal for women's labor and embodiment more generally. Twining suggests that nurse training schools should not only produce a cadre of workers for expanding industrial hospitals, but should also remold a broader group of young women for married life and for employment in other industries.

> There should be a Training or Deaconess institution… in every district or large parish…. There would be an opportunity of learning all the useful arts of life, useful equally for the future wife and mother, as for the parish helper or assistant in an institution. In the house there would be teaching in cookery, needlework, keeping of stores, accounts, and all domestic occupations, besides visiting the poor at their own homes, under the care and direction of experienced persons. But the chief point on which I wish to dwell is the opportunity that would be afforded of training for permanent employment in our various institutions. The boarders of such a college or home should in turn go out to learn the work in hospitals, prisons, workhouses, and schools, for only on the spot can the work be learnt.[142]

In imagining such training institutions, Twining suggests that the concrete forms of labor required of women workers in institutions such as hospitals are roughly equivalent, at root, to the forms of unwaged labor required of married women: that is, "cookery, needlework, keeping of stores, accounts, and all domestic occupations, besides visiting the poor at their own homes." While this list might not seem to describe the labors of industrial nursing particularly well, versions of these various tasks were required of nurses, who were responsible for cooking medically appropriate meals or treatments for patients, maintaining stores of linens, keeping records of patients' symptoms and of medical supplies in hospitals, and of course being present at patients' bedsides.[143]

The inclusion of record-keeping labors in Twining's list is particularly interesting in light of the above discussions of working class cultures of improvement at the midcentury. While, as we have seen, improving periodicals tended to address themselves primarily to working class men and to figure practices of calculation as masculine activities to be performed by responsible heads of families, the particular forms of calculation and record-keeping these periodicals promoted were becoming at the midcentury more necessary for working class women as well. Women were expected to maintain credit with local shopkeepers,[144] and were being trained in various industries, including nursing, to keep regular records about the people, raw materials, or machines under their observation. In the final chapter of Florence Nightingale's *Notes on Nursing* (1859), entitled "The Observation of the Sick," Nightingale offers instructions for how a nurse should regularly solicit or extract via technical apparatuses information from patients about their condition,[145] and should then pass along this information to doctors, either in written or oral form. Patients' reports and nurses' observations are to be processed into brief, objective facts and transmitted without supplementary commentary. Zepherina Vetch, in her *Handbook for Nurses for the Sick* (1870), similarly suggests that an "intelligent nurse will watch carefully for signs of any change. Such signs she will instantly report to the medical attendant, without for a moment deviating from the orders given…. She should be very careful to leave nothing unreported that may be of consequence."[146] In the absence of a doctor, nurses were encouraged to record such signs

in notebooks or on tablets near patients' beds, in order that observations not be lost to memory.[147]

Anne Rafferty suggests that the midcentury establishment of new norms of observation and reporting for nurses served at once to transfer certain tasks from doctors to nurses while at the same time contributing to the construction of a hierarchy of knowledge between those occupying these respective gendered roles: "her task was limited to the collection of information, whereas the province of the doctor was interpretation and analysis."[148] Doctors were anxious about nurses independently offering advice to patients — an anxiety that partially drove reforms in conventions of record-keeping and reporting. As Rafferty writes, mimicking the discourse of midcentury nurse training:

> In recording circumstances, avoid loose and general expressions and impressions or opinions, and stick to facts and figures. Gossiping to patients about their previous experiences with similar cases, especially those which had resulted in failure, or weighing up patients' chances of recovery were prohibited by medical men. The royal road to 'good' nursing practice was paved with a healthy respect for the 'truth' and the recognition on the part of the nurse of her own ignorance.[149]

While a gendered hierarchy of knowledge was thus being imposed within hospitals, a similar process was taking place in relation to non-institutionally affiliated women care workers. At the midcentury, women who worked informally to doctor fellow residents, and who were compensated in various ways for this work, became objects of increased scrutiny.[150] A particularly revealing example of such scrutiny, and its underlying anxieties, can be found in the opening of R. Barwell's *Guide to the Sick Room* (1864):

> Often have I seen, when a poor man has met with an accident, or is taken ill, that half his female neighbors will crowd into the room, each, without at all knowing what is the matter, recommending her favourite remedy. No doubt they begin with a praiseworthy desire to benefit the sufferer; but soon such wish is overpowered by zeal for their several nostrums. Then arguing commences, and the telling of dreadful experiences; the room gets hotter and closer, — the tongues louder and shriller, — and, in fact, the presence of such doctors becomes worse than the disease.[151]

Barwell's crowded bedside calls to mind the *Punch* column referenced above: both texts turn on the abjection of women's tongues, metonymically tied to their voices and ultimately to their capacity to shape the world. What Barwell adds is a denigration of women's knowledge of medicine and treatments for injury, belittling their medical advice as little more than the zealous assertion of empty nostrums. We might recall here the dichotomy established in *Cranford,* following the Captain's death, between the aggregation of noisy crowds and the isolation of the self-disciplined nurse, the latter offering an antidote to the contagious spread of shock purportedly entailed in the former. Barwell's image of the crowded bedside similarly associates such an assemblage with the specter of illness or bodily harm, as he insists that the "presence of such doctors becomes worse than the disease." Yet another way to read this anxiety-laden image is as an attempt to exorcise — to call up so as to cast out — women's collective power and medical knowledge, and specifically the possibility that this power and knowledge might exist unregulated by men or by masculinist institutions. The printed page of Barwell's

Guide in the Sick Room, and the isolated labors of reading required to access this page, can be understood to model, even partially realize, the antidote to such collective power. In learning the tenets of proper nursing from Barwell's dead letters, the reader, presumed to be a woman preparing for nursing and/or marriage, enters into a subordinate, isolated relation to the masculine doctor's knowledge — a relation characteristic of hospital labor. A similar operation characterizes contemporaneous advice manuals for mothers, such as *The Mothers' Friend* (1860) or *The Nurse and the Nursery* (1854), which transmit doctors' advice to mothers, encouraging them to take on intensive caring labors toward infant children (or at least to more intensely regulate employed nurses), to monitor children to lest they fall into "accidents," and to encourage them to concentrate their attention in observing the world.[152]

With Barwell's attempted textual exorcism in mind, the midcentury formalization of nursing and of nurse training regimes can be read from a feminist historical perspective as an ambiguous development. On the one hand, nursing came to provide one of few relatively long-term career possibilities for unmarried women, and in this way subtly subverted an emergent order of gender from within. On the other hand, the midcentury institutionalization of nursing corresponded with a cultural campaign that involved discrediting independent women medical practitioners, and deploying the figure of the reformed nurse in a way that helped establish a more restrictive ideal of womanhood and of domestic virtue across working class populations — an ideal characterized by isolation, self-discipline, cultivated "ignorance," and subjection to an authoritative man's power, be it a husband or a doctor. With respect to the latter point, we might recall how Rathbone's "Mignionette" functions as a morality tale insofar as it assumes the healing power of doctors. Working class characters' exemplary acts of self-discipline and care are rewarded through the operation of doctors' healing agency. Rathbone's story thus reproduces in its form the subjection of working class subjects, and of working class women in particular, to the authority of doctors — an authority that gives meaning and a degree of stability to Mignionette and other characters' lives. Even Mignionette's physical capacity to see the world follows from an unnamed doctor's authority and healing agency: like the nurse, her observations are not her own.

Such a bleak assessment cannot, however, be maintained. The nurse's workplace subordination, in terms of knowledge and time discipline, must be set against the relative independence she enjoyed in her "private" life. And even the notion of the nurse's epistemological subordination will have to be qualified, insofar as we consider the role of nurse supervisors, or matrons of hospitals — those, like Florence Smedley, who established and oversaw increasingly elaborate forms of medical training for nurse probationers over the second half of the nineteenth century.[153] The matter of knowledge-based role differentials in hospitals was thus contested, and was subject to regular reconfigurations. Prominent representatives of nursing, such as Mary Seacole and Florence Nightingale — despite significant differences in their public images and relative social power — show as well how the narrative construction of nurse leaders entailed their dissociation from family ties and their construction as bearers of authority.[154] Elizabeth Gaskell was evidently attuned to these aspects of nurse leaders' portrayals, as well as to the disavowals they required. In a letter to Emily Shaen, dated 27 October 1854, Gaskell writes:

> I used to ask Parthe N a great deal about FN. Parthe [Florence's older sister] is plain, clever, and apparently nothing out of the common way as to character; but she is, for all that. She is devoted – her sense of existence is lost in Florence's. I never saw such adoring love. To set F at liberty to do her great work, Parthe has annihilated herself, her own tastes, her own wishes in order to take up all the little duties of home, to parents, to poor, to society, to servants – all the small things that fritter away time and life, all these Parthe does, for fear if anything were neglected people might blame F, as well as from feeling them duties as imperative as if they were grand things.[155]

Gaskell's matter-of-fact characterization of Parthe's domestic labors and devotion to Florence calls to mind Sharon Marcus' argument in *Between Women* (2007) for the relative prosaicness of companionate marriages between women in Victorian Britain. As Marcus shows, marriages between women not only were a widely accepted feature of Victorian culture, but even tended to be figured, including by those living them, as models for how marriages between women and men might be reformed:[156]

> Women in female marriages were thus in the vanguard of the movement to modernize marriage, for their relationships anticipated the increasing equality of husbands and wives gradually written into law over the course of the nineteenth and twentieth centuries. More concretely, several women in female marriages played a small but pivotal role in advocating for civil divorce, the property and custody rights of wives, and expanded opportunities for unmarried women.[157]

In Gaskell's account of Parthe Nightingale, a trace of this notion of the vanguard quality of women's marriages appears with her exclamation: "I never saw such adoring love." What sets this example apart from those that Marcus discusses, however, is the apparent one-sidedness of Parthe's devotion to Florence. There is little equality in the Nightingale sisters' bond; rather, Parthe has "annihilated herself," and "her sense of existence is lost in Florence's." Their relations seem rather to exemplify the dynamics of patriarchal marriage, of marriage in the age of coverture. The hierarchy characteristic of the Nightingale's relationship, at least as reported by Gaskell, can be understood as an underside of Florence's public life as a nurse reformer. Were it not for Parthe's labors, Gaskell implies, Florence would have been subject to public criticism for disregarding her domestic duties. And yet, because Parthe took care of these duties, Florence could figure forth the possibility of nursing as a lifelong career for unmarried women, as an alternative to domestic labors (and ironically, as we have seen, a model for such labors). Here again: the nurse as reified figure. Having established herself as a public nurse reformer, and having accumulated tens of thousands of pounds in philanthropic donations, Florence passed off to Parthe for marriage one of her suitors, Sir Harry Verney. Parthe's marriage did not involve a split between the sisters though, as they lived down the street from each other in London for much of their adult lives.

It is worth pausing here to reflect on critical reading practices in the context of gender history. In *Between Women* and in other publications, Sharon Marcus has argued for what she calls "surface reading" or "just reading," presenting these critical modes as alternatives to the purportedly exhausted practice of symptomatic reading. As she writes in *Between Women*:

> I depart from theories of the novel that emphasize how homosexuality and female friendship have been repressed by heterosexual plots and can be retrieved only through symptomatic reading, which seeks to reconstruct what a text excludes. Rather than focus on what texts do not or cannot say, I use a method I call "just reading," which attends to what texts make manifest on their surface, in this case the crucial role female friendship plays in courtship narratives. Female friendship functions as a narrative matrix that generates closure without being shattered by the storms and stresses of plot. A series of detailed analyses shows that female friendship was neither a static auxiliary to the marriage plot nor a symptomatic exclusion from it, but instead a transmission mechanism.[158]

As indicated above, Marcus' argument for the "surface level" appearance and effect on the marriage plot of intimate relations between women helps us better read Gaskell's *Cranford* — where Jessie's close relations with her sister and with Mary seem to propel her toward marriage — just as Marcus' argument for the prosaicness of women's marriage helps us contextualize historically Gaskell's matter-of-fact depiction of Parthe's devotion to Florence. And more generally, I share Marcus' interest in the question of how what we might see as non-normative gender and sexual formations were integral to the making of prevailing gender norms and relations in Victorian Britain. But I still want to maintain that Gaskell's writings, in rewarding and modeling symptomatic readings, also point up the limit of "surface" or "just" reading practices. Marcus does not adequately consider the possibility that surface-level appearances of erotic relations between women in Victorian literature might also have carried or been sustained by particular structuring disavowals or erasures, or that certain of these relations would need to remain unseen. In the case of Gaskell's letter to Emily Shaen, for example, a laconic reference to Parthe's devotion and domestic labors coexists with a subtle commentary on a consequential, and socially widespread, disavowal: namely, of Florence's dependence upon Parthe, or of how Parthe's domestic labor sustained the public idealization of Florence. Gaskell's commentary anticipates the feminist commonplace concerning domestic labor: that it remains unseen unless and until it is undone. She thus models what we might call a symptomatic critique of reformed nursing, marking the labors and attachments that must be forgotten in public discourse in order for this formation to get off the ground.

Would it be inappropriate here to point out that Parthe's domestic labors do not appear in Marcus' study? Even Florence herself remains a present absence. Of unmarried women's labor, Marcus writes: "In the 1860s, unmarried women became visible as activists, philanthropists, and artists whose labor earned them a place in a society made more porous by a general emphasis on reform. The spectacular effectiveness of single women during the Crimean War increased public respect for them."[159] Here, Florence Nightingale, Mary Seacole, Elizabeth Davis, and other wartime nurses whose lives were encoded in published works are referenced indirectly, their names subsumed under the name of the war that became the occasion for their publicity. Perhaps we should make something of this erasure: would the hierarchical relationship of Parthe and Florence trouble Marcus' arguments for the relative equality of women's marriages in Victorian Britain? Is a marriage of sisters too much to countenance? Perhaps, but perhaps also this exclusion can be explained more prosaically. Any scholarly work will need to make what ultimately are arbitrary decisions about which authors and works to study, and which to

ignore. This is especially true for the Victorian era, with its relatively voluminous archives. So Gaskell happens not to be an author Marcus reads.[160] Perhaps there is little significance to be attached to this exclusion. But here's the thing: we do not need to presume some operation of repression in order to learn something about conceptual problem-points in Marcus' study by asking after the exclusion of Gaskell, or of Parthe and Florence, from her work. Presuming that "something's missing"[161] is generative even in the absence a strong theory of psychic or social repression.

The interpretive work that this presumption compels has helped flesh out certain labors of concealment constitutive of Gaskell's *Cranford*. We will recall that, in *Cranford*, Miss Jessie models idealized labors of concealment and care, and that these labors are taken up into the form of the novel. This is all, as it were, on the surface of the text. But there are also what I have termed second-order efforts of concealment involved in the characterization of Miss Jessie: namely, the concealment of fracture points in the textually-mediated project of improvement and in an emergent order of gender — an order caught up at the midcentury in the management of injury. These fracture points cannot be read off the "surface" of the text, but rather appear insofar as a critical reader asks after awkward turns and formal anomalies in the novel. I do, however, follow Marcus in not seeking to discover in these textual symptoms evidence above all for marginal subject positions, or for unspeakable desires (though it is not clear to me that this has ever been the primary aim of queer readings of literature[162]). Rather, I am interested in charting the fractures constitutive of dominant social orders and asking how these fractures were involved in the historical reconstruction of social relations. What Nancy Armstrong and Sharon Marcus both help us see is how, in and through literature, actors who might appear marginal to the social order were in fact centrally involved in refounding social relations upon new bases. Along these lines, I have suggested that midcentury reformed nurses were "of" but not "in" an emergent order of gender. They offered a model for women's unwaged domestic labor — labor tasked in a new way with managing accident and injury — even as their role set them apart from such devalued labor. And, as I will attempt to show further in what follows, the model they offered also came to reconfigure norms of working class masculinity. Similarly, I have showed how the marginal figure of the railway widow became ideologically freighted in a new way at the midcentury. Her dispossession and moralization helped set in place what would become more broadly disseminated discourses of labor and injury — discourses, materialized not only in narrative but also in legal and insurance policies, that made the working class family the primary locus for managing industrial injury, and that helped propel a host of insurance schemes, benefit funds, efforts at budgeting and temperance, and other techniques by which working class subjects, in the context of their family lives, sought to manage risk. Traces of both of these figures — the railway widow and the reformed nurse — appear in Gaskell's characterization of Miss Jessie.

Like the figure of the nurse, Matty's sibling Peter can be understood to have been "of" but not "in" the order of gender as it took shape through *Cranford*'s innovative form. The events of the chapter "Poor Peter," along with his character's role in the concluding paragraphs of the novel, allow us to register in a new way the instabilities of the gender discourses *Cranford* was involved in shaping, and confront again the problem of shock and its management at the midcentury. The chapter, "Poor Peter," is framed as a conversation between Miss Matty and Mary, the novel's first person narrator. Matty

recounts the events that led to Peter's abrupt departure from the family home and ultimately from England, beginning with an ambivalent characterization:

> Peter was in high favor with my father, for he worked up well for him. But he seemed to think that the Cranford people might be joked about, and made fun of, and they did not like it; nobody does. He was always hoaxing them…. But he was a very gentlemanly boy in many things. He was like dear Captain Brown in always being ready to help any old person or a child. Still, he did like joking and making fun; and he seemed to think the old ladies in Cranford would believe anything (63).

Peter's dichotomous characterization is articulated in terms of his relations to Cranford residents: he is at once gracious and helpful, while being prone to jokes and hoaxing. The positive side of his character is brought into focus through an allusion to the Captain's initially considerate interactions with those at the party held in Mary's honor. But, as with the Captain, what is presented as a flaw in Peter's character undoes this positive moment. For the Captain, this flaw was a matter of his absorption in literature and over-eagerness to disseminate shocking narratives — novels seemed to drag him by the nose into varied dangers. For Peter, it was a matter of a certain playfulness. In the hoaxes that resulted in his suffering violence at his father's hands and ultimately deciding to leave Cranford — his performances as women — he seemed to find pleasure in fabricating a role, first as a "lady that was passing through the town and wished to see the Rector of Cranford," and then as a pregnant Deborah.

While Peter's performances are not presented as directly related to his practices of reading, as were the Captain's accidents, we can perhaps find in "Poor Peter" an argument about this character's relation to reading. He is first introduced as being relatively adept at Latin, which Matty describes as, "an ornamental language; but not very useful, I think" (60). Then we read that Deborah was unhappy with Peter for "not [being] careful enough about improving his mind" (64). If the Captain is undone for having been a too intensive, "close" reader — he buries his face in the *Pickwick Papers* — Peter seems to take an overly distanced relation to the printed page. In his hands, language is more an ornament than something "useful" or "improving." Without losing sight of its other entailments, I want to suggest that we might see in Peter's crossdressing a reflexive turn in the novel, where the gender crossings constitutive of, though potentially unsettling to, its subject-forming project are drawn forward. Peter appears as a reader who tries on various subject positions, rather than one who dutifully slots himself into a particular gendered trajectory and takes on its distinct labors of improvement. His open-ended relation to subjectivation is facilitated by the novel's form. Partly, this is simply a matter of the serial, mass quality of *Household Words* and of other midcentury periodicals. These works were read by those occupying any number of subject positions. If they were to be "improving" and to impart norms of gendered comportment, they could not foreclose the possibility that lines might get crossed in the transmission process. And a certain crossing was even perhaps required for the socializing work of such publications to take effect. We have seen how Jessie's labors of concealment appear as a positive alternative to the Captain's dissemination of shock. Like the women characters analyzed by Nancy Armstrong, Jessie sets out a model to be embodied, if in somewhat modified form, by men.

But there are more specific ways that Peter's gender performances set out the crossings constitutive of *Cranford.* In presenting as Deborah and tucking a pillow into her dress in order to suggest pregnancy, Peter carries out a "hoax" of a different order than those that had preceded this act. Appearing on the scene, where a crowd had gathered, Peter's father

> seized hold of poor Peter, and tore his clothes off his back — bonnet, shawl, gown, and all — and threw the pillow among the people over the railings: and then he was very, very angry indeed; and before all the people he lifted up his cane, and flogged Peter! 'My dear! that boy's trick, on that sunny day, when all seemed going straight and well, broke my mother's heart, and changed my father for life (65).

This scene of violence reorganizes the fortunes of the entire Jenkyns family. In its immediate aftermath, Peter decides to leave not only Cranford, but England itself, joining the crew of a ship and then finding himself incorporated into the British imperial apparatus in South Asia (revealing how *Cranford*'s conceit of a town without men rests in part on the historical reality of empire). Upon his departure, the narrative makes a rushed effort to contain the gender transgression it had just countenanced, as Matty notes that "I was in the store-room helping my mother to make cowslip-wine. I cannot abide the wine now, nor the scent of the flowers; they turn me sick and faint as they did that day, when Peter came in, looking as haughty as any man — indeed, looking like a man, not like a boy" (66). If Matty carried what we would call, following Freud, traumatic symptoms, the shock of Peter's departure had a more severe effect on their mother, who died less than a year after, not having seen Peter in the intervening period. And their father bore a melancholic disposition for the remainder of his life — a disposition the text ascribes in large part to regret, "the flogging… always in his mind, as we all knew" (70). Upon their mother's death, Deborah insists

> that if she had a hundred offers, she never would marry and leave my father. It was not very likely she would have so many — I don't know that she had one; but it was not less to her credit to say so. She was such a daughter to my father, as I think there never was before, or since. His eyes failed him, and she read book after book, and wrote, and copied, and was always at his service in any parish business (72).

Deborah's nursing labors anticipate (in historical time) and echo (in narrative time) the labors performed by Jessie's daughter Flora toward the close of Deborah's life, these instances establishing a chain of nursing relations. There is too a slight ache in the above passage, as Deborah wills her distance from a marriage that otherwise does not seem to be on the horizon. This ache is made more explicit in Matty's later account of a recurring dream, introduced by her recollection that "'My father once made us… keep a diary in two columns; on one side we were to put down in the morning what we thought would be the course and events of the coming day, and at night we were to put down on the other side what really had happened. It would be to some people rather a sad way of telling their lives" (127). Her dream is of a child, "always the same - a little girl of about two years old; she never grows older, though I have dreamt about her for many years (128). Matty's melancholic dream retroactively draws together the ache of Deborah's (un)willed spinsterhood and the pillow Peter tucked under her dress. As much as he "never thought of it as affecting Deborah," and as readers' initial response would be to anticipate the

scrutiny Deborah would have faced if his act had been carried off, Matty's dream ultimately recasts the relation of Deborah to Peter's pillow. Peter's breach brings forward his sisters' unrealized desires, limned perhaps by their desired unrealizations. Such desires were not of the same moment as Peter's performance, the truth of which thus only comes into focus retrospectively. Here again we come upon a gender crossing that enables a normative articulation of gender and desire. Not only does Peter's performance enable the displaced expression of the Jenkyns sisters' unrealized normative desires, but his shocking departure creates a tenderness in the bonds stitching together the Jenkyns family. His father, in particular, "was so humble, — so very gentle now. He would, perhaps, speak in his old way — laying down the law, as it were — and then, in a minute or two, he would come around and put his hand on our shoulders, and ask us in a low voice if he had said anything to hurt us?" (70). Peter thus becomes a vehicle for the emergence of new gender and domestic norms, and particularly of new, more nurturing, norms of masculinity, about which we will have more to say in Chapter Two. In this sense, like the waged nurse, he is "of" but not "in" an emergent order of gender. But does not his displacement also haunt this order? His absence invites the question of whether the vehicle of gender and domesticity must himself be sacrificed? Indeed, *Cranford* reveals its interest in exorcising the trouble exposed in Peter's absence, as the novel concludes with his joyful return and reunion with Matty. While the prospect of his marriage to one of Matty's friends is raised, ultimately he declines. And, in the concluding scene, he helps patch up a quarrel between Mrs Jamieson and Mrs Hoggins. He enters a town gathering with the two of them on his arms and "fairly got them in conversation together. Major and Mrs Gordon [formerly Miss Jessie] helped at the good work with their perfect ignorance of any existing coolness between any of the inhabitants of Cranford. Ever since that day there has been the old friendly sociability in Cranford society…" (187). With this conclusion, the novel somewhat unexpectedly calls up again the moment that had originally broken such sociability — the Captain's *faux pas* of reading. In doing so, the ending returns us to a task we perhaps hadn't even realized remained incomplete, that is, the narrative absorption of shock.

Chapter Two

The Life of Roger Langdon*:* Injury and Knowledge Making on the Railways

As discussed in Chapter One, the midcentury closing of working class people's access to compensation for injury contributed to the moralization of the figure of the railway widow. Related discursive shifts contributed to the contemporaneous reconstruction of the figure of the railway worker as at once impervious to harm and disposable. As accidents came to be understood primarily as threats to the health of passengers, workers came to appear as relatively immune to the dangers of railway travel. They were made responsible for maintaining a "constant watchfulness while on duty" for the sake of passengers' wellbeing, but were generally not perceived as meriting such regard in return. Polemics against the unsafety of railway travel in the late 1850s and 1860s rarely mentioned the unsafety of workers. In an 1857 report in *The Lancet*, companies are excoriated for attempting to maintain "their right to slay, smash, mutilate, or cripple their unlucky passengers" — a right that, by this time, companies could take for granted in relation to their workers, and that is not contested by *The Lancet*.[163] A corollary of these discursive shifts, as we will see, was the over-coding of the worker/passenger relation with the parent/child relation — a relation that was understood to involve a one-directional bond of responsibility and care. Thus, the exposure of railway workers to injury and the coincident exposure of their spouses to immiseration were each obscured at the level of discourse, in part through the incorporation of these two figures into domestic narrative frames — frames that, as we have seen, actively shaped the trans-sectoral culture of workers' improvement at the midcentury. The discursive reconstruction of the midcentury railway worker will be the subject of the readings and historical reflections to follow.

Alfred Haviland's 1868 medical pamphlet, *Hurried to Death: especially addressed to railway travellers*, presents a striking depiction of the effects on the passenger's body of the accelerated pace of railway travel, and in doing so reiterates the midcentury discursive polarization of passengers and workers' bodies. Haviland is obsessed with digestion, and anxious about the possibility that rushed and irregular eating habits, railway shock, and the attendant exhaustion of passengers' bodies might bring about reflux syndromes and other disorders. He figures the digestive process through an extended economic metaphor:

> In lingering and painful illnesses, when the resources of the body are quickly wasted and insufficiently supplied, on account of the stomach actually 'stopping payment,' in consequence of its inability to receive, or, if it receives, of 'realizing' by its digestive powers nature's 'assets,' in the shape of nourishment, the greatest watchfulness on the part of the physician is required in order to avert the impending catastrophe, which, in following the metaphor, may be termed the 'bankruptcy' of life.[164]

For Haviland, digestion ideally functions like a well-regulated economy, in which the body regularly draws upon periodically replenished and processed stocks of nutrients. When this process is interrupted or thrown askew, as when passengers hurry to catch a

train or suffer nervous fatigue on the rails, the "bankruptcy of life" is threatened. Passengers suffer particularly acute shocks, according to Haviland, when workers are careless or inattentive, "as, for instance, in loosely coupling the several carriages, and in neglecting the rails."[165] And in some cases, they suffer digestive ailments even while riding: "I know one highly respectable and well-known gentleman who frequently experiences a slight attack of diarrhoea just prior to starting for a journey: this is akin to the nervous feeling experienced by boys when anticipating a thrashing at school, and which induces vesical contraction."[166] Here, Haviland equates the passenger with an anxious schoolboy, implying a generational divide between the infantilized passenger and the responsibilized worker, whose labors of attention are aligned with the physician or the nurse's watchfulness in the face of potential digestive catastrophe.

While the infantilized bodies of passengers/patients are viewed by Haviland as hyper-sensitive to railway shock, the bodies of workers are seen as categorically different:

> Persons who travel daily to and from their business are in a different category from those whose lives are spent upon the line. The servants of the railway companies are apparently immune, but really not so, from the ills to which others are liable. The railway servant must and does begin early in life to accustom himself to his peculiar calling; if he do not do so, it would be folly for him to commence railway work in middle-life, for, in the words of an experienced engine-driver, 'They can't stand it, lose their heads, and become old men in no time.'[167]

If workers are not actually immune to the danger of indigestion, their work patterns[168] and early acclimation to railway shocks nevertheless make them appear to be so: on the basis of this assertion, Haviland ventures a categorical distinction between railway workers and passengers. Traces of the notion that railway workers are relatively immune to the potential injuries of railway transit appear as well in Ellen Wood's 1864 serialized novel, *Oswald Cray*, which depicts the immediate aftermath of a violent derailment. Bigg, a railway stoker scalded in the crash is initially passed over for care by Mark Davenal, one of the doctors sent to the scene. When confronted about his oversight by Dr. Oswald Cray, who offers a universalizing claim than any person may suffer pain, Mark insists: "He's only a fireman…. No one expects these rough fellows to be sensitive to pain."[169]

The midcentury construction of the railway worker as insensitive to pain or immune to shock coexisted awkwardly with the imperative that the railway worker exhibit an unflagging regard for his passengers' wellbeing: workers may have been seen, as by Mark Davenal, as "rough fellows," but they were also enjoined — by company policy, liability law, and a broader rhetoric of rail workers' responsibility — to treat their passengers with the utmost care. This tension defines the character of Captain Brown in Gaskell's *Cranford*, particularly at the moment of Mary's party. The polarity between roughness and regard in the midcentury discursive construction of the railway worker was managed in part through the coding of the railway worker's regard for his passengers as a specifically paternal form of care,[170] and through the reimagining of attentiveness in the face of danger as an almost automatic practice. With respect to the latter, Jonathan Crary has shown that midcentury experimental research on perception was preoccupied with questions of attention, its conditions and constraints, and that this preoccupation was

tied to concrete institutional imperatives, such as, for example, railway systems' reliance upon the coordinated attentional labors of a spatially dispersed workforce.[171] John Carter's 1855 report, *On the Influence of Education and Training in Preventing Diseases of the Nervous System,* contains an extended summary of midcentury research on attention. Carter notes that attention generally seems to be a fickle faculty, subject to frequent dislocations and adjustments. One exception to this general rule, however, can be seen in the relatively unbroken attention individuals show toward scenes of danger, which Carter illustrates with the example of a stranded ship:

> A seaman would attend chiefly to the manoeuvres of a ship, because habit and association would invest them with a greater interest than he would be likely to attach to any of the objects on the shore. A landsman, if the ship were in danger, would feel that its claim upon his attention was strengthened by the circumstance; but, if it contained a friend or relative, in whose safety he was deeply interested, the claim would become irresistible, and his attention would (as it is said) be riveted, not only without any exertion of his will, but in a manner which he would probably be unable to overcome, even if desirous to divert, temporarily, the current of his thoughts.[172]

Carter thus classifies as a form of "automatic" attention the unbroken regard individuals apparently show toward scenes of danger, particularly when friends or family members are affected. He also aligns this "automatic" attention with the habituated attention of workers. In doing so, he renders such attentive regard unremarkable and conceptually de-links it from mental labor, which in his text is exemplified by the work of "abstraction" — work that otherwise would seem almost indistinguishable from anxious regard, insofar as these two attentional states each involve an unbroken focus, a "riveting" of attention.[173]

Carter's summary of midcentury research on attention helps clarify how the discursive reduction of railway workers' attentional labors to a framework of automatic and/or paternal regard could make both the mental and affective strains of railway work disappear, as workers' "constant watchfulness" would seem to be merely a "natural" or habitual response to passengers' ever-present exposure to harm, requiring neither active concentration nor great sensitivity. This view of railway work as consisting of automatic or natural attentional activities — a view that was actively disseminated by railway managers at the midcentury — contrasts starkly with the description of the mental and affective strain of railway work offered by an anonymous signalman in 1874: "His duties are quite heavy enough to impair the strongest of minds in a few years; and anyone has only to look at the careworn and anxious faces of the majority of signalmen to be fully convinced of this statement."[174] Railway work appears here to impose an unrealizable burden of affective and attentional labor on signal operators; their jobs take them beyond the "natural" limits of their bodies. And yet, as we will see in the following discussion of the semi-autobiographical *Life of Roger Langdon*, a story of a nineteenth-century railway station master, there were multiple rhetorical ends toward which the association of railway workers with anxious paternal regard and automatic techniques of vision could be directed.

Langdon's *Life* constitutes perhaps the most intimate extant archive of a nineteenth-century rail worker's feelings. Reading the text though, it is hard not to perceive Langdon as a unique personage, utterly unrepresentative of the broader class of

nineteenth-century industrial laborers. Certainly, based solely on a comparison with other nineteenth-century life writing (which was itself restricted to those who enjoyed relatively developed literacy and had the time to compose recollections), Langdon's elaborate astronomical constructions, capacity to find a new language of loss,[175] and passion for teaching children the tenets of physics were atypical. Aside then from the intrinsic interest his remarkable autobiography provokes, does it actually tell us much about general features of working class experience in this era? As we will see, the text itself suggests at least two distinct approaches to this interpretive question. For my part, I will show how *The Life of Roger Langdon* casts in relief a number of historical problems that can be fleshed out through analyses of contemporaneous sources — historical investigations I will undertake in the sections that follow my reading of Langdon's *Life*. I read *The Life* not as *representative* but rather as conceptually generative, helping us pose different questions about labor, gender, and knowledge-making in the Victorian era. In particular, Langdon's autobiography invites questions about how the aforementioned ideal of rail workers' paternal regard could shape an individual's life, how it could be woven together with emerging norms of working class masculinity, and how this ideal could be strategically deployed by higher-grade railway workers and their family members to contest the authority of railway company and state bureaucracies. In this way, Langdon's autobiography helps introduce novel strains into narratives of nineteenth-century class composition and gender relations — a conceptual modification that will hopefully further bear fruit in Chapter Four's discussion of early railway unionism. Langdon's autobiography brings into view as well questions of the relation between shifts in labor processes and nineteenth-century epistemological mutations (that is, mutations in how knowledge was made and in how objects were understood). While *The Life of Roger Langdon* offers a somewhat idiosyncratic window onto the nineteenth-century history of science, certain features of this narrative — particularly the way it establishes isomorphic relations between railway and planetary circuits, and the way these circuits are conceived through the health/illness matrix — echo the treatment of these and other phenomena in contemporaneous scientific works. Langdon's *Life* thus enables the reconceptualization of nineteenth-century class and gender relations, and allows us to think the complex relation between the spread of industrial labor processes and contemporaneous shifts in knowledge-making practices.

I. The Visions of Roger Langdon

Sometime around 1890, a young man paid a visit to an aging stationmaster at Silverton, a village north of Exeter in the southwestern county of Devon. The young man, a son of the general manager of the Great Western Railway, was interested in gaining journalistic experience. His father's "attention had been called to the personality and attainments" of a remarkable, aging stationmaster who had worked near the end of the Great Western's line for most of his life, and the young man, H.C. Lambert, decided to pay a visit to the stationmaster, Roger Langdon, and to write a report of Langdon's life for the *Great Western Magazine*.[176] The text that emerged from this encounter far exceeded Lambert's initial intentions, forming a book-length, semi-autobiographical

narrative, which included rough transcriptions and summaries of Langdon's recollections, transcriptions of stories told by his daughter Ellen, Ellen's detailed descriptions of her father's astronomical instruments, and reproductions of Langdon's astronomical notes and writings. While Lambert's *The Life of Roger Langdon* contributed to an emergent genre of working class autobiography,[177] the journalistic frame introduced by Lambert, the inclusion of recollections and technical descriptions from Ellen Langdon, and the reproduction of Langdon's research notes and popular writings on scientific topics, all contributed to stretching this text to the limits of autobiography's generic conventions. By the end of the narrative, Langdon's activities and viewpoints have been characterized by at least three voices — his own, Lambert's, and Ellen's — while his own authorial voice has been split into at least three modes, including his stream of recollections, his fragmentary research notes, and his more rounded scientific writings, which include an editorial that takes as its narrative voice the man on the moon.

In his study of nineteenth-century British working class autobiography, David Vincent identifies a number of narrative devices and *topoi* that recur frequently in workers' memoirs and that indicate the family resemblance working class autobiography shared with the genres of the domestic novel and the pedagogical or improving tract. These narrative devices and *topoi* include: the establishment of causal or associative chains between significant childhood episodes and subsequent character traits;[178] the organization of time with reference to the events of marriage, childbirth, and death; the description of how the protagonist came to a habit of reading and writing; and the association of technical and/or humanistic knowledge with freedom. As we will see, each of these conventional elements of working class autobiography appears in *The Life of Roger Langdon*, though Langdon's pursuit of astronomical knowledge appears driven as much by a compulsion to recall traumatic losses as by a desire for freedom.

The Life of Roger Langdon is framed by Lambert's summary description of Langdon's biography and then opens with an extended, more properly autobiographical account of Langdon's childhood. Both Lambert and Langdon's openings establish a context of material scarcity. Lambert begins:

> Long hours of duty at a little country station, the support and clothing of himself, his wife, and eight children who required to be educated and placed out in the world — all accomplished on a weekly wage, which from his marriage to old age averaged only 30s., and was in the earlier years much less — would have been enough to exhaust the energy and resources of any ordinary man. Nevertheless, Mr. Langdon found time and means to learn French, Greek, and Shorthand, to amuse his family and neighbors with lantern lectures, and to make and use effectively four telescopes, so that eventually his reputation spread to the Royal Astronomical Society, before which he read a paper on his discoveries and observations (7).

Lambert rapidly transitions in this passage from a discussion of material scarcity — the burdens of social reproduction on a limited wage — to a listing of Langdon's accomplishments; scarcity appears here as a set of constraints overcome by the "energy and resources" of an extraordinary man, or as a background that allows Langdon's foregrounded scientific achievements to stand out even more boldly. His accomplishments seem to set him against a broader class milieu, and thus by themselves would appear not to offer any insight into working class experience as such. Lambert

continues, discussing Langdon's "fortunate" marriage and domestic life (a shockingly unequivocal assessment when considered against Ellen's later descriptions of the grief her parents felt following her brother's accidental death on the railway tracks). The introduction then wraps up with a line about Mr. and Mrs. Langdon that is reminiscent of George Eliot's famous concluding comments about Dorothea in *Middlemarch*: "[The Langdons'] character and example even in this small locality and limited sphere must have been of very marked value" (7).[179]

In contrast to Lambert's framing remarks, the opening sections of the autobiography proper dwell for an extended period on the scarcity and losses that defined Roger Langdon's childhood — foundational experiences from the 1830s that will echo through the subsequent events of his life, rather than serving simply as constraints to be overcome or left behind. The autobiography notes that Langdon's family always seemed to be on the verge of severe indebtedness. His father worked as a clerk in the church, a job passed down for five generations. As part of the job, he was required to strictly maintain the schedule of services and other church events — a strictness that appears as well in his relations with his children (26).[180] In addition to descriptions of Sunday School classes at his father's church, Langdon's childhood recollections are structured in large part around the character of Nanny, who "was a sort of oracle in the village, besides being a kind of quack doctor [and midwife], and what with her superior cunning, and evil temper, always excited more or less with gin, she held most of the poor women under her thumb" (15). Her character is here pressed (by whom?) into the stereotype of Mrs. Gamp, a character in Dickens' *Martin Chuzzlewit*, whose name had become, in the midcentury discourse of nursing reform, an epithet that evoked a host of negative habits (drinking at work, treating patients roughly) attributed to an earlier generation of nurses, both waged and unwaged. The depiction of Nanny shows the continuing force of an earlier, sharply negative turn in representations of independent nurses, discussed in Chapter One. Nanny appears in the early sections of the autobiography to be an antagonist of the family. Langdon attributes the death of his sister Louisa to a bad smallpox inoculation that Nanny administers; he then describes how, when Langdon's mother asks someone else to administer inoculations to her other children, Nanny responds by insisting that his mother can no longer have access to her oven to bake bread.

Roger is deeply affected by Louisa's death; he describes how he "would go out and look up at the stars, and wonder if I should see Louisa flitting about from star to star, but my mother said, 'No, you will not see her there, but you will meet her again at the last day'" (17). This anecdote offers an implicit explanation for what would become Langdon's passion for stargazing, which was first cultivated when he had finally saved enough money from agricultural work to purchase *Pinnock's Catechism on Astronomy*. The narrative invites us to conclude that Roger turns in his later life to astronomical observation out of a lingering desire to glimpse his lost sister moving amongst the stars. A number of other episodes from Langdon's early life inform interpretations of subsequent events, and particularly of his life as a railway worker, which began around 1850, when — following Anne Warner's ultimatum that she would marry him if he "got a permanent situation either on the railway or in the post office" — he obtained a position as a signal operator. In his account of the preceding period of his life, between 1839 and 1847, when he worked near the ports of Jersey, he describes how a young man named Jim Drake was physically abused to the point of disfigurement by his captain and

shipmates for the offenses of being sea-sick and of whistling: in court, upon the ship's return, none of the other men would corroborate Jim's account of his injury. The captain then successfully sued Jim for defamation, which resulted in his conviction and three week incarceration.

Echoes of this incident of injury and thwarted justice can be discerned in Ellen Langdon's account of the aftermath of an encounter her father had with a drunken book salesman, who became enraged when her father asked for the full fare:

> The man began to abuse him and got on to the line, and would have been killed by an express, but father jumped down and dragged him back just in time to save both their lives. The man then struck father in the face with his umbrella and swore tremendously. After some trouble father succeeded in placing him outside the station gate and locked him out. The man finally paid 7d. for his ticket, and then threatened to kill father. Of course he was summoned and had to pay heavy fines. Father wrote regarding this case: 'If I had caused the death of this man, I should have had to do at least twelve months' hard labour in one of Her Majesty's country mansions, and there would have been two and a half columns in *The Times*, *The Standard*, and *The Daily Telegraph*, expatiating on the carelessness of railway officials; but having saved his life at great risk of my own, I received as complete and satisfactory blackguarding as it is possible to conceive' (78-9).

As we will see in Chapter Four, Langdon's bitter response to being punished for having risked his life to save a belligerent passenger from fatal injury follows along some of the polemic tracks that were laid down by railway trade unionists of the 1870s and 80s (who perhaps merely shared publicly the frustrations railway workers had previously shared amongst themselves[181]). Langdon's outrage at the hypocrisy of both the railway company and the mass press's conception of workers' responsibility for accidents suggests that an explicitly oppositional stance toward the injurious conditions that defined their working lives could coexist with workers' embrace of practices of improvement and of the official politics of liberalism: as Ellen recalls, her father was an outspoken temperance advocate and a supporter of Gladstone. Langdon's close-call with the intoxicated bookseller is one of a number of encounters with the unsafety of the railway system that Ellen recalls her parents having experienced: she also describes a moment when her mother had to take in passengers stranded by a flood on the tracks (81-2), and a situation in which her father tried unsuccessfully to warn a passenger who walked in front of an oncoming express train and "was instantly killed. The shock was very great to both of my parents and they could not sleep for weeks" (79). Ellen frames the effect of the accident in terms of the intimate, affective experience of her parents: we are invited to imagine the shocked couple lying awake next to each other over successive nights. This framing brings the fatal injury of an unknown passenger within the same discursive field as that used to frame the fatal injury of Ellen's brother: "[T]he following year my eldest brother was killed by an accident at the station. This was a terrible blow to both my parents, and the trouble turned father's auburn hair as white as snow" (72). Langdon's regard for the lives of passengers appears comparable to his regard for his children; *The Life of Roger Langdon* thus participates in the mid- and late-nineteenth-century discursive construction of railway workers as figures exhibiting a paternal regard for their passengers.

Following the death of his son, Roger Langdon pursued his astronomical activities with intensity: he corresponded with engineers about how to silver the speculum for his third telescope, through which he was able "to detect certain markings upon the planet Venus. In 1871 he read a paper before the Royal Astronomical Society in London upon this subject" (74). Langdon then built a fourth telescope, which required the supplementary construction of an observatory. As Ellen describes it:

> He at last completed this Newtownian equatorial reflecting telescope fitted with a finder with Ramsden eye-piece. He added to it a trap for taking photographs, the invention of his own brain, and in visiting Greenwich Observatory some years later he was pleased to find that the apparatus in use there for the same purpose was almost identical with his own. With this telescope my father photographed the transit of Venus and took also several pictures of the sun and of the moon" (75).

Langdon constructed novel photographic and telescopic technologies during his time off, using them to make "over a thousand drawings and photographs of the moon's surface" (74); he also fabricated magic lantern shows and optical exhibits for neighborhood children (7; 103), making him a participant in the mid- and late-nineteenth-century culture of experimentation in technologies of vision.[182] But Langdon came to this experimental culture along an idiosyncratic road; his participation in this culture was shaped by historical experiences and driven by psychic conditions that might not have been typical for those experimenting with technologies of vision over the nineteenth century.

For one, Roger Langdon's regular nighttime observation and recording of the markings on the moon and other celestial bodies bears an uncanny resemblance to the labors of attention and record-keeping he performed each day while on duty at the station. Station masters were required, like signal operators (Langdon's first post with the railway), to keep records of the times when particular trains arrived and departed and to attend to telegraphic communications. They were also required, unlike signal operators (but like guards), to help passengers with their itineraries and luggage, and generally to attend directly to the comfort of passengers. Some sense of Langdon's own implicit recognition of the formal parallels between his on- and off-duty attentional labors can be gleaned from a story he wrote, "A Journey with Coggia's Comet," which was originally published in *Home Words*. The story of the comet's journey is interrupted with the observation: "[W]ere the mass of the sun composed of Newcastle coal, with exhaustion going on at the present rate, the whole mass would be burnt out in 25,000 years" (99). Here the underlying energy sources of the solar and railway systems, the respective objects of Langdon's on- and off-duty attention and knowledge, are equated. In the essay, he also describes the movements of comets and other celestial bodies as realizing a "healthy circulation" — a category that, as we will see, was used in contemporaneous works to describe both the movements of the blood through the body and the movements of trains along systems of track.[183] Langdon, in both his on- and off-duty observations, was involved in the painstaking recording of snapshots of circulating bodies, whose movements helped compose larger, ultimately unfathomable, circulatory processes; each recording was labeled with a precise time, and mirrored in a number of formal respects other observations made of the same circulatory system.

While parallel in the above-mentioned ways to his on-duty observations of the circulation of trains, his off-duty observations of patterns of lightness and darkness on Venus open onto a world of uncanny objects:

> On May 1, 1871… Her shape was that of the moon when a little more than half full. I distinctly saw a dull, cloudy-looking mark along her bright limb, curving round parallel to it, and extending nearly across the disc, each end terminating in a point; joining this at the eastern extremity was another and darker mark of a club shape, its small end joining the point of the mark previously described. I watched these marks for half an hour….
> On October 13, at 5:45 a.m. I saw Venus as a beautiful little crescent. She was well defined, and both horns were as sharp as the finest pointed needles. I think I detected a dusky cloud-like mark about half way from the centre to the northern horn; but I am not quite sure about this as I had to leave my telescope before I could complete my sketch.
> On October 25, at 8:10 a.m.… I could now plainly perceive the jagged nature of the terminator, the northern horn was bent in towards the center of the planet; it appeared as if a notch had been cut in the inside, and a slice cut off from the outside.
> On November 9 I saw Venus every half hour during the day up to one o'clock. I made a sketch at 12:20 p.m. I could now distinctly see the jagged terminator; the nature of which was so much like that of the moon as it was possible to conceive; except that if we compare the moon's terminator to a piece of network, that of Venus would be represented by a piece of fine lace (88-90).

These textual fragments seem to gather together descriptive traces from disparate spheres. At particular moments in Langdon's recording of what he saw through his telescope, we can hear echoes of descriptions of a jagged-edged tool; a doily; a horned animal; a club; a notched machine-part; a disc; a woman's limbs; needles; and a shadowed cloud. Through his descriptions, the various "marks" on Venus attain a certain animacy: the "cloudy looking mark along her bright limb" curves around, extends, terminates, and is joined by another mark. If Venus thus seems to teem with composite life forms, it also has something of an uncanny, even deathly quality: while forms appear to emerge and fall back into the planet's disc-like surface, there remains a stillness, or fixity of the planet itself: "she was well defined." The sense of an uncanny stillness on the surface of another world is made explicit in Langdon's "A Letter from the Man on the Moon," originally published in the *Exe Valley Magazine*:

> [Y]ou may safely consider the whole mass of the moon to be a huge, exhausted, burnt-out cindar…. [H]ere in the moon we have no such thing as an atmosphere: we therefore have neither clouds nor rain, nor frost nor snow; and in the words of the poet—
>
> *Here are no storms, no noise,/*
> *But silence and eternal sleep.*
>
> All here is as quiet and silent as the grave (94).

Langdon's association of the stillness of the moon with the grave returns us to the matter of loss, and particularly to his story of looking at the stars as a child in the faint hope of seeing his late sister. By the time he was recording Venus' passage and writing in the

voice of the moon's surface, "quiet and silent as the grave," Langdon had also endured the loss of an unknown passenger and was suffering from the death of his eldest son, both of whom had been taken away in railway accidents. If we follow the association Langdon makes between suffering the loss of a beloved child and staring at the night sky, it might be possible to see his later astronomical activities as a work of grief, in particular for his sister and eldest son, but also, perhaps in some way, for his anonymous passenger. He was looking, through a distorting lens, at the impossibility of looking again at those he had cared for. But he was not simply looking at an absence, a blank loss. Through the telescope, he saw on the surfaces of the moon and of Venus assemblages composed of materials from his everyday life — machined tools, domestic decorations, and parts of human and animal bodies. The phantasms, or grave surfaces, that held his attention were not without material traces; he saw in them hints of the bodies, tools, and textures that defined his own, and his wife Anne's, working lives. These traces situate Anne and Roger's losses. Her son had been killed just outside the family home, where Anne Langdon taught her own and other children reading, arithmetic, Catechism, and *sewing* (67-8). His son had been taken away by the machines that Roger Langdon carefully observed, and whose movements he regulated, on a daily basis. Langdon's off-duty astronomical labors can thus perhaps appear as a means he made for himself to re-experience, at a distance and through a distorting lens, the complicity of the railway network and its recording devices — including his own hand and eye — in losses he and others had suffered, and thus to encounter in an indirect way the extent to which his labor entailed an impossible burden of responsibility for his own and others' lives. These losses and burdens found an uncanny form in Langdon's off-duty reveries and recordings.

II. Grief and Working Class Life Writing

Langdon's autobiography is stitched together through threads of loss. Associations between his adult life and his earliest memories are constructed out of resonant experiences of grief, loss, and outrage at institutional responses to injury. And what might otherwise appear to be unrelated dimensions of his adult life — his astronomical labors, his waged work, and his domestic relations, in particular — appear as aspects of a persistent condition, characterized by shock and unresolved grief. In this way, Langdon's *Life* orbits around the phenomenon of loss. I suggested above that this foregrounding of unresolved grief might set *The Life* apart from post-'48 working class autobiography, which, in Vincent's account, tends to associate scientific and technical education with the practice of freedom, rather than, as in Langdon's life story, the endurance of grief. As Vincent writes: "[T]he autobiographers saw only a limited connection between their family experience [of love and bereavement, above all] and what were the general themes of the life-histories, the development of their moral and intellectual personality."[184] This observation returns us as well to the question of Langdon's (un)representativeness, and thus to the problem of historical interpretation in relation to this distinctive work. Langdon's proximity to premature death certainly does not set him apart from the mass of nineteenth-century industrial workers (as evidenced by the opening discussion of Thomas Baron's work chronicle, for one[185]). What might

initially appear to set Langdon apart though is how his autobiography is able to make this experience of loss into an interpretive key for understanding his commitment to self-education and scientific experiment. Interestingly, *The Life* only establishes loss as an interpretive key insofar as it draws on a multitude of narrative voices. Ellen's descriptions of her parents' shock at the death of her brother and of a passenger enable a connection to be drawn between Roger's early interest in astronomy (apparently spurred by the loss of his sister), and his later re-commitment to this practice. Moreover, the inclusion of Langdon's popular scientific writings and verbatim reproductions of the records he kept of Venus' passage allows us to perceive the melancholic register of such work. In this way, the disunity of the text's narrative voice underwrites what otherwise may have been an elusive thematic unification — a weaving together of narrative threads around the problem of loss in a way that seems to set *The Life of Roger Langdon* apart from other nineteenth-century working class autobiography. There are two questions — one historical the other somewhat more political/aesthetic — that will occupy the reflections in what remains of this section: first, might *The Life*'s organization around the phenomenon of loss not in fact have mirrored a relatively widespread feature of nineteenth-century working class cultural production; and second, how should we understand Langdon's loss-saturated text in relation to what I have suggested were the atomizing tendencies of the post-'50 culture of improvement? Does *The Life* exceed the domestic frame characteristic of this culture; or, perhaps, might it reconfigure domesticity as a vector of political and economic antagonism, and if so, to what effect?

To begin to address the first question, it is worth noting that the registration of loss — especially loss figured in domestic terms — was conventionalized not only in working class autobiography, but also in popular soirees. In her study of workers' literary cultures of the nineteenth century, Martha Vicinus has shown that midcentury workers' soirees typically included a reading of a poetic lament for a lost child, in the midst of other domestic narratives and vignettes.[186] And with respect to autobiography, Vincent himself notes that there are hundreds of deaths recorded in extant nineteenth-century workers' life writings. The question then is not whether the registration of loss was conventionalized in working class cultures of improvement, but rather how to read such encodings of loss in relation to the larger works and projects in which they were embedded. Langdon's *Life* itself offers an opening onto this interpretive question. There is an at least superficial resemblance between David Vincent's historical account of the relation between improvement and loss in nineteenth-century working class autobiography and the introduction H.C. Lambert gives of Langdon's life — an introduction that is then contested by Roger and Ellen Langdon's own accounts of Roger's life. We will recall that Lambert depicts Langdon as an exceptional figure whose "energy and resources" allow him to exceed the difficult material conditions in which he is embedded. Poverty here is a background, the negative space that defines the contours of an improved life. Compare this introductory framing of Langdon's life with the following passage from Vincent's 1981 study of working class autobiography:

> Not even the most optimistic reader ever regarded the acquisition of useful knowledge and the forms of behaviour and outlook which it generated as being anything more than a precondition, an essential tool for the full emancipation of themselves or their class. If nothing else their continued experience of the material and emotional deprivation examined in the second

> part of this study, was evidence of the practical limitations of the most single-minded and successful pursuit of knowledge.[187]

Here deprivation is counterpoised to the pursuit of knowledge. Deprivation forms limits that the pursuit of knowledge then overcomes, more-or-less successfully. While perhaps intuitive, this polarization seems to presume that the latter is not animated by the former. *The Life of Roger Langdon* demonstrates though that the pursuit of knowledge can in fact appear as the means by which a subject lives through or comes to terms with deprivation and loss, rather than by which s/he transcends or overcomes such conditions. In this sense, Langdon's *Life* is conceptually generative: the text invites us to reconstruct, or at least to put pressure on, the categorical distinctions that organize studies of working class life writing, as of working class improvement and self-education. Without trying to argue that the pursuit of knowledge did not in fact form a central theme of working class autobiography and improving gatherings, or that it was not allied to practices of self-discipline that promised a certain stabilization or advancement in the face of insecure material conditions, I want to suggest rather that something like a counter-impulse can also be detected in such representations — an impulse to make loss visible, to externalize injury or find forms for its expression. To the extent that this counter-impulse can be found, it cuts against the tendency identified in Chapter One toward the neutralization and covering over of grief, exemplified by the characters of Miss Jessie and Mignionette. What we can see in Langdon's *Life* is how this finding of forms for the expression of loss could also be allied to the work of cognitive mapping: that is, to the work of marking out the lineaments and historicity of a social world as it appeared from a particular class position.[188] *The Life* tracks loss across Langdon's various spheres of activity, marking at once the complicity of his own hands and eyes in the violence of the railway system, as well as the damage this system enacted against himself, his family members, and a potentially infinitely expanding collection of passengers and workers who might find themselves passing through his bleak station.

To begin to render plausible this notion of a counter-impulse, in nineteenth-century working class cultures of improvement, toward the registration of unresolved grief and the concomitant mapping of damaging conditions of life, I want to consider a somewhat strange essay, entitled "Tears: their Philosophy, Utility, Beauty, and Significance," which was composed in 1851 by George Davies. "Tears" was published in *The Literature of Working Men*, a volume edited by George Cassell, who was also at the time publishing the *Working Man's Friend and Family Instructor*, an improving periodical discussed in Chapter One. In lieu of monetary compensation, Cassell offered to send those whose essays were selected for the compilation a book of their choice as payment; *The Literature of Working Men* was promoted as evidence of the extent of improvement already achieved by members of the British working class.[189] As the title suggests, Davies' treatise is a composite document, consisting of reflections on tears from a variety of disciplinary and discursive frameworks. The treatise begins with medical accounts of the causes and effects of tears: "Tears are the limpid fluid secreted by the lachrymal glands…"[190] Davies is interested in showing the utility of tears in terms of their biological, psychological, and social effects: "We would not make a weeping world; but, seeing this is a 'vale of tears' we wish to show that it is not needlessly so."[191] While he tends to articulate the utility of tears in terms of their expressive qualities (in this sense perhaps we might see Davies' tears as an index of grief's *expression*, which his essay

itself also works to realize), he also considers at times what they enable bodies to do. In this vein, Davies asks: "How deeply are we indebted to their soothing influence in the deepest hours of sorrow, or of silent, solitary mourning by the couch of the departing, when the weary eye burns with tedious watching; and over the newly-closed tomb!"[192] Tears here appear as a material support for the riveting of attention in the face of a loved one's exposure to death. Without tears, the attentive eye would suffer more intense strain. We might hear in this discussion of the physical strain suffered by the "attentive eye" echoes of railway workers' complaints at the excessive, physically damaging attentional labors they were required to perform.

The final section of Davies' "Tears" consists of a litany of citations and narrative fragments tied together insofar as they all involve weeping characters. Many of these incidents involve the tragic loss, as in war, of spouses, children, or parents: "The widow's wail, the orphan's cry, have always followed the steps of desolating war."[193] In this way, Davies associates weeping with familial bonds and their rupture. And yet, he also imagines the possibility that tears could excite common feeling, and even potentially common action, in ways that would traverse and exceed family circles of sentiment: "But who shall tell the worth of tears? They unite human hearts in stronger bands than chains or cables. Suffering and sorrow is general; so, too, may be tears of sympathy… raise the social tear, the social sigh."[194] Davies here calls for the transmission, the echoing through the social field, of the visual marks and bodily supports of grief. His essay cannot however be read as unequivocal in its call to tears, to a dwelling together in psychic devastation, as the essay also manifests a desire to repackage tears, to translate them into useful knowledge, and thus in some way to subject grief to the work of improvement. In this way, Davies' essay on "Tears" draws out, in a particularly stark and evocative way, the ambivalences and counter-tendencies of nineteenth-century working class literary cultures — counter-tendencies evident as well in Langdon's *Life*, where astronomical labors are at once continuous with a whole complex of self-disciplining habits, while also serving as a device for registering the ubiquity of unresolved loss in workers' lives.

If Davies' "Tears" offers evidence — with more to follow in subsequent sections — of a counter-tendency in midcentury working class cultures of improvement toward the expression and mapping of loss, it also helps frame the second question animating this section: namely, how to conceptualize the political effects of this registration of loss, particularly in relation to the midcentury rise of domestic ideologies amongst the working class. In Davies' essay, tears appear initially and most dramatically in domestic settings: from his reference to "solitary mourning by the couch of the departing," to his invocation of the "widow's wail, the orphan's cry," Davies frames loss in terms of familial relations. Then, in calling for "the social sigh," he seems to exceed this frame. But we might recall here the work of Mary Poovey and Denise Riley, which has helped clarify how "the social" emerged in the mid-nineteenth century as a feminized sphere of activity, distinct from other spheres of activity that tended to be coded as masculine. Various reform projects — from home sanitation, to nutrition, to infant health efforts — were conceptually grouped together under the rubric of the social, and in this way were set apart from activities understood to take place in the political and economic spheres. The social was domesticity's home away from home. As Riley writes: "If woman's sphere was to be the domestic, then let the social world become a great arena for domesticated intervention, where the empathies supposedly peculiar to the sex might flourish on a

broad and visible scale."[195] From this view, Davies' call for the "social tear, the social sigh" would appear to be a banal mobilization of domesticity's elasticity — a stretching from home to street characteristic of domestic ideology. And yet, this assessment is perhaps complicated by Davies' concern with the traumas and injustices of war. If his essay orbits around the domestic tear, he deploys this mark of grief in a way that pulls away at the political valorization of warfare. The "private" grief that unites those who have lost loved ones in war is depicted as formative of bonds even more solid than those forged on warships: such losses "unite human hearts in stronger bands than chains or cables." A similar dynamic is at work in Langdon's *Life*, where decidedly domestic encodings of loss (i.e. shocked parents lying awake at night) enable a critical perception of the railway system's destructiveness.

How should we understand these political and economic judgments made in the name of ruptured domestic bonds? To venture a claim that will hopefully appear plausible by the conclusion of Chapter Four: the political mobilization of domestic relations could be effective in reversing the tactical force of domestic ideology — rail workers' paternal watchfulness, rather than obscuring labor and injury, could become a vehicle for highlighting these negative features of the rail system — but this mobilization of domestic relations also tended to reproduce in consequential ways gender and grade based hierarchies within the working class. The domestic relations that could be recognized, and the agents in a position to invoke these relations to make political interventions, were restricted over the second half of the nineteenth century. Working class men who could align themselves with idealized domestic norms and relations were able to draw upon these relations in articulating analyses and criticisms of railway systems, state bureaucracies, and other political and economic powers. But, as we will see in detail in Chapter Four, working class women attached through relations of dependency to the railway industry were often unable to effectively mobilize their domestic attachments in making claims on, or challenging the practices of, state, company, or railway union authorities. More often than not, in ways initially outlined in Chapter One, such women faced severe, moralizing scrutiny from these authorities. When they asserted a right to recompense for their losses, for example, they tended to appear as illegitimate claimants rather than as deserving subjects of loss. Nancy Armstrong's reading of midcentury domestic fiction helps clarify this gender discrepancy in subjects' capacity to mobilize domestic relations for political or economic ends:

> In nineteenth-century fiction, however, men were no longer political creatures so much as they were products of desire and producers of domestic life. As gender came to mark the most important difference among individuals, men were still men and women still women, of course, but the difference between male and female was understood in terms of their respective qualities of mind. Their psychological differences made men political and women domestic rather than the other way around, and both therefore acquired identity on the basis of personal qualities that had formerly determined female nature alone.[196]

While Langdon and Davies' writings demonstrate how working class men could mobilize domestic relations and negative feelings to make political interventions, we have already begun to see how this possibility was largely foreclosed for working class women, particularly beginning in the 1850s. Along slightly different lines, lower grade or casual

employees also tended not to participate in the political re-articulation of domestic relations, or in the practices of improvement associated with this particular political and aesthetic operation. While these divisions of grade and gender will occupy the historical reconstructions of Chapter Four, the following section will show in more detail how relatively higher grade railway workers were able to redirect discourses of paternal watchfulness and grief in ways that put in question company or state practices.

III. Paternal Watchfulness and Railway Politics

In this chapter's opening reflections, I suggested that the association of railway work with paternal regard can be understood as an ideologeme (an ideological module), which contributed to the naturalization, and thus partial erasure, of the physical strain and attentional labors of railway work. I want now to show in more detail the workings of this ideological set piece, while also demonstrating further how it could be put to use by railway workers themselves in challenging state or company practice. With respect to the former task, we will recall that the notion of paternal watchfulness jostled with and perhaps partially followed from the depiction of railway workers and other manual laborers as relatively insensitive to shock. The notion of paternal watchfulness helped enable the persistence of this view that railway workers were insensitive to shock, even in the face of workers' evident sensitivity, including to passengers' feelings and needs, and to irregular happenings on or near the tracks. The notion of a kind of automatic, paternal watchfulness suggested that, to the extent that workers demonstrated regard, this regard was merely a natural propensity that had been honed through habit.

Railway workers' relative insensitivity to shock was a medically documented fact in late nineteenth-century Europe. In 1857, a French doctor, H. de Martinet published research on the health of railway employees, drivers in particular. His findings suggested that railway workers were more prone than those employed in other industries to sickness (they averaged about two more sick days a year than other workers), and that they frequently developed chronic injuries of the nervous system. Nevertheless, he suggested that, while those hired later in life found railway work physically debilitating, if hired early enough in life, drivers could become relatively immune to the physical strain and shock of their labors. Martinet's study spurred a debate in the *Academie des Sciences* about health and safety on the railways. Other scientists, including some employed by companies, produced research in response that challenged Martinet's claims of rail workers' higher rates of sickness and chronic injury. The debate prompted similar research in Britain, as in Dr. Waller Lewis' 1859 study of post office workers employed on mail trains, which found that:

> On those persons who have good constitutions, are free from tendency to hereditary or other disease, and are physically well adapted to bear fatigue, this method of locomotion, even when persevered in for many years, appears to have but slight, if any, injurious effects. Some of our officers in this department have been in the daily, or rather nightly, habit of railway travelling for periods varying in length from ten to eighteen years, without their health or strength apparently suffering in any degree.[197]

Waller Lewis' research was cited in *The Lancet*'s comprehensive 1862 study on, "The Influence of Railway Travelling on Public Health," which brought together doctors' testimony on the wide variety of shock-induced injuries suffered by railway passengers (and by some workers). The Lancet's inclusion of research like that conducted by Waller Lewis gave the impression that, as Alfred Haviland would claim in 1868: "Persons who travel daily to and from their business are in a different category from those whose lives are spent upon the line."[198] While the early history of this separation of workers from passengers, recounted in Chapter One, had much to do with shifting legal and insurance norms that materially divided workers from passengers and graded passengers' lives in terms of income level, this subsequent medical history converted what had become a social division into an almost ontological separation: workers were seen to constitute a different category of person from passengers, insofar as workers' bodies were imagined to be relatively — or in more radical articulations, absolutely — insensitive to shock.

If workers were purportedly insensitive to shock, they nevertheless were compelled to manifest other kinds of sensitivity — namely, toward passengers' needs and toward warning signs in the machines upon which passengers and workers' lives both depended. As Jonathan Crary has shown, an emergent, socially general need for attentional labors such as those performed by railway workers helped inspire scientific research on attention, reaction times, and other related phenomena over the nineteenth century. This research generally relied upon, and helped reproduce, a new conception of attention as an effect of the will. Without an exertion of the will, studies and philosophical writings alike suggested, attention would be scattered. Attention thus generally came to be associated with labor, or willed activity.[199] But, as we have seen in this chapter's opening discussion of John Carter's research, exceptions could be imagined to this general rule of attention's reliance on exertion. Above all, familial and/or habitual forms of watchfulness were at times understood to take place in an automatic fashion, independent of the will.[200] In this way, research that can be said to have been driven in part by employers' need for more reliably attentive workers was filtered or interpreted in ways that partially erased these workers' exertions, while nevertheless providing employers with some useful information about reaction times and other features of attentional labor. In the nineteenth century, railway employees' attentional labors were at times recast as a kind of habituated regard, either akin to or in fact constituted by a species of familial attentiveness. The notion that rail workers exhibited a habituated form of regard dovetailed with the notion that their bodies were acclimated — and thus insensitive — to shock. Ultimately, such discourse implied, workers not only were predisposed to the exertions they were required to make but had also grown used to it all, and thus were not especially worthy of concern.

A trace of this notion that workers' efforts could be understood as automatic responses to standard stimuli appears in Marshall Kirkman's curious 1878 commentary on and compilation of British railway manuals, in which he notes that:

> The rules of one company will be extremely exacting; another company will trust more to the discretion of its operatives. Much can be said in favor of each system. Under one system employes act automatically; under the other they act more zealously, perhaps, but with less effectiveness.[201]

Here, workers' purportedly automatic labors are imagined to provide for a more reliable system of rail travel than those based on workers' independent initiative. Kirkman is not

unequivocal on this point, and generally takes up shifting positions on various aspects of railway life, but even in entertaining this notion that certain labor regimes could produce a kind of automaticity amongst railway workers — a view belied by workers' own writings — he builds upon and helps solidify an understanding of rail work as subject to habituation, and thus to an unwilled attentiveness. Part of what is curious, and at times disorienting, about Kirkman's text is its evident desire to ascribe to railway managers a superhuman power of vision, while at the same time severely downgrading railway workers' visual labors. The book begins by imagining the grand powers of a superintendent or director:

> How the officials are able to control the labyrinth of moving trains, how watch them as they wind in and out like the figures upon a chessboard, how adjust so nicely the time of their arrival at meeting and passing points, how keep them all in motion, regulate their speed and give to each the exact consideration its importance merits, are questions that but few railway men can understand.[202]

Thus, to the extent that Kirkman invokes visual activity, he tends to ascribe this activity to managers of the railway system, while downplaying, if not denying outright, the visually mediated agency and understanding of rail laborers. Interestingly, we can see resonances of Kirkland's dim view of workers' visual activity in Wolfgang Schivelbusch's *The Railway Journey* (1977), a now canonical treatment of nineteenth-century railway life. In his brief considerations of railway labor, Schivelbusch suggests that early innovations in signaling degraded engine driving to little more than the repetition of automatic gestures:

> The system [of block signaling] relieved the engine-driver from any remaining obligation to exercise his personal powers of perception and judgement on the conditions that prevailed around him and his train: all he needed to do was to follow the signals given by a distant telegraph center. Because a train runs on a predetermined line an engine-driver could never aspire to the social role of a 'captain on dry land': the electric telegraph confirmed his true status, that of an industrial worker, an operator of a machine.[203]

Schivelbusch relies upon a curious presupposition in this passage: namely that the operation of a machine, or the performance of industrial labor, entails no "obligation to exercise [one's] personal powers of perception and judgement." While his mobilization of this presupposition in the 1970s would need to be understood in the context of contemporaneous discourses of labor and perception, it also evidently bears traces of the relatively widespread nineteenth-century conception of railway labor as automatic, unwilled activity.

Coupled with their work overseeing machines — which was not infrequently cast as a matter of automatic stimulus and response — certain grades of railway workers were required as well to attend to passengers' feelings. Kirkman cites British railway manuals' requirements to this effect, such as the Great Northern Railway manual's insistence that: "In all cases of detention or stoppage, it is the duty of the guards to explain to passengers the cause thereof, and if there is no danger to them, to satisfy them of that fact, and endeavor to pacify those that may be annoyed."[204] The presumption here that workers would have the sensitivity and communicative capacities necessary to pacify passengers annoyed at unexpected delays seems potentially at odds with the notion that railway work could be reduced to a series of automatic responses to regular stimuli. The requirement

that workers manage the potentially erratic feelings of passengers would thus appear to imply a more complex image of the railway worker than that of an unfeeling automaton. I want to suggest that the notion of the railway worker as a paternal figure vis-a-vis the passenger — an illustration of which we have seen in this chapter's opening discussion of Alfred Haviland's 1868 *Hurried to Death* — helped frame such regard for passengers' feelings and physical well being in a way that did not necessarily challenge the notion of the worker as a relatively unfeeling being. Paternal regard could be treated as little more than a natural instinct, or could be understood as a species of habituated activity akin to that entailed in responding to semaphores.

This claim can be further illustrated by returning to Ellen Wood's *Oswald Cray* (1864), a novel referenced briefly in this chapter's opening section. The novel features a depiction of a major rail accident in which carriages are overturned, casting passengers and workers to the ground or crushing them under its weight. Two local doctors rush to the scene of the accident and, in the midst of assessing the conditions of the injured, proceed to debate the question of whether railway workers are able to feel pain. The train's fireman, named simply "Bigg," having been scalded in the accident, is attended to by the elder doctor Davenal and by the younger Mark Cray, who initially insists that: "[Bigg's] hurts are nothing…. He seems one of those groaners who cry out at a touch of pain." To which Dr. Davenal responds by chastising the younger doctor's disregard for a patient's expressed pain. "'He's only a fireman,' returned Mark. 'No one expects these rough fellows to be sensitive to pain." Dr. Davenal then insists on the disjuncture between "a man's condition in life" (i.e. his role or job) and "his physical nature" (i.e. his propensity to feel pain). The narrative voice weighs in at this point on the side of the elder doctor, noting that: "There had been a carelessness in Mark's tone when he ridiculed the notion of the poor stoker's possessing a sensitiveness to pain, just as if the man had no right to possess it…"[205] We might say that the novel here puts on display the notion of rail workers' insensitivity to pain in order to challenge this notion, though not on the ground that all are sensitive to pain but simply on the ground that grade or class do not determine individuals' relative sensitivity. In addition to this narrative intervention's implicit reference to the legal grading of passengers and workers' lives, what is particularly interesting about this moment, in light of the above discussion of paternal regard, is that the doctors' debate follows immediately upon Bigg's expression of concern for his family: "It might be my death-blow sir. And what's to become o' my wife and little uns? Who'll work for 'em?" In a sense, the fireman's expression of paternal regard spurs the doctors' debate, provoking their diametrically opposed viewpoints on rail workers' relative sensitivity to pain. Here perhaps the novel registers the Janus-faced quality of rail workers' association with paternal watchfulness. If, on the one hand, this association could be squared with conceptions of rail workers' insensitivity to pain and of their generally degraded, automatic mode of activity, the association also could be mobilized in ways that not only highlighted workers' emotional and physical sensitivities, but also registered the violence of the railway system. It is to this latter possibility that I will now turn.

Such a redeployment of the association of railway work with paternal regard is realized by the anonymous author of "The Principal Causes of Railway Accidents, with Proposed Remedies, by a Railway Servant of Fifteen Years Experience."[206] The author

attempts to generate outrage about workers' long hours by invoking their family relations:

> I recollect of a fellow-servant once telling me that for months he had never seen any of his children, except when they were asleep! And this in Christian Britain! It is a disgrace to our civilisation, not to mention our Christianity, that a man should be so much debarred from the comforts and pleasures of home. What of the children's training in this case? Is it to be expected that the parent could take the requisite amount of interest in his family circle? No, in common sense, he could not, though he were ever so willing. The poet sings of Britannia, that 'her home is on the deep.' There can be no mistake as to where this man's home was – on the *chemin de fer*.[207]

In addition to domestic ideals, the anonymous author here deploys religious and imperial rhetorics in casting overwork on the rails as a threat to the social order. This sort of appeal on the basis of railway workers' purported desire to uphold their fatherly duties was not uncommon over the second half of the nineteenth century, particularly following the emergence in the 1870s of trade unionism amongst railway workers. In addition to invoking their family responsibilities in order to argue for reforms in labor processes, workers challenged company policies by arguing that such policies prevented or punished them from showing care toward passengers — a rhetorical operation that we saw in *The Life of Roger Langdon*. In the anonymously-published "Principal Causes of Railway Accidents" this sort of argument appears in a section on the understaffing of trains:

> The most casual observer cannot fail to see that there are too few of them to undertake all the multifarious duties that are required of them…. It is well known that nearly one-half of their time is occupied in arranging the letters and parcels intrusted to their care…. So that virtually, for one-half of the journey, they are misnomers; for it cannot be expected that they should be able to 'guard' trains and look after letters and parcels at the same time.[208]

Toward the end of the century, railway unionists and their supporters began to encode these sorts of arguments in sentimental narratives. J. Leahcimrac's *John Ingram; or, railway life behind the curtain* is one such narrative.[209] The story follows John from his early years of labor as a clerk to his entry into the railway industry and then through his occupation of various posts in the railway system. Paralleling the story of his career is a narrative of his relations with women, which includes an early attempt to rescue a drowning woman, his marriage to Annie, and his periodic cohabitation with a co-workers' spouse, who in the end dies of shock following her husband's fatal workplace injury. John's journeys through and beyond the railway industry offer a composite picture of a highly differentiated railway workforce, as of a range of "private" social relations associated with the railway industry. He experiences, directly or indirectly, various grades of railway labor, faces company discipline, and encounters the losses attendant upon a co-worker's fatal injury. Each moment of the narrative, produced by unionists in order to build public support, imparts in relatively didactic fashion a lesson or resonant image about a particular dimension of the railway system.

John Ingram generally mobilizes what we might call hegemonic norms, most notably domestic ideals, but also those of temporal regularity, anti-Irish sentiments, and religious conceptions of sin and just punishment, in order to advance its unionist project. With respect to temporal regularity, the narrative attempts to polarize the sentiments of its

readers against railway superintendents in part by associating them with a cavalier relation to time. After a superintendent's assertion that all clocks other than his own must be keeping false time, clerks in the railway office grumble about their boss:

> 'It's awfu,' one said to his neighbour, 'hoo the auld ane uphauds that watch o' his. He seems to think that it is impossible it can be wrang. Sun, mune, telegraph, Greenwich time – a' may vary, but that watch never. I wush I could pit as muckle faith in mine; but, hang it, no!' and he drew out one and placed it to his ear.[210]

Here railway workers appear as the upholders of abstract time in the face of the arbitrary rule of their superintendent. If we recall the discussion from Chapter One of midcentury improving periodicals' advice that workers maintain an account book in order to shield themselves and their family members from the effects of industrial injury, we can see how workers might have come to associate their own keeping of abstract time with the safe keeping of themselves and others. Though perhaps drawing midcentury improving periodicals into such an explanation is unnecessary, as workers' keeping of time on the railways was simply one of the ways that they maintained predictable, and thus relatively safer, circuits of trains. The above passage would then appear more an expression of workers' consciousness that they, rather than managers, were primarily responsible for keeping time and thus maintaining a predictable circulation of trains.

Elsewhere as well in *John Ingram*, company managers are criticized for their seeming disregard of, or obliviousness to, workers' efforts to maintain safety. At one point, John, in dramatic and public fashion, prevents a train from crashing, but receives "not a word or token"… "from his superiors."[211] Here, the narrative takes on the role of making visible such unmarked acts of sacrifice and care for passengers' safety. Generally, the narrative is invested in registering not only the caring labor performed by railway workers, but also the emotional strain attendant upon such labor: "The engineman is compelled in a manner, to face such peril, through his struggle to earn daily bread; and few know or understand the varied feelings and emotions that these men carry in their hearts while performing their useful work" (166). Such danger comes into focus later, at the dramatic high-point of the narrative, with the heroic and tragic sacrifice of Archie Campbell, a co-worker of John's with whom he often lodges while away on duty. Before leaving for his last day of work, Archie's mentally disabled child points at him and predicts his death, crying out "Bluid, bluid!" Despite the entreaties of his wife, Archie decides to report for work. That night, he encounters a runaway train and sacrifices himself in order to preserve the lives of passengers. When his body is brought back to the house the next day, his wife: "fell gently on the bosom of the dead, and lay there without motion. Some of those standing near took her kindly from the body, and laid her on the floor, thinking she had only swooned. But, alas! it was the swoon of death, as she neither moved nor spoke again. Another victim was added to the sacrifice."[212] Soon after, their clairvoyant child dies as well. The sequence surrounding Archie's death is resonant with the death of Captain Brown in *Cranford*: in both cases, a character framed in terms of his kin relations dies in the act of saving passengers from harm at work, and in both cases his death is followed shortly after by further deaths of family members, thus drawing together workplace and domestic grief. What is so striking though about the depiction of Archie's fatal injury is how, insofar as all of his initially surviving family members die shortly after his sacrificial act, the text seals off this tragic

sequence from the remainder of its narrative, in some sense "freeing" John to move on to subsequent interactions with Annie, while also leaving aside the question of how or whether union, state, or company representatives would show up in support of the surviving members of the Campbell family. In this way, the text refuses to grapple with the experience of railway widows.[213] There is, however, one moment where the text idealizes the sorts of affective self-management and nursing labors we saw exemplified in Miss Jessie's response to her father's death. In this way, like *Cranford*, *John Ingram* can be said to have contributed to the post-1848 moralization of the railway widow. In one of the final scenes, after Annie's father is severely wounded in a reaping accident, we read that:

> She received a great shock, but neither swooned nor went into hysterics. She, along with others, got a couch quickly prepared, and her bleeding parent was laid thereon, while with the simple means she had at hand she endeavoured to stop the bleeding. She sometimes wondered afterwards how she was sustained. But love was the sustaining power, and she had the gratification of receiving praise from the doctor for her energy, as, he said, had nothing been done, in all likelihood Mr. Mowbray would have bled to death ere he arrived to his assistance."[214]

Just as Miss Jessie was made to exemplify feminine virtue for her act of bearing up and for the nursing labors she performed to support her ailing sister, Annie is idealized here insofar as she manages her initial shock and nurses her father away from the brink of death, exhibiting both medical care and familial love. Shortly after this scene, to close the narrative, Annie marries John, who is presented as having provided important emotional support for Annie in caring for her father.

The relation of men to nursing labor, relatively subtly rendered in this closing sequence, is thematized as well in earlier episodes of the narrative. For example, when John and Annie encounter Billy Gutwort, a hostile fellow railway worker, the latter tries to insult John by casting him as a nurse, referencing the care he had provided to Annie's younger brother:

> 'Has our booking-clerk got on to be under dry-nurse at Mosscroft? If so, I would remind him that the railway company do not allow their servants to engage in any other occupation while in their service,' for he had observed John carrying little Willie…
>
> John thought he spoke in jest, so he laughingly replied: 'I was only nurse temporarily, and I must say the situation was very pleasant while it lasted.'[215]

While the story here puts on display what surely was an ubiquitous form of masculinist insult amongst industrial workers, that it references nursing and that John responds by welcoming the ascription gives this moment a potentially broader significance. Insofar as jokes or insults can be understood in part as attempts to *do something* with a complicated or uncomfortable social reality — to exorcise or, perhaps, to come to terms with a phenomenon — Billy Gutwort's attempted insult and John's graceful response can be said to highlight the complex gender coding of railway work, as well as how masculinity more generally was undergoing shifts over the second half of the nineteenth century. We have already seen how railway labor entailed various forms of what might now be called affective or caring work, and how men, including working class men, were coming to be understood as domestic, sentimental subjects — a frame of subjectivity originally

imposed upon and recomposed by women. The characters of Billy and John respond to these conditions in dramatically divergent ways, casting in relief the complex, perhaps ambivalent, quality of railway workers' experience of gender. This complexity formed an undercurrent even in representations of railway workers' paternal regard for their children and passengers, since, as Nancy Armstrong has shown, the framing of men's subjectivity in terms primarily of affectively charged domestic and caring relations followed from the generalization of what had earlier been produced as women's subjectivity, and thus might have raised a question about the shifting 'foundations' of masculinity — a question that Billy Gutwort's attempted insult at once posed and sought to exorcise by rendering John abject for having performed caring labor. Billy's insult thus helps cast in relief certain contradictions, with respect to gender, in post-1848 discourses of railway labor.

This section has shown how fraught was the notion of railway workers' *in/sensitivity* over the second half of the nineteenth century, and how this contested, ambiguous notion was involved in the reconstruction of gender discourses of labor and of injury in this period. I have suggested that the notion of the railway worker as a paternal figure helped manage the tensions of, on the one hand, medical and other discourses that presented railway workers as relatively insensitive to pain and, on the other hand, company and legal requirements that workers manifest an unflagging regard for the safety and comfort of passengers. The idea that workers exhibited paternal regard was not necessarily inconsistent with the notion that they were relatively insensitive: paternal regard could be framed as a performance of "natural" or "automatic" capacities while at the same time offering a comforting image for passengers of rail operators' attentiveness. But also, as we have seen, the association of railway workers with paternal regard could be redeployed by workers themselves to contest the authority of state or company bureaucracies, as when Roger Langdon insisted that company policy punished him for exhibiting an exemplary, selfless form of care for passengers — a form of care that the text repeatedly aligns with the concern he manifested toward his own children. It is perhaps not surprising that the figure of the reformed nurse would shadow this representation of the railway worker as a fatherly, caring subject. As we have seen in Chapter One, the nurse was made into an exemplary figure of feminine virtue at the midcentury, and thus helped reconfigure norms of working class womanhood. If we follow Nancy Armstrong in looking for how norms of manhood were reconfigured along lines previously laid down with respect to womanhood, we might assume that the nurse — whose disciplined acts of care, record keeping, and attention transected "public" and "private" realms — would have served as a model for, or uncanny double to, the railway worker, whose purported paternal regard was to be exhibited both on the lines and in the home. This association of the railway worker with the nurse appears symptomatically, through jokes and asides, in *John Ingram* — one of a number of late nineteenth-century texts discussed in this section that frame railway workers in terms of their domestic relations in an attempt to generate in their readers both outrage at company mismanagement and sympathy for workers facing unsafety and harsh discipline on the job.

IV. Unhealthy Circulation

Only indirectly related to these questions of gender subject formation and railway labor politics, there is another way I want for the remainder of the chapter to approach the association of railway work and nursing — that is, by showing how these roles similarly involved forms of recording labor that helped underwrite systemic knowledge about circulatory processes, be they made up of blood or locomotives. As with discussions in previous sections, this effort at historical reconstruction takes off from *The Life of Roger Langdon*. We will recall that in his popular scientific writings, Langdon implicitly analogizes the circuits of the planets to the circuits of locomotives, and suggests that the former carries on a "healthy circulation." This concept of a healthy circulation formed an underlying presupposition of much late nineteenth-century medical discourse, which framed the body as a sort of machinery constituted by the patterned circulation of blood — a machinery that tended to be imagined along the lines of a railway system. This analogization of the body with the railway system implicitly registered the similar record keeping and labor processes that made up these industries and that enabled those supervising such processes to chart regular patterns of circulation.

In the hospitals, the midcentury formalization of night nursing enabled records of patients' heart rates and other signs of health to be captured at regular intervals for an indefinite period of time.[216] The establishment in this way of an abstract time of the hospital underwrote new medical accounts of the body, which emphasized patterned circulation, including the patterned shifts over a twenty four hour period of heart rate, temperature, and other vital signs. Florence Nightingale, in *Notes on Nursing*, insists on the importance of observing and keeping records of patients' vital signs at different moments of the day:

> Men whose profession like that of medical men leads them to observe only, or chiefly, palpable and permanent organic changes are often just as wrong in their opinion of the result as those who do not observe at all. For instance, there is a broken leg; the surgeon has only to look at it once to know; it will not be different if he sees it in the morning to what it would have been had he seen it in the evening.[217]

Nightingale implies here the inadequacy of one-off observations for monitoring conditions of the body that vary over time or that emerge slowly. J.H. Barnes, in *Notes on Surgical Nursing*, similarly highlights the importance of nurses' relatively constant observation:

> The visits of the doctor to his patients being intermittent, his observation is therefore only occasional. It may be that at the time of his visit the patient may present a totally different aspect to that which he has assumed in the interval. During the physician's absence symptoms may have occurred and passed away, or new symptoms may have developed themselves. For information on these and other points the doctor is therefore dependent on the correctness of the nurse's observation.[218]

The practice of recording observations periodically over twenty-four hour spans, in addition to ensuring that changes in patients' health would not go unnoticed, helped offer a new picture of the human body. By the end of the nineteenth century, nurses' regular practice of checking body temperatures with thermometers had helped make

commonplace the understanding that body temperature fluctuated slightly over a twenty-four hour period, with peaks in the late afternoon and valleys in the dead of night. The section on "Animal Heat" in the eleventh edition of the *Encyclopaedia Britannica* contains a chart of such fluctuation, assuming a "normal" distribution of daily activity — that is, "activity and work" between 7 AM and midnight, and "rest and sleep" between 1 AM and 6 AM[219] [Figure 1].

The conception of the body associated with such temporal grids, which emphasized the body's regular fluctuations over a twenty-four hour period, is fleshed out in Alfred Haviland's *Hurried to Death: especially addressed to railway travellers*. The text sets out to explain a number of highly publicized, enigmatic passenger deaths, arguing that they were caused by shock to the body attendant upon railway travel, exacerbated by various conditions that had made for an already heightened state of agitation or bodily exhaustion, from having hurried to the station immediately after eating to having boarded the train at a time of day when their bodies were generally under strain. Haviland treats the circulatory and digestive systems as coordinated "economies," observable through the regular flux of body temperature, heart rate, and digestive effort. In his account, this multilayered economy is at risk of shutting down from ill-timed exertions:

> We all know how soon the organ of digestion can be thrown out of gear by a sudden mental emotion, and how soon the heart participates in the upset. Sudden exertion, however, not only arrests digestion and agitates the heart, but increases the activity of both the circulation and respiration, and thus demands extra work of them at a time when new material is being poured into the blood, the volume of which is increased by the fluids of the meal. A heart, therefore, that can only just barely perform its routine duties, if called upon to meet emergencies, is sure to fail, and the more it strives to overcome obstruction, the more it complicates matters.[220]

The economies of the body are here imagined as machineries that carry out regular circulatory activities over the course of twenty-four hour periods, with moments of heightened activity corresponding especially to meal times. Over his career, Alfred Haviland manifests a consistent interest in subjecting health and disease to statistical analysis, whether, as here, through studies of typical fluctuations in temperature, heart rate, and digestive activity, or, in another work, by mapping the geographic distribution of various diseases in Britain.[221] In this way, he experiments with different ways of producing medical knowledge through the aggregation and interpretation of temporally and geographically dispersed moments of information retrieval. The objects of knowledge fabricated through such processes — whether the overlapping and vulnerable economies of the body or maps of what he understands to be the patterned flows of bad air across the British countryside — are characterized by a similar logic: each involve regular circulatory dynamics that bear on the health of modern populations.

Haviland was not alone in searching out the patterned rhythms, or circulatory flows, that determined the health of populations. In his above discussed manual for nurses, J.H. Barnes suggests that an attention to the healthy circulation of blood forms the center-piece of medical practice: "As the great end and aim of nursing … is to save life and restore health, the nurse should have at least some general idea of the laws of life and what constitutes health. This may be roughly designated the perfect circulation of pure

blood in a sound organism; any departure from any of these three conditions constituting disease."[222] For Barnes, regular circulation is the desideratum of health; irregular circulation is not simply one symptom of disease, but in fact defines and constitutes disease as such. This circulation-centered model of health was not only applied to studies of the blood or of digestive systems, but came to characterize wide swaths of medical

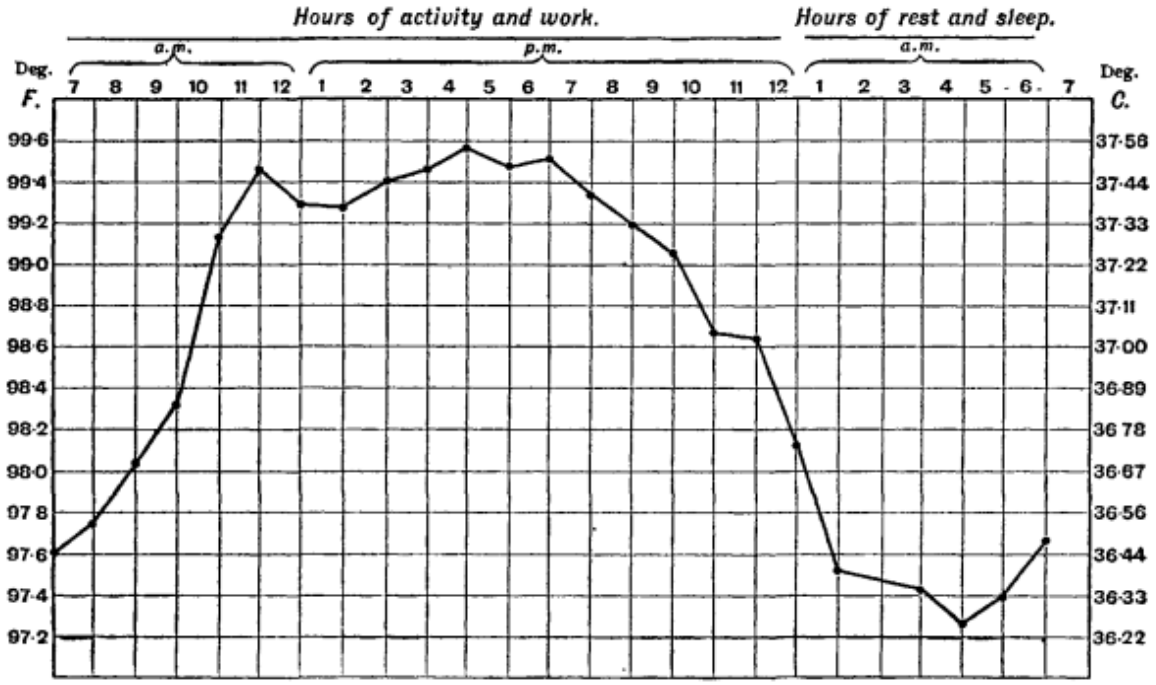

Figure 1.

specialization over the second half of the nineteenth century. In R. Barwell's *Guide in the Sickroom*, the dynamics of perspiration and the regular washing of the body are characterized as an elaborate system, akin to the system of pipes and windows that manage the flow of waste, water, and air through the home. Barwell draws out this metaphorical resonance in a discussion of the effects on the body of a lack of regular bathing:

> The skin is intended, like the lungs, to carry away from the blood useless and hurtful matter; but instead of being blown off in a draught of air, as is the case in the lungs, this poison oozes forth from many little channels, and a good deal of it must stay on the skin until it is washed away. Now the effect of not washing is, first that this poisonous matter hangs to the body, and then that the channels, through which it should come, get clogged. Hence it results that the poison must be partially got rid of in some other way with discomfort and injury; and, moreover, the skin itself, not being able to perform its functions,

> becomes diseased. What would be said of man with a fine house, pure, healthy, and beautiful, who stopped its drains, shut out the air, lived in darkness, and accumulated the refuse in his bedroom? Yet no worse could truly be said of him than of one who lives in a full room with the window shut, and who does not really and honestly wash himself.[223]

Barwell imagines the unwashed body as a blocked up house, unable to carry on the circulatory flows that ensure its healthy life. The figure of the blocked up house should perhaps be thought of more as a metonym than a metaphor, as the question of air and waste flow was understood at the midcentury to be a key determinant of the health of populations, as suggested by Haviland's "Geographical Distribution of Disease in Great Britain," as well as the myriad efforts at home inspection and urban waste management implemented on a relatively wide scale beginning in the eighteen forties.

If Barwell and Barnes' writings help clarify the degree to which the various circulatory systems of the body were represented in metaphors that drew on machineries of circulation, John Macvicar's *The Motions of the Heart, The Circulation of the Blood, etc, viewed morphologically* (1871), systematically builds up a similar sort of extended metaphor, likening the circulatory rhythms of the blood to the elaborate nineteenth-century railway system. Macvicar's *Motions of the Heart* can be read as an elaborate thought experiment. He attempts to evaluate and grasp the circulatory system deductively, beginning with premises about the most efficient morphological forms for the performance of particular tasks, building from these premises a picture of an ideal circulatory system (modeled on the railway system), and then evaluating the systems and component parts of the body against this image of ideal circulation. In Macvicar's account, the heart forms a kind of engine-driver of the body, propelling the blood in a regular manner through the arteries and other circulatory "tracks." The "action of the heart," he writes, "is the indispensable condition of nutrition, nay, of bodily life; and… it is to the whole frame what the action of the governor on the steam-pipe (which controls the supply of steam) is to the working of the steam-engine."[224] Acknowledging the awkwardness of the metaphor, Macvicar goes on to draw associations between the coal that fuels the steam engine, on the one hand, and the food and air particles that are drawn into the body, on the other hand — nutritional and energy stores that sustain the body's movements and that must be ramified throughout the body, in part via the blood:

> Now, this [obtaining of energy] is secured for every part of the organization of an animal by the arrangement that the air, which is the great terrestrial storehouse of the energy of nature, is dovetailed into the animal, and made to give up its energy to the animal by continually renewed supplies of combustible matter (food), which are thrown in upon the air when within the animal, as coals are into the steam-engine, developing within the organism – not indeed a tissue of elastic vapour, first to fill the boiler, and then to be duly ramified through the engine, but – a tissue slightly concrete (in which also hydrogen plays an important part), first to fill the skull, and then to be duly ramified through the entire organization.[225]

Much of Macvicar's *Motions of the Heart* is taken up with efforts to grasp the dynamics by which such processed energy is "ramified through the entire organization." The text thus attends particularly to arteries, capillaries, and veins, attempting to explain their morphological forms and the means by which they propel blood through the body. At

times in Macvicar's discussion of these circulatory organs, the metaphor of the railway system recurs. For example, he refers to larger veins as "trunks," echoing the description of higher-traffic railway lines as "trunk lines."[226] Following this metaphorical association, it is possible to extrapolate a view of the capillaries as branch lines, or even perhaps as the vast economy, made up of carriages, roads, carters, and other socio-technical systems, that distributed goods and passengers from railway stations to all corners of the countryside. Along these lines, in explaining the difficulty the human eye has in making out the forms of capillaries, Macvicar notes that our eyes are "adjusted to enable us to lay hold of our food, not to discover the economy of the universe."[227] From this passage, we might imagine the capillaries as a kind of micro-infrastructure of an encompassing economy of circulation. Thus, from the central organ of the heart and the key energy source of food to the dispersed capillary circuit, the body's system of circulation is modeled in Macvicar's *Motions of the Heart* along the lines of the railway system — a system that was in the process of dramatically reconfiguring the distribution, consumption, and travel patterns of British populations over the second half of the nineteenth century.

As Macvicar's essay helps demonstrate, the emergent railway system offered a storehouse of images upon which medical writers could draw in representing the elusive operations of the body. We can venture some suggestions for why this metaphorical association of body and railway system was so resonant in the early era of the railway. For one, as I have alluded to above, these two objects of knowledge were produced as such through analogous labor processes, in which nurses and railway workers respectively maintained running log books of key information relevant to the circulatory rhythms of these complex objects. Both the body and the railway system could be at least partially known and safeguarded via the quantitative and qualitative information collected by nurses, signalmen, stationmasters, et al. In addition to this account of the association of railway and body, which focuses on the similar attentional labors upon which these systems relied, I would propose as well an ideological critical explanation for this metaphorical association. We have seen how, in late nineteenth-century medical discourse, the regularity or "perfection" of circulatory processes became a key desideratum of health. If the railway system offered to medical writers a model or image of such regularity in circulation, their drawing the railway system into representations of the healthy body also produced an associative cross-flow that implied the healthiness of the railway system, insofar as it maintained a regular traffic flow. The implication that the railway system was, in its typical state, a healthy operation obscured the quotidian violence of railway injuries, particularly those that affected workers stationed in railway yards — injuries that generally would not have precluded the keeping to railway timetables, and that were effects in part of the burden workers faced to keep up with intensive workloads and accelerated schedules. In other words, the imperative of "regular circulation" in the railway industry was inseparable from the phenomenon of regular workplace injury in the same industry — a connection that the metaphorical association of healthy organs with punctual trains would have tended to obscure.

If idealized representations of regular circulation thus pushed from view the ubiquity of injury in the railway industry, medical accounts of shock, perhaps counterintuitively, had a similar effect. By the 1860s, shock had come to be understood as the exemplary form of interruption to or breakdown of circulatory systems, be they of

the body or the rail line. Edwin Morris, in his *Practical Treatise on Shock After Surgical Operations and Injuries: With Especial Reference to Shock Caused by Railway Accidents* (1867), writes that the concept of "shock to the brain" means "neither more nor less than that the brain has received a shock which has materially interfered with its circulation…"[228] Much of the early research on railway shock was concerned with the question of how the nervous system, evidently affected by shocking events, related to the central circulatory system of the body, that is: the flow of blood driven by the heart. William Camps, in his *Railway Accidents or Collisions: their effects, immediate and remote, upon the brain and spinal cord…*" (1866), addresses this key question by insisting that he, "can scarcely conceive of extensive injury sustained by blood vessels, without some corresponding degree of injury sustained by nervous tissue, so intimately are the blood tissue and the nerve tissue related to each other in all parts of the human body."[229] Edwin Morris identifies doctors' preoccupation in the 1860s with this question of the relation of nervous and blood-based circulatory systems:

> Many and valuable physiological researches have been conducted during the past few years, for the purpose of showing the peculiar and special influence the brain and nervous system have over the functions of the several parts the nerves supply, more especially over the heart and circulation, and which has afforded us most valuable information on one of the most difficult subjects in the whole range of physiology.[230]

This general interest in the relation of the nervous and blood-based circulatory systems emerges out of a distinct medico-legal context. Following controversies, especially beginning in the 1860s, over the purported malingering of passengers who had been awarded damages from railway companies, doctors intensively studied the phenomenon of railway shock, attempting to grasp the varied and in some cases delayed effects of such shock on the circulatory rhythms of the body.[231] Given that this research on railway shock is genealogically tied to the emergence of psychoanalysis, it has received much attention from contemporary scholarship.[232] What has not been sufficiently emphasized in such scholarship, however, is the medico-legal context for such research, and particularly the presumption embedded in its historical context that railway shock affects passengers above all, rather than workers. As we have seen, workers were presumed at the time to be relatively immune from the effects of shock, and regardless, they lacked standing to sue companies for damages, so their accident-induced injuries could be treated as relative non-events. William Camps, in his treatise on railway shock, repeats this disregard for workers' injuries, listing the populations likely to be interested in "this pathological subject" as: both travellers and non-travellers, given that everyone has someone "near and dear to them who travel now-a-days"; shareholders, officials, directors of companies, and others financially invested in the question; the "unhappy class of immediate sufferers"; and "the entire number of our profession."[233] Even the initial, apparently universalizing moment in this list excludes railway workers, indicating that the body shocked by the railway accident is presumptively a passenger's body. In this way, medical discourse on shock, like medical discourse on circulation more generally, tended to treat accidental injury on the railways as a relatively exceptional phenomenon, as affecting passengers rather than workers, and as counterpoised to the purportedly typical, "healthy" circulation of the trains.

With such medical research in mind, we can interpret in a new way the mood of *The Life of Roger Langdon* — a mood evident particularly in Roger and Ellen's accounts of the former's astronomical labors. Even as Roger Langdon reiterates the category of "healthy circulation" to describe planetary and, by metaphorical implication, railway circuits, his and his daughter's elaborate representations of such circuits and their effects strike unmistakable melancholic notes. In highlighting the everyday injuriousness and lingering emotional strain associated with rail work, the Langdons counteract the cultural tendency, apparent in late nineteenth-century medical tracts, to treat the railway system as a generally "healthy" circulatory system, only occasionally interrupted by shocking accidents that, in turn, shock the nervous systems of unlucky passengers. Langdon's *Life*, like other representations of railway circuits authored by those whose labors underwrote these circuits, draws out the ubiquity of injury along the railways, and casts the system itself as home to extensive harm and mismanagement. In this way, railway workers' writings such as Langdon's *Life* offered a counter-discourse to medical treatises on shock. In the anonymously published *Principal Causes of Railway Accidents, with Proposed Remedies, by a Railway Servant of Fifteen Years Experience* (1873), the author contributes to such a counter-discourse, framing the railway system as inseparable from the mental strain of workers:

> Ought there to be a limit to a railway servant's hours? The masons, the carpenters, and a host of other trades, have now a nine hours' limit. And this, too, when these men have not a fraction of the mental strain which a railway servant has to bear. Even when everything goes on smoothly, he requires to have all his wits about him to remember what he has to do next, and how it may be done in the best way.… And yet, when an accident happens through the fault of a servant whose physical strength has succumbed to over-exertion, the poor fellow is marched off to prison, and punished, and the affair is allowed to blow over.[234]

The anonymous author here echoes Ellen Langdon's recollection that her father would complain bitterly about potential company or state persecution, not only in the event of an accident but also in the event of his exceeding his duties in attempting to save the lives of passengers. The ever-present possibility of state prosecution or company discipline formed a refrain in workers' writings, as did the emotional strain of working in a job defined by an unending, and ultimately unfulfillable, responsibility for one's own and others' lives. Such writings helped recast the railway system as a whole, even in its moments of "perfect" circulation, in a troubled light.

In the multi-authored *Mugby Junction* (1866), edited and co-written by Charles Dickens, a similarly encompassing, negative portrait of the railway system appears:

> A place replete with shadowy shapes, this Mugby Junction in the black hours of the four-and-twenty. Mysterious goods trains, covered with palls and gliding on like vast weird funerals, conveying themselves guiltily away from the presence of the few lighted lamps, as if their freight had come to a secret and unlawful end. Half miles of coal pursuing in a Detective manner, following when they lead, stopping when they stop, backing when they back. Red-hot embers showering out upon the ground, down this dark avenue, and down the other as if torturing fires were being raked clear; concurrently, shrieks and groans and grinds invading the ear, as if the tortured were at the

> height of their suffering. Iron-barred cages full of cattle jangling by midway, the drooping beasts with horns entangled, eyes frozen with terror, and mouths too: at least they have long icicles (or what seem so) hanging from their lips. Unknown languages in the air, conspiring in red, green, and white characters. An earthquake accompanied with thunder and lightning, going up express to London. Now, all quiet, all rusty, wind and rain in possession, lamps extinguished, Mugby Junction dead and indistinct, with its robe drawn over its head, like Caesar.[235]

Dickens' description bears traces of the gothic, as the train appears alternately to take the form of a mysterious hearse, a character in a detective novel, a place of confinement and torture, and a destructive climactic force. The passage is cast in a melancholic mood — it stages a slow and inevitable circulation of destructive, half-animate objects. In this way, Dickens' representation of the fictionalized Mugby Junction resonates, at least in terms of its mood, with the generally later writings by railway workers I have discussed over the course of this chapter. The story within *Mugby Junction* that arguably most fully realizes the semi-gothic, melancholic mood that is drawn forth in the above depiction of trains crossing Mugby Junction is Dickens' *The Signalman*, which opens with a description of the grim post occupied by the eponymous signalman:

> His post was in as solitary and dismal a place as ever I saw. On either side, a dripping-wet wall of jagged stone, excluding all view but a strip of sky; the perspective one way only a crooked prolongation of this great dungeon; the shorter perspective in the other direction terminating in a gloomy red light, and the gloomier entrance to a black tunnel, in whose massive architecture there was a barbarous, depressing, and forbidding air. So little sunlight ever found its way to this spot, that it had an earthy, deadly smell; and so much cold wind rushed through it, that it struck chill to me, as if I had left the natural world.[236]

The reference to the "gloomy red light" in this scene-setting passage echoes the reference to "unknown languages in the air, conspiring in red, green, and white characters" from the preceding passage. The red warning light forms a central character in "The Signalman," as it takes shape in part through its phantom double, in a way that allows the story to register what we might call the traumatic experience of the signalman.[237] Dickens' "The Signalman" is generally preoccupied by communicative dynamics on the railways, and can be said to experiment with forms of dialogue and sentence structure that enable the text to register the inhabitation of railway communication by shock, injury, and loss.

Beyond its mood and its interest in the traumatic undercurrents of quotidian railway communication, there are other links that can be drawn between the project of *Mugby Junction* and the various literary and historical matters that have preoccupied this chapter. For one, like J. Leahcimrac's *John Ingram,* Dickens' *Mugby Junction* presents a sequence of stories that are focalized around characters occupying different roles in the railway system: the signalman, the engine-driver, the worker at a compensation house, the traveling post-office worker, and the engineer. This is not to mention the various guards and other railway employees who appear throughout the stories in the compilation. The story thus presents a multi-sided image of the railway system. As we have seen, the plot of *John Ingram* is also structured in a way that allows it to show a

multi-dimensional view of railway labor processes, irreducible to any one worker or manager's experience or knowledge. While similar in this respect, the texts differ insofar as *John Ingram* generally remains focalized through a single character, while *Mugby Junction* is built up through a series of semi-autonomous short stories, composed in some cases by different authors and filled with unique characters. The approach *Mugby Junction* takes to the problem of representing the railway system is perhaps more satisfying, as it not only allows the distinctness of particular roles to be highlighted, but, in being authored by a number of individuals, bears in its form the structure of labor and knowledge-making constitutive of the railway system (as of the hospital system), in which geographically and temporally dispersed workers each record the happenings of only a moment of the system's circuits, and then these recordings are aggregated, offering a more comprehensive view of the system as such. While Leahcimrac's *John Ingram* does not, like *Mugby Junction*, experiment with multi-authored writing, arguably *The Life of Roger Langdon* stands as one of few multi-authored autobiographies of nineteenth-century industrial workers, thus also bearing in its form traces of the knowledge making practices of the railway system. Roger Langdon himself writes in multiple voices, most notably taking on the voice of the "man on the moon" in one of his popular scientific writings, but also, less dramatically, assuming the voice of the astronomer in notating the transit of Venus and the cycles of the moon. Perhaps more significantly though, the text is co-written by Roger's daughter Ellen, which not only allows the *Life* to transmit elements of the historical experience of working class young womanhood, but also to present a view of Roger and Anne Langdon from a complex inside/outside vantage point. As discussed above, Ellen's contributions to the narrative enable the emergence of a thematic coherence that otherwise might have remained elusive. In this way, the *Life* coheres insofar as it aggregates multiple voices, just as a somewhat comprehensive view of the railway system (as of the human body) only comes into focus through the aggregation of observations made by various workers. What follows from the *Life*'s narrative aggregation though is a counter-map of the railway system, which — like the cognitive maps offered in Dickens et al.'s *Mugby Junction* or Leahcimrac's *John Ingram*, and unlike the portraits offered in medical treatises on circulation and shock — emphasizes the injurious and loss-saturated quality of the system as a whole. And yet, even in these counter-maps, certain experiences or sites of injury tend to fall from view, as when *John Ingram* glosses over the experience of the railway widow, or insofar as the undifferentiated railway "laborer" tends not to receive a turn in the *Mugby Junction* or *John Ingram*'s transitions from one grade to another of the railway workforce. Thus, gender and grade-based hierarchies of the working class are reproduced in and through the above discussed counter-maps of the railway system — counter-maps that can be read as outlining the ideological and conceptual limits of broader midcentury workers' cultures, not only of improvement but also, as we will see, of unionism.

Chapter Three

The Wooden Brain: Unevenness and the Crisis of Industrial Injury in Marx's Late Work

The 1870s were a key moment of transition in European working class and Left history.[238] A strike and unionization wave emerged at this moment, which was also defined by a continent-wide opening up of the political conditions faced by working class movements. In many countries, unions were newly sanctioned, and social democratic and/or labor parties found room to organize and run candidates for elected offices. The establishment of the First International in the mid-1860s enabled a certain amount of transnational coordination between emergent working class movements and also served as a key institutional form through which Karl Marx and Friedrich Engels helped shape labor and social democratic politics for the coming decades. In this chapter, I will step back somewhat from the history of railway and nursing labor in Britain in order to attend in some detail to Marx's late writings. In part, doing so will allow me to frame the emergence of railway trade unionism in the 1870s, to be discussed in Chapter Four, in the context of larger contemporaneous dynamics in labor and Left politics, as these dynamics were registered in the work of one of the key organizers of nineteenth-century working class movements.

Marx's late work brings into relief some of the aims and tensions of early railway trade unionism in Britain. Most directly, Marx was concerned in *Capital* with grasping the structural dynamics that contributed over the nineteenth century to making workplaces, such as rail yards, mines, and machine-making factories, increasingly dangerous. He was interested as well in conceiving a broad-based political project capable of contesting such injurious conditions of life and labor. In doing so, however, he floundered on the question of gender difference in working class communities. This impasse in his work becomes particularly salient insofar as we read *Capital* with the experience of women attached through relations of dependency to the railway industry in mind. The failings in Marx's theoretical engagements with matters of injury and gender appeared as well in the historical experience of railway unionism. Attending to the former in what follows will help clarify the study of the latter in Chapter Four.

In addition to showing how Marx's late work helped lay out some of the terms of 1870s railway trade unionism, the chapter to follow will draw a number of other links between Marx's late work and matters central to *Infrastructures of Injury.* In particular, we will see how certain formal qualities of Marx's *Capital* resonate with the qualities of Dickens and Leahcimrac's writings analyzed at the close of Chapter Two. Like these authors, Marx sought to offer a multi-sided picture of a complex phenomenon, the parameters of which could not adequately be displayed from a single perspective. For Marx, this complex phenomenon was *capital* itself: a mobile complex defined by certain structural dynamics and tensions, which conditioned in various ways the historical experience of nineteenth-century populations. Reading *Capital* with reference to the formal qualities of contemporaneous railway literature will help show how Marx's work was of its time — that is, how *Capital* drew upon and set in motion formal conventions

that were in the process of being built up in midcentury literary cultures, and that bore some relation to the perceptual capacities required of railway, nursing, and other nineteenth-century laborers. Marx's *Capital* will thus appear as a text conditioned in its very form by the historical transformations in labor processes, bodily capacities, and perceptual experience mapped out across Chapters One and Two.

Finally, the engagement with Marx's *Capital* that follows will help pose questions about the provincialism of this project. In focusing on the railway industry in nineteenth-century Britain, I am in some sense severing this nationally delimited sector from the imperial networks of labor and trade in which it was embedded, and in relation to which it was constituted. Moreover, in focusing on some of the most technically "advanced" sectors of the economy and leaving to the side broad swaths of contemporaneous agricultural, extractive, and artisanal labor processes, this project runs the risk of offering a distorted portrait of working class politics and culture in the nineteenth century — a portrait that perhaps appears of our own moment to a misleading extent. The reading of Marx that follows will help me get at some of these problems insofar as it queries related distortions or limits of vision that shape Marx's work. At a relatively high level of conceptual abstraction, this will entail critical scrutiny of Marx's conception of capital's dynamics of structural transformation. In *Time, Labor and Social Domination*, Moishe Postone shows how Marx's *Capital* charts the "becoming abstract" of social relations in eras dominated by capital. That is to say: for Postone, *Capital* traces the processes by which temporally and qualitatively varied labor processes are reconstructed according to the dictates of abstract time and automation. The approach I will take to Marx's *Capital* in the reading to follow, which will orbit around the decidedly "concrete" dancing wooden table from the text's Introduction, at once confronts Marx's *Capital* with historical phenomena that trouble his account of capital's dynamics of transformation, while also showing how his text itself attends, if often only indirectly, to what we might call the persistence of the concrete, or to the intractable tensions between concretion and abstraction in the histories of capitalism. In posing questions about the limits of Marx's vision, I hope not only to provincialize my own study of railway networks, but also to show how we might better understand the relations between railway and other technically advanced sectors, on the one hand, and the relatively non-mechanized sectors with which they have been imbricated, on the other hand. These considerations bear as well on questions of colony-metropole relations, and on racial and other mechanisms of labor market hierarchization — themes that will reappear in the discussions of unionists' partial embrace of the politics of settlement and of racially exclusionary immigration regimes in Chapter Four. Ultimately, the considerations of imperial unevenness in relation to Marx's late work will help situate the dynamics of injury on midcentury railways in a broader field of labor and imperial exchange, defined by a complex of non-identical labor processes, energy systems, forms of injury, and social antagonisms.

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In his 1886 appendix to the *Condition of the Working Class in England*, Friedrich Engels observes that Marx's *Capital, vol.1* contains "a very ample description of the state of the British working class, as it was about 1865, that is to say, at the time when British industrial prosperity reached its culminating point."[239] Engels' gloss suggests that Marx's

late work gave special attention to a historically discrete social formation — the English working class of 1865 — even as it perhaps also sought to make general claims about the conditions of labor under capitalism, the forms of social mediation constitutive of capitalist society, and the structural dynamics of capital accumulation and exploitation.[240] For those readers of *Capital* most familiar with the conceptual fireworks of its opening chapter, the notion that Marx's late work offers a "description" of a particular moment of working class life would perhaps appear disconcerting, even if the presumption of Marx's historical situatedness were, in a loose way, maintained. This is so because Marx turns his attention most decisively to the particular conditions faced by the midcentury English working class only in the later chapters of *Capital,* especially those chapters in which he details and conceptualizes various effects of what he terms "Machinery and Modern Industry." These later chapters include a wealth of material about midcentury working conditions, accident rates, employment patterns, and population fluctuations, much of which is drawn from parliamentary and newspaper reports. In chapter ten, "The Working Day," for example, Marx references particular cases of railway accidents, including a 1865/6 case that resulted in:

> three railwaymen — a guard, an engine-driver, and a signalman — [standing] before a coroner's jury. A tremendous railway accident has dispatched hundreds of passengers into the next world. The negligence of the railway workers is the cause of the misfortune. They declare with one voice before the jury that ten or twelve years before their labour lasted only 8 hours a day. During the last five or six years, they say, it has been screwed up to 14, 18, and 20 hours, and when the pressure of holiday travellers is especially severe, when excursion trains are put on, their labour often lasts for 40 or 50 hours without a break. They are ordinary men, not Cyclops. At a certain point their labour-power ran out. Torpor seized them. Their brains stopped thinking, their eyes stopped seeing. The thoroughly 'respectable British Juryman' replied with a verdict that sent them to the Assizes on a charge of manslaughter; in a mild rider to the verdict the jury expressed the pious hope that the capitalist railway magnates would in future be more extravagant in the purchase of the necessary number of 'labour powers', and more 'abstemious', more 'self-denying', more 'thrifty', in the extortion of paid labour-power.[241]

For Marx, this case of the three London railway workers helps illustrate the effects on the worker's body of the lengthening of an already accelerated and machine-driven working day. Additionally, the anecdote indicates how workers were exposed at the time to legal prosecution in the event of accidents, thus registering the role of the state in enforcing exploitative and injurious work regimes. In this moment of the text at least, Marx's reflections draw him into historical terrain very close to that traversed in the previous chapters. In the critical analysis of *Capital* to follow, I will show not only how Marx's late work illustrates aspects of midcentury British working class experience that are resonant with the concerns of *Infrastructures of Injury*, but also how some of the central conceptual and metaphorical operations of *Capital* can be understood as having been propelled by a desire to come to terms with the post-1848 conjuncture in imperial class relations.

While *Capital* begins at a high level of abstraction, at times the opening section of the text drops into a concrete illustration, or refers to a specific historical situation. One

of the better known of these early moments of illustration takes place in the text's opening chapter on the commodity, when an oddly animated wooden table is brought into view. In the midst of his introductory demonstration of the dual nature of commodities – the disjunction between their concrete utility as things that can be consumed, on the one hand, and their force as agents of abstract value, on the other hand – Marx lifts the curtain on an overturned table:

> The form of wood [*Die Form des Holzes*], for instance, is altered if a table [*einen Tisch*] is made out of it. Nevertheless the table continues to be wood, an ordinary, sensuous thing. But as soon as it emerges as a commodity, it changes into a thing which transcends sensuousness. It not only stands with its feet on the ground, but, in relation to all other commodities, it stands on its head, and evolves out of its wooden brain grotesque ideas, far more wonderful than if it were to begin dancing on its own free will.[242]

Marx attaches the following historicizing footnote to this passage:

> One may recall that China and the tables began to dance when the rest of the world appeared to be standing still – *pour encourager les autres* [in order to encourage the others].[243]

With this crucial footnote, Marx situates the figure of the dancing table in a specific historical moment. *Sometime around 1853*, tables began to rattle in Keighley, a West Yorkshire textile town, home to the first significant grouping of English spiritualists.[244] In the same year, Marx composed an essay for the *New York Daily Tribune* on the Taiping Rebellion, which had broken forth a couple years earlier and would extend into the mid-1860s. In this essay, Marx wrongly predicted that the rebellion in southern China would further disrupt trade relations and spur a crisis of overproduction in the West:

> At this period of the year it is usual to begin making arrangements for the new teas, whereas at present nothing is talked of but the means of protecting person and property, *all transactions being at a stand*. Under these circumstances, as the greater part of the regular commercial circle has already been run through by British trade, it may be safely augured that the Chinese revolution will throw the spark into the overloaded mine of the present industrial system and cause the explosion of the long-prepared general crisis, which, spreading abroad, will be closely followed by political revolutions on the Continent.[245]

This is the sense in which, during the reactionary 1850s, when Europe "appeared to be standing still," Marx hoped that the uprising in China might "encourage the others." But by 1867, when he was completing his first volume of *Capital*, Marx would have known that his hopeful predictions of midcentury crisis and revolution — of economic stasis and political movement — had not come to pass. Nevertheless, at this later date, he chose to footnote a false augur, to evoke an unrealized possibility of revolution.

The figure of the wooden table, along with its accompanying footnote, thus helps position *Capital* historically. In referencing an unrealized revolutionary possibility from fourteen years prior, the text situates itself *afterwards*, in the midst of a moment of historical closure or failure. In drawing the curtain on a dancing table that couldn't quite "encourage the others," *Capital* suggests that it will be pursuing an anatomy of a capitalist system that, despite midcentury crises, had recently found new footing.[246] But the figure of the table also indicates that Marx does not take capitalism's apparent

triumph for granted. Fourteen years later, the table still appears to rattle (and, incidentally, spiritualism reached a high point of its popularity in 1860s Britain.[247]) *Capital* thus seems, however subtly, to hold open the possibility not only that everything could have turned out differently, but also, *a la* Walter Benjamin,[248] that what looks like a midcentury moment of closure might yet retroactively be recast. The text sets up this ambiguous relation to its recent past by evoking a figure that seems to occupy space in two ways at once: a wooden table that "stands with its feet on the ground," while also "stand[ing] on its head."

The chapter that follows hones in on and breaks apart this unsettled table. The strange wooden table Marx brings on stage in his opening chapter is a figure into which various associations, or latent streams of thought, have been compressed.[249] For one, as Jacques Derrida demonstrates in *Specters of Marx*, the wooden table calls to mind a history of philosophical reflection on the relations of substance and form, of matter and spirit. In philosophical discourse beginning with Aristotle,[250] the Greek term for wood – ὕλη [hulē] – has stood in for matter in general, making the wooden table particularly apt for philosophical illustration.[251] But Marx's wooden table carries more than simply a philosophical lineage. It also roots itself in the mid-nineteenth century, rattling like the tables of the early spiritualists, and bristling at a moment of political reaction. These and other associations that crowd around the wooden table begin to situate *Capital* historically.

I. Gendering Surplus Labor

As we saw in Chapter One, tables came to occupy new roles in the lives of British working class subjects at the midcentury. A converted shelving unit or a family table were reimagined in improving periodicals as surfaces upon which new forms of record keeping should be undertaken, from keeping a family budget to maintaining records of benefit fund, savings, or insurance deposits. These practices of record keeping and savings were central to an idealized project of working class improvement, which at once promised workers a relative escape from the insecurities of their lives while acclimating them to the abstract, machinic temporalities characteristic of their increasingly dangerous workplaces. Improvement also carried with it particular norms of gendered domestic life, in which women's domestic labor was emphasized at the expense of their wage-earning or even their management of household budgets (which nevertheless remained central to the reproduction of households); while men's waged industrial labor, management of savings, and leadership in promoting their own and their family members' education were foregrounded. Men were encouraged to keep financial records on household tables, women to prepare meals upon them and to maintain the cleanliness of their surfaces. This presumed gender division in the use of wooden household tables indicates at once the stark gender differentiation of the working class, which intensified during and after the second industrial revolution, while also gesturing toward the shared material conditions upon and through which these divisions were lived. An attention to the wooden table's varied domestic uses brings to the fore questions of the reproduction of labor power, a key element of what Marx terms *social reproduction*.

In his discussion of the "Sale and Purchase of Labour-Power," Marx offers the following analyses of this aspect of social reproduction:

> Labour-power exists only as a capacity of the living individual. Its production consequently presupposes his existence. Given the existence of the individual, the production of labour-power consists in his reproduction of himself or his maintenance. For his maintenance he requires a certain quantity of the means of subsistence. Therefore the labour-time necessary for the production of labour-power is the same as that necessary for the production of those means of subsistence [….]
>
> The owner of labour-power is mortal. If then his appearance in the market is to be continuous, and the continuous transformation of money into capital assumes this, the seller of labour-power must perpetuate himself 'in the way that every living individual perpetuates himself, by procreation' [….]
>
> The ultimate or minimum limit of the value of labour-power is formed by the value of the commodities which have to be supplied every day to the bearer of labour-power, the man, so that he can renew his life-process. That is to say, the limit is formed by the value of the physically indispensable means of subsistence. If the price of labour-power falls to this minimum, it falls below its value, since under such circumstances it can be maintained and developed only in a crippled state [*verkümmerter Form*], and the value of every commodity is determined by the labour-time required to provide it in its normal quality.[252]

As socialist feminist theorists have long argued, Marx's treatment here of labour-power's reproduction occludes the forms of domestic work, generally gendered and raced, involved in such reproduction.[253] With the exception of his brief allusion to the bearing of children, Marx treats labor power's reproduction in strictly quantitative terms, as a matter of the value of commodities required for this reproduction, ignoring the fact that such commodities do not magically find their way into workers' hands nor are they fabricated in such a way as to enable immediate consumption. Rather, the generally uncompensated labors of shopping, washing, cutting, cleaning, cooking, etc. are required to transmute commodities into labor power. Marx's quantitative approach to the reproduction of labor power also elides the forms of support and sociality entailed in such reproduction that are not necessarily mediated through commodities and their use. In this way, he avoids theorizing the affective, sexual, and otherwise embodied labors of reproduction. And finally, as the above quote makes glaringly apparent, Marx presumes the waged laborer to be masculine. As we will see, he likewise presumes the masculinity of unemployed or surplus populations, in this way naturalizing women's exclusion from labor markets — an exclusion that became more widespread over the second half of the nineteenth century, before being effectively contested over the course of the twentieth.[254]

In addition to his erasure of women's indirectly waged reproductive labor, what strikes me here is Marx's allusive engagement with the question of workers' injury. He frames the lower limit of subsistence in terms of the line separating the "normal quality" of labor power from its "crippled state" [verkümmerter Form]. *Verkümmerter* can also be translated as vestigial, abortive, of residual or remnant. Despite the distortion introduced by Marx's quantitative approach to the reproduction of labor power, this reference to labor power in its "crippled" or "vestigial" state can be read as alluding on the one hand

to employees' exposure to debilitating or fatal injury at work, as well as to the more quotidian strains and injuries workers faced on the job, which in some cases would have been treated by spouses or other family members. We will recall that women's domestic labor came to be modeled at the midcentury upon the norms of reformed nursing. Marx's reference to labor in its *verkümmerter Form* would thus seem to enable a critical extrapolation focusing on dynamics of injury and gender in the working class, along the lines of similar extrapolations on the category of social reproduction undertaken by socialist feminist readers of Marx. For the remainder of this section, I will read Marx's writings on large scale industry and surplus labor against the grain, asking how his writings might be made to illuminate historical dynamics of injury and gender affecting the nineteenth-century working class, especially insofar as we resist Marx's presumption of labor's masculinity.

It is not until halfway through the first volume of *Capital*, in his chapter "Machinery and Large-Scale Industry," that Marx presents the question of industrial workers' exposure to injury in the context of a discussion of machine-mediated dynamics of work and temporal experience. Marx's chapter on large-scale industry builds upon his account, from the late 1850s and early 1860s, of the real subsumption of labor to capital. In the *Grundrisse* and in economic manuscripts from the early 1860s, he fleshes out the concept of real subsumption, contrasting this concept with what he refers to as formal subsumption. For Marx, the category of formal subsumption names those historical processes that brought non-capitalist production processes under the control of those managing capital, transforming these production processes into engines of capital accumulation. Under formal subsumption, the concrete quality of the labor process doesn't change. Real subsumption, on the other hand, involves fundamental transformations in the quality of labor processes. For Marx, the change characteristic of real subsumption is the introduction of large-scale machinery into labor processes, which accelerates production and, in doing so, enables the ever more intensive extraction of surplus value. Marx argues that the emergence of mechanized production – enabled by steam power, new mining practices, and railway technologies – does not simply change the quality of labor processes. Mechanized production also transforms the social relationship of labor and capital, inaugurating new modes of labor's subjection to capital. Proletarians experience new forms of injury and immiseration, both at and beyond sites of waged labor, under the accelerated and machine-driven conditions of life and labor that follow from real subsumption.[255]

For Marx, processes of real subsumption (or, roughly, *industrialization*) expose proletarian populations to superfluity and immiseration in a number of ways. First, by diminishing the socially general amount of time taken to produce a unit of value, real subsumption tends to prevent displaced, wageless populations from surviving through small-scale production: the value of their products, even if they work long hours, remains relatively minimal. Marx suggests that small-scale producers — such as hand loom weavers following the introduction of mechanical looms — generally cannot compete in markets dominated by mechanized producers, and that, in periods and industries shaped by real subsumption, such producers find themselves displaced from processes of production and remade as superfluous, "non-productive" populations. The severe immiseration that attended hand loom weavers' loss of market share in nineteenth-century Britain, which Marx alludes to in the opening chapter of *Capital*, provides a

particularly stark illustration of the possible effects of such displacement. In addition to rendering small-scale producers incapable of earning the means of subsistence, large-scale industry tends to replace human labor power with automated processes, which, Marx argues, creates a tendency toward ever-increasing rates of un- and under-employment. He especially attends in this regard to the effects of agricultural mechanization on the creation of large numbers of unemployed former agricultural laborers. However, as we will discuss below, the nineteenth-century mechanization of production had a more complex relation to the making of superfluous populations than this summary would suggest — a complexity that Marx at least partially grasped.

Second, under real subsumption waged workers' bodies and minds become expendable and exposed to harm by the labor process itself, partly because the knowledge, temporal dynamics, and motor force driving production processes exist to a significant extent outside of and in opposition to them. In *Capital*, Marx describes in detail the forms of exposure that workers suffer within machine-driven production processes:

> Every sense organ is injured by the artificially high temperatures, by the dust-laden atmosphere, by the deafening noise, not to mention the danger to life and limb among machines which are so closely crowded together, a danger which, with the regularity of the seasons, produces its list of those killed and wounded in the industrial battle. The economical use of the social means of production, matured and forced as in a hothouse by the factory system, is turned in the hands of capital into systematic robbery of what is necessary for the life of the worker while he is at work.[256]

Marx's discussion of pervasive workplace injury in the modern factory system suggests that a certain negative quality of proletarian life — namely, superfluity, or an exposure to injury and immiseration — inhabits both the *outside* of production as well as the *interior* scene of production itself. In his economic manuscripts of the early 1860s, Marx actually uses the same term — *surplus labor* — to describe these two "sides" of proletarian life, each in its own way prone to injury and immiseration.[257]

In this way, Marx finds structurally injurious dynamics at the heart of the industrial capitalist world: the factory system entails the "systemic robbery of what is necessary for the life of the worker," and "[i]t is precisely among the workers in large-scale industry that we meet with the shortest life-expectancy (795)." In his reading of Marx, Moishe Postone demonstrates that, rather than offering a critique of capitalism from the perspective of labor, Marx's late works, including *Capital* and the *Grundrisse*, can better be understood as offering a critique of labor under capitalism. In other words, Marx does not ground his theory in a notion of labor as an intentional, world making activity.[258] Rather, he shows both how the establishment and generalization of specifically capitalist social relations makes wage labor a centrally mediating social form (i.e. wage labor becomes the primary means by which social wealth is distributed), and how, with the ascendance of modern industry, the worker is cast into a structurally subordinate, marginal, and vulnerable position vis-à-vis the machinery of production — machinery that mediates specifically capitalist forms of accumulation.[259] For this reason, industrial machinery cannot easily be analogized to more basic tools of production, such as rakes, hoes, hand plows, tables, and other implements as they were employed under non-capitalist modes of production, in part because industrial machines, structured so as

to most efficiently produce commodities, more rigidly determine the movements and rhythms of workers' bodies, and limit working class populations' access to the means of reproduction. Machines materialize an abstract temporality and impose this temporality on workers assigned to maintain them and on all those dependent upon such machines for survival.[260] Moreover, large-scale industrial machines have the potential at any time to injure workers' bodies, which they do at significantly higher rates and with more severe consequences than previous tools of production.[261] In this way, for Marx, modern industry dramatically undoes any understanding of labor as an intentional activity involving humans' deployment of tools in the remaking of the world. Rather, modern industry is characterized by the "agency" of machine-mediated processes of accumulation[262] — processes that remake working class people into vulnerable bodies struggling to keep up with an abstract temporal order that simultaneously sustains and destroys their lives.

Some of the political implications that follow from this critical approach to labor under capitalism are made explicit in what can be considered the concluding chapter of *Capital, Vol. 1*, entitled "The General Law of Capitalist Accumulation."[263] Here, Marx argues for the necessity of forms of organization able to articulate the shared interests of waged and unwaged proletarian populations.

> Thus as soon as the workers learn the secret of why it happens that the more they work, the more alien wealth they produce, and that the more the productivity of their labour increases, the more does their very function as a means for the valorization of capital become precarious; as soon as they discover that the degree of intensity of the competition amongst themselves depends wholly on the pressure of the relative surplus population; as soon as, by setting up trade unions, etc., they try to organized planned co-operation between the employed and the unemployed in order to obviate or to weaken the ruinous effects of this natural law of capitalist production on their class, so soon does capital and its sycophant, political economy, cry out at the infringement of the 'eternal' and so to speak 'sacred' law of supply and demand. Every combination between employed and unemployed disturbs the 'pure' action of this law.[264]

Marx leaves unspecified the aims of such combination, only characterizing them in the following way: "to obviate or to weaken the ruinous effects of this natural law of capitalist production on their class." As we will see, much turns on the interpretation of this ambiguous formulation, just as much turns on the degree to which we take Marx here to be *describing* a historical emergence of trade union politics defined by the "combination between employed and unemployed" populations, versus *prescribing* a class politics that was relatively absent, or at least merely in embryonic form, at the moment of his writing. In any case, we can note initially that this passage carries echoes of Marx's *Eighteenth Brumaire*, posing explicitly the question of how structurally distinct populations might be articulated politically in order to pose a threat to ruling class power. Marx suggests that such a political articulation is necessary if fractured proletarian populations are to contest the conditions of injury and immiseration that define their lives in the wake of the second industrial revolution. In this way, *Capital* can be read as proposing, and demonstrating the necessity for, a new politics of association capable of intervening in the post-1848 conjuncture in class relations. The waged industrial worker

might be strategically situated in relation to capital-intensive infrastructures or relatively secure in relation to the unemployed, Marx suggests, but ultimately their position is insecure to the extent that the reserve army of the unemployed is reproduced as such, and for this reason the interests of these two sides of *surplus labor* are potentially shared. The task for communists would then be to realize forms of organization that could activate and effectively advance such shared interests.

In carving out a central role in class struggle for the unemployed, Marx seems to depart in at least one significant way from the analysis he had issued in the *Eighteenth Brumaire*. In this earlier text on midcentury France, the political agency of unemployed or marginal urban populations was figured in a largely negative way, through the category of the *lumpenproletariat*, the "rabble" conscripted to support Louis Napoleon's lawful coup.[265] In *Capital*, however, Marx is more sympathetic to the structurally unemployed, imagining for them a central role in class struggle. Even so, at least one passing reference to the lumpenproletariat does appear in this later work. In presenting the most fully realized "type" of surplus labor — pauperism — Marx begins by distinguishing this type from "vagabonds, criminals, prostitutes, in short the actual lumpenproletariat."[266] Then, in the passage that immediately follows, Marx polarizes the lumpenproletariat and the pauper class in part on the basis of a normative judgment of women's sexuality. If the lumpenproletariat includes "prostitutes," the pauper class notably consists of "widows":

> Third [in the list of types of pauper], the demoralized, the ragged, and those unable to work, chiefly people who succumb to their incapacity for adaptation, an incapacity which results from the division of labour; people who have lived beyond the worker's average life-span; and the victims of industry, whose number increases with the growth of dangerous machinery, of mines, chemical works, etc., the mutilated, the sickly, the widows, etc. Pauperism is the hospital of the active labour-army and the dead weight of the industrial reserve army.[267]

There is something anomalous in the inclusion of widows in the list of industry's victims. Certainly, as we have seen in Chapter One, women whose husbands were killed in railway and other workplace accidents were indirect victims of industry, and were understood as such in midcentury British culture. I do not mean to suggest otherwise in noting their anomalous inclusion here. Rather, what strikes me is that the category of "the widows" is the only category in Marx's extended discussion of pauperism seemingly not defined by a potential for, or history of, waged employment (even "orphans and pauper children" are, at times of high labor demand, "enrolled in the army of active workers"). On one level, Marx's somewhat curious inclusion of widows in his list of paupers can be read in terms of how such an inclusion, set against the reference to prostitutes in the list of the lumpenproletariat, works to establish the moral quality of the pauper class. But there is more than the moralization of a class subject at stake here. Marx's inclusion of widows in the list quoted above can also be read as an anomalous gesture that reveals both a systemic under-theorization of gender in his account of surplus labor and social reproduction, as well as the structurally ambiguous quality of gendered reproductive labor.

We will recall that Marx writes out of his account of social reproduction the gendered labors entailed in this process of maintenance. That is to say, the wife of the

industrial worker does not appear in Marx's discussion of the reproduction of labor power, at least not as a subject integrally involved in the daily tasks necessary to reproduce the worker's labor power. Here though, the (presumptively masculine) worker's wife is made visible, albeit only at the moment of her being cast out of the marriage relation as a result of her husband's workplace death. Certainly the immiseration widely experienced by working class widows in the nineteenth century makes Marx's reference to them in his list of paupers sensible. And yet, Marx's broader framing of pauperism in terms of surplus labor should invite the question here of whether the widow, as such, had been a worker, or part of the surplus labor force, prior to her husband's workplace death? My inclination, following feminist work on social reproduction, would be to answer in both cases: "Yein," the German portmanteau composed of *ja* and *nein*, yes and no.

In terms of the question of whether the widow had been a worker, debates among socialist feminists in the 1970s and 80s over the status of unwaged, or indirectly waged, domestic work grappled with the question of whether such work was value producing, and thus a constituent of labor in the Marxian sense. Leopoldina Fortunati is generally understood to have argued in the affirmative, albeit in a way that involved a political remolding of Marxian categories, suggesting that the capital/labor relation should be understood in part as a relation between capital and (indirectly waged) women, mediated by (directly waged) men. In other words, those managing capital pay for women's reproductive labor with the aim of maintaining a relatively stable workforce, though they route this payment through the working man's wages, and thus contribute to the maintenance of patriarchal relations within the working class. While challenged, largely in the name of theoretical orthodoxy but also on the grounds that it is possible to imagine dynamics of reproduction under capitalism that do not centrally involve the patriarchal family,[268] Fortunati's account of reproductive labor nevertheless helped advance efforts to conceptualize the structural position of domestic labor, and the historical gendering of such labor, in relation to circuits of capital accumulation and labor exploitation. As Maya Gonzalez argues,

> Much like Marx, who discovered the origin of profit as a particular historical form of class exploitation, Fortunati discovers the historical form of gendered exploitation under capitalism. And yet, this does not require that it therefore be value-productive. Quite the contrary; according to Fortunati's own schema, [housework] must remain external to accumulation, which she characterizes as indirectly mediated by the form of value, as socially necessary but not "socially determined."[269]

In Gonzalez' reading, Fortunati's notion of housework's *indirect* role in value production grasps at once the necessity of such work for the production of value, as well as its necessarily marginal, unrecognized quality. Domestic labor is necessary work that necessarily appears as non-work. This theoretical distinction helps clarify how domestic labor has tended to remain relatively non-mechanized, and how, even with the introduction of purportedly "labor saving" domestic technologies, the amount of time required, overwhelmingly of women, in the performance of domestic labor has not diminished to a more significant extent.[270] Insofar as domestic labor is *indirectly* mediated by the form of value, it remains relatively unaffected by the structural dynamics that, as Marx demonstrates, tend to remake value-productive labor processes into ever-

more efficient operations, requiring over time the expenditure of relatively less human labor power per unit of value produced. In this way, Fortunati's notion of domestic labor's "socially necessary but not 'socially determined'" quality enables us to grasp the structural *unevenness* that separates directly and indirectly value-productive labor processes.

This notion of domestic labor's necessary yet indirect relation to value production can help begin to frame as well the question of the housewife's relation to surplus labor. Insofar as women are excluded as a class from key sectors of waged labor (i.e. transportation, mining, and manufacturing), as they increasingly were over the second half of the nineteenth century in Britain, they can be thought of as *indirectly* involved in the surplus labor force — a labor force that, again, relies for its reproduction on women's unrecognized domestic labors. Women's categorical exclusion from major industries creates a situation in which they do not directly compete with men for waged employment. And yet, this categorical exclusion is itself historically contingent, meaning that working class women, even in moments when they are largely excluded from wage labor, constitute a *potential* surplus labor force, as well as a force necessary for the reproduction of (surplus) labor. Significantly, Marx does consider in his concluding chapter the contingency of this gender barrier to employment, albeit in ways that are generally mystifying, even regressive. On at least two occasions, Marx extrapolates from the case of the early British textile and mining industries to posit a general rule for the relation of gender and age divisions to the process of industrialization. He writes,

> We have seen that the development of the capitalist mode of production, and of the productivity of labour — which is at once the cause and the effect of accumulation — enables the capitalist, with the same outlay of variable capital, to set in motion more labour by greater exploitation (extensive or intensive) of each individual labour-power. We have further seen that the capitalist buys with the same capital a greater mass of labour-power, as he progressively replaces skilled workers by less skilled, mature labour-power by immature, male by female, that of adults by that of young persons or children.[271]

And then, later, in a similar vein:

> We saw in Part IV., when analysing the production of relative surplus-value, that within the capitalist system all methods for raising the social productivity of labour are put into effect at the cost of the individual worker; that all means for the development of production undergo a dialectical inversion so that they become means of domination and exploitation of the producers; they distort the worker into a fragment of a man, they degrade him to the level of an appendage of a machine… and drag his wife and child beneath the wheels of the Juggernaut of capital.[272]

In each of these two passages, a specific historical situation — the early industrial period when textile factory owners and, to a lesser extent, mine owners turned to the employment of women — is converted into the raw material for a general law of capitalist development. This conceptual extrapolation requires Marx to write out of history the extent of women's remunerated employment prior to the turn to factory-based production, to gloss over the complex historical processes that hemmed in factory and mine owners' capacity to employ women and children,[273] and to ignore those sectors

where the partial turn to the employment of women did not occur (i.e. transportation and machine manufacturing).

Marx's somewhat baffling assertion of the purportedly law-like link between industrialization and feminization reveals, if nothing else, his presumption that labor is properly masculine. In each of the above passages, women's employment is depicted as a degradation of the presumptively masculine labor force, a symptom of capital's unchecked power. These passages give us a clue for a possible interpretation of Marx's above-discussed invocation of the political alignment of employed and unemployed groups: perhaps he was referring in this passage to the campaigns that formed over the 1830s and 40s to press for legislative and other measures to restrict the employment of women and children. Such campaigns served the economic and social interests of both waged and unwaged working class men at the expense of working class women's capacity to earn wages and in this way to contest patriarchal family relations. If we follow this line of interpretation, Marx would appear to be arguing that, insofar as women's employment tends to follow from industrialization, the widespread exclusion of women from waged employment since the midcentury must have been an effect of the political combination of employed and unemployed (adult male) workers. In other words, he would be arguing that women's merely *indirect* involvement in the surplus labor force follows from a particular moment of class struggle — a moment that, while not ultimately emancipatory, constitutes a contingent necessity for labor politics.[274]

The historical claims here imputed to Marx do not, however, hold up to scrutiny. As feminist historians have argued for some time, factory-based industrialization tended to reduce the employment of women, especially married and/or middle-aged women, in part because it separated production from the domestic sphere.[275] Moreover, the formal and informal exclusion of women and children from waged employment was not simply an effect of masculinist labor struggle (as consequential as such struggle was), but also followed from ruling class anxieties at the midcentury about the physical degradation of working class children, from inter-capitalist rivalries, and from broader gender discourses of labor and injury that made women's employment in certain roles appear inappropriate.[276] In many industries that were relatively less affected by labor organizing or state regulation — the early railway industry, for one — women were nonetheless almost never hired. Industrialization was thus not typically associated with the feminization of the waged workforce, the early British textile industry notwithstanding.

Rather, industrialization, especially in its second iteration, corresponded with the systemic exclusion of women from key sectors of industry, and with the taking root of formerly middle class gender norms amongst working class populations. As we saw in Chapter One, sometime around the midcentury working class women came to be judged more sharply against the ideal of the housewife, and to be reimagined as subjects responsible for managing, within the domestic sphere, the effects of industrial injury. This was a moment when the social institution of marriage was being adapted in ways that would allow it to organize and to naturalize what was becoming a more gender-polarized division of productive and reproductive labor, and to "house" women who otherwise would have appeared as potentially dangerous constituents of surplus populations.[277] Of course, this new dispensation of gender and work relations was not without its contradictions. Feminist agitation in late nineteenth-century Britain emphasized the demographic conditions, linked to empire and settler colonialism, that

made it impossible for all women to be married, while also challenging the legally sanctioned authoritarianism of husbands.[278] Another contradiction of this post-1848 settlement in gender relations, particularly acute within working class families, was the economic insecurity wives experienced in the event of their husbands' workplace injury or death. Women were made primarily responsible for the reproduction of working men, both current and future, but could secure no guarantee that such labor would continue providing them with a way to subsist. From this perspective, Marx's anomalous reference to "the widows" in his list of the pauper class can be read as a veiled, even perhaps unconscious, registration of a larger contradiction in class and gender relations — a contradiction conditioned at once by the unsafety of industrial labor and by prevailing gender divisions of labor, which elsewhere he seems to endorse. In this way, Marx's passing reference to the immiseration of working class widows might offer a way to read against the grain his invocation of the combination of employed and unemployed populations. What if we approached this political task in relation to the unemployment and immiseration of working class widows? What forms of organization might have existed, or have been constructed, to link their interests to those of other sectors of the working class?

Initially, it is worth registering the degree to which various techniques of improvement can be understood in these terms, as efforts to address, within the frame of the marriage relation, working class women's exposure to immiseration in the event of a husband's workplace injury. Such techniques of improvement linked the waged industrial worker to the dispossessed widow, across the divide of his death. In Chapter One we saw how savings and benefit fund schemes were promoted to wage-earning men as means to ensure at least a modicum of income to women in the event of their being widowed. But we also saw how limited and inadequate such means ultimately were. The contradiction that resulted from women's dependence upon husbands who themselves were exposed to injury at work thus could not be managed within the frame of the marriage relation, and imposed itself on other nineteenth-century social institutions. As we will see in Chapter Four, the contradiction erupted within early railway trade unionism; and, into the twentieth century, effective unionist responses to the crisis of working class women's insecurity remained elusive.

Such elusiveness was partly an effect of the temporal dynamics of injury and immiseration: women faced a loss of income in the aftermath of their husbands' accidental deaths, when the indirect connections they had maintained with their husbands' employers, unions, and friendly societies were newly precarious, if not severed outright. The conditions faced by a given widow were largely determined by the degree to which she could effectively assert a continuing obligation on the part of one or more of these sources, or could secure access to other sources of income from surviving family members, from a new spouse, or from waged employment.[279] But at least in terms of sources linked to her former husband, she was at risk of appearing undeserving, a residual obligation to be cast off in order that these institutions might maintain balanced accounts. In this sense, industrial widows were not unlike severely injured men, scorned by former employers and inhabiting, in Marx's words, "the hospital of the active labour-army." Those affected by industrial injuries appeared as revenants in the eyes of institutions oriented toward productive labor, most notably company management and state bureaucracies, but also at times workers' organizations, such as trade unions and friendly

societies. (We can recall here the defensive 1851 message to widows published by the *Railway Guards Universal Friendly Society.*) From this perspective, Marx's proposal for associations between the employed and the unemployed — including terminally unemployed paupers — would also suggest the establishment of relations that could mediate discrete temporal experiences, linking those caught up (directly or indirectly) in the daily routines of waged labor to those indefinitely cast out of such routines and thus living in a kind of *afterwardsness*.[280] *Capital*'s concluding chapter thus draws forward a form of spectrality specific to surplus labor — the *living on* of industry's victims. In doing so, the text echoes back to its introductory musings on the spectral quality of commodities — a spectrality figured forth by a strangely animated wooden table that seems to have appeared out of the recent past. The table, like the railway widow, appears as a revenant. In what follows, I will attend to various spectral dynamics either implicitly or explicitly theorized in *Capital*, all of which are associatively linked to the wooden table, considering how these spectral dynamics relate to the questions of injury and class composition that form the central concerns of *Infrastructures of Injury* and that, as we have seen, preoccupy Marx's late work.

II. Ghost Acres

Capital's conclusion attends to bodies that had been made spectral by the injurious dynamics of modern industry. To misappropriate a line from the *Manifesto:* Marx's first volume of *Capital* closes by invoking a specter haunting midcentury Europe — the specter of pauperism. The text calls for organizational forms capable of coordinating this spectral pauperism with the collective power of waged workers, and in doing so composing a proper specter of communism. Marx's approach to class composition in *Capital* thus argues for the necessity of linking temporally distinct sectors of the working class, including those presently employed and those terminally unemployed. He calls for the combination of temporally non-identical class fractions. In this way, Marx imagines class composition along similar lines as he elsewhere figures circuits of capital accumulation — namely, as processes defined by the combination of temporally heterogenous elements. In the case of circuits of accumulation, such heterogeneity concerns to a significant extent discrepancies in productivity levels between different economic sectors.

We will recall that, in his late works, Marx offers accounts of the structural *dynamics* through which capitalist production processes tend to be remade over time, shorthanding and delineating the ostensive stages of these dynamics of transformation. In the *Grundrisse*, he suggests a passage from *formal* to *real* subsumption; whereas in *Capital*, he argues for a shift from *absolute* to *relative* surplus value extraction, and for a roughly corresponding shift from manufacture to large-scale industry. In each of these instances, we might loosely name the changes he is describing as *industrialization*. In *Capital*, Marx goes on as well to diagnose various effects of the rise of large-scale industry, from an increase in severe workplace injuries to an expansion of surplus labor populations. All of this is familiar enough. And yet, his work is not so straightforward. Even as Marx offers something like a stage-based narrative of large scale

transformations, he forestalls a reading of *Capital* along such simplistic lines, insisting that eras of productivity do not neatly follow one upon the other, and even that there are times when different economic sectors seem to be moving, productivity-wise, in opposite directions.[281] In other words, circuits of accumulation rely on a hodgepodge of production processes, characterized by different levels of productivity, different sorts of labor processes, and even in some cases divergent trajectories of productivity. This constitutive unevenness can be cast into relief insofar as we attend to the *woodenness* of Marx's dancing table.

By referencing a wooden table and dating this piece of furniture with the year 1853, Marx implicitly invokes midcentury furniture, timber, and energy industries — industries that illustrate in various ways the limits, or circuitous dynamics, of nineteenth-century industrialization. To begin to bring such complexities into focus, and to consider in relation to these complexities the limits of Marx's engagements with the constitutive unevenness of nineteenth-century imperial capitalist dynamics, we can begin with the wooden table in its fully realized form, and then work backwards in our analysis across the various production processes that would have brought the table into existence, looking first at the midcentury furniture trade, then at the transnational exchange of timber, and finally at forestry and its relation to energy economies. Each of these industries casts into relief slightly different sorts of temporal and geographic unevenness, in this way picking up on different problems confronted in Marx's late work and applying different sorts of pressure to this work. Attending to the operations of these industries can help us mark out some of the ambiguities of *Capital*'s approach to what Trotsky later would term *combined and uneven development* — ambiguities that result from the text's evident investment in stage-based accounts of capitalist dynamics despite its recognition at times of the limits of such accounts.

As Raphael Samuel shows, the nineteenth-century British furniture industry was only indirectly affected by mechanization.[282] Because of the irregularity of wood's texture and grain, as well as the varied shapes of cut wood and the detail work required for most furniture, hand production remained the norm in Britain throughout the nineteenth century, at least for the making of domestic furniture:

> Saw mills did not abolish the need for the hand-saw… nor planing-machines the plane. They could supply the rougher classes of deal, such as flooring boards, railway sleepers, and ships' timbers. But their action was too crude for many hard woods and too indiscriminate for the different lengths, breadths and thicknesses required in, say, the making of a writing desk, the framing of a roof, or the fitting of a steam-ship cabin. What such machinery did do was to provide a much broader base for handicraft activity by cheapening the raw materials of the trade.[283]

In this way, the furniture industry illustrates a sometimes overlooked feature of industrialization — namely, that the acceleration, via mechanization, of particular production and distribution processes often resulted in an expansion of associated, relatively non-mechanized production and distribution processes, which, in some cases at least, did not themselves undergo a similar process of mechanization. Saw mills and planing-machines opened up economic possibilities for a broader group of woodworkers, who were trained through apprenticeship and owned the tools of their labor.[284] As this example indicates, attempts to periodize economic and technological eras are potentially

misleading. Calling the nineteenth century the "era of steam," for example, draws attention to what undoubtedly were consequential shifts in the technical basis and labor processes of key economic sectors (with the rise of the railway and steamship, or with the mechanization of textile and machine manufacturing industries). But the notion of an economic *era* defined by steam-driven machines risks obscuring how steam-driven production processes were linked to, and dependent upon, relatively non-mechanized labor processes. According to Pat Kirkham, "In 1871… the total steam power in furniture workshops was less than two per cent of the total in a smaller number of machine-making workshops."[285]

A similar problem attends discussions of how railways purportedly *displaced* animal-powered, "eotechnical" modes of transport.[286] In reality, the growth of railway transit resulted in a significant expansion of the horse-drawn carriage transport industry. The railways' significant increase in carrying capacity relative to earlier road systems translated into an economy-wide spike in demand for connecting trips between railway stations and other sites.[287] In other words, the nineteenth-century industrialization of production and distribution processes was linked inextricably to the expansion of technologies and labor processes that, from the perspective of stage-based theories, appeared to be "out-of-date." Industrialization involved the grafting of these seemingly anachronistic processes and technologies onto capital's supply chains.

Not only was the relatively labor-intensive furniture industry given a new lease on life by mechanized saw mills and planing machines, but the timber industry upon which the furniture industry relied was itself constituted by a mix of relatively mechanized and non-mechanized processes of extraction and production.[288] As we will see, in addition to these general dynamics of economic unevenness, the timber industry also brings questions of Empire's constitutive unevenness into view. By the mid-nineteenth century, Britain was importing more than half of its timber from abroad, particularly from the Americas and the Baltic, while exporting to current and former colonies finished products, such as textiles and machinery.[289] The large-scale cutting of forests in the Americas and the export of timber to Europe were inextricably bound up with processes of European settlement and colonization, the displacement of indigenous populations from their lands, and the reproduction of racialized slavery as the foundation of colonial agricultural production.[290]

The control of timber resources and their trade had also been critical to inter-imperialist rivalries from the early modern era through the nineteenth century. As Stephen Bunker and Paul Ciccantell demonstrate, the transition from Dutch to British hegemony in the Atlantic world was driven in large part by dynamics linked to the timber trade and to ship-building, the Dutch rising to global power because of their strategic situation in relation to timber industries and the remarkable capacity of their trading ships; and then the English displacing the Dutch by securing access to timber reserves in the Baltic and in North America and by constructing ships oriented toward military combat, in part by incorporating iron-based weaponry into mass produced naval ships (a technological innovation linked as well to the production of slave ships in Liverpool, Bristol, and in other merchant ship building centers[291]). Over the early modern period, the British state forcibly intervened in forestry and metalworking sectors to ensure that limited national resources were being directed toward naval shipbuilding, while their hegemony in the Atlantic world enabled them to secure advantageous trade relations with

the United States, where significant timber and ship-building industries emerged, especially focused on the construction of merchant ships.[292]

The large-scale felling of trees in the Americas associated with the emergence of colonial timber industries contributed to the establishment of energy systems distinct from those in the British metropole: the burning of wood occupied a central role in American industry, while coal came to form the primary energy source for British industry.[293] Before turning in more detail to this question of discontinuous energy systems though, it is worth returning to the question of Marx's ambiguous engagements with imperial capitalism's *unevenness.* As discussed above, the emergence of saw mills, planing machines, and other industrial technologies in Britain contributed to the growth of relatively non-mechanized woodworking and timber industries, including in the Americas. With this dynamic in mind, we might ask whether Marx's works provide ways to explain, or explain away, industrialization's apparent association with the expansion of relatively labor-intensive, non-mechanized production processes, as, for example, in nineteenth-century timber and furniture sectors, and with the dynamics of colonial dependency associated with such unevenness. At least in his three volumes of *Capital*, Marx provides an ambivalent, oscillating response to this question, which suggests that this question formed a conceptual stumbling block in his work. This oscillation provides another way for us to understand Marx's early invocation of the dancing wooden table: we might say that the wooden table puts on display a conceptual impasse haunting *Capital*.

In his late work, Marx seems to waver on the question of whether and to what extent mechanization is a unidirectional process, destined to occur in turn within each sector of the economy. At various moments, particularly in the third volume of *Capital*, which is concerned with economy- or system-wide dynamics of accumulation, Marx acknowledges that there are situations where particular sectors seem to maintain over time the same organic composition of capital (the ratio of dead to living labor in the production process, which can also be used as a measure for labor productivity), and even some situations where the organic composition of capital appears to decline over time. These situations trouble arguments Marx makes elsewhere in *Capital*, which suggest that, while mechanization might temporarily give a new lease on life to associated labor-intensive production processes (as, for example, in the expansion of the carriage industry following the rise of the railways), over time competition will result in the capitalization of these initially labor-intensive processes, and will contribute to an overall tendency toward the expansion of superfluous populations (i.e. populations expelled from capital intensive production processes).[294] Marx's most striking qualification of this thesis appears in *Volume 3*, toward the end of his chapter on the tendency of the rate of profit to fall, under the subheading: "Supplementary Remarks." (These "supplementary remarks," contained within an extended parenthesis, are situated in a remarkably marginal location within the overall project of *Capital*.)

> Since the development of labour productivity is far from uniform in the various branches of industry and, besides being uneven in degree, often takes place in opposite directions, it so happens that the mass of average profit (= surplus-value) is necessarily very far below the level one would expect simply from the development of productivity in the most advanced branches. And if the development of productivity in different branches of industry does

> not just proceed in very different proportions but often also in opposite directions, this does not arise simply from the anarchy of competition and the specific features of the bourgeois mode of production. The productivity of labour is also tied up with natural conditions, which are often less favourable as productivity rises — as far as that depends on social conditions. We thus have a contrary movement in these different spheres: progress here, regression there. We need only consider the influence of the seasons, for example, on which the greater part of raw materials depend for their quantity, as well as the exhaustion of forests, coal and iron mines, and so on.[295]

What is particularly noteworthy about this passage is how it associates the unevenness and even reversibility of mechanization with the fact of production processes' embeddedness in natural conditions. Just as forests and mines can be exhausted, the tendency toward mechanization that preoccupies Marx in *Capital* can similarly be exhausted, in part, this passage suggests, because of mechanization's reliance upon contingent natural conditions for its continuation. While a somewhat different matter, we might think here as well of how, according to Raphael Samuel, the nineteenth-century British furniture industry was resistant to mechanization in part because of the unevenness of wood itself – an argument that anticipates the recent turn to new materialisms.

Marx's acknowledgement that mechanization is reversible, in part because of production processes' embeddedness in natural conditions, appears remarkably contemporary, considering recent interest in the imbrications of social and natural processes, the geological limits of energy resources, and indications that capitalism might be reorienting, at a global level, toward a greater dependence on labor-intensive production and distribution processes.[296] These contemporary interests and conditions have reshaped historical narratives on the dynamics of industrialization in eighteenth and nineteenth-century Britain, drawing questions of energy use to the foreground of such narratives.[297] In particular, ecologically oriented narratives are preoccupied with the emergence of coal as a key energy source, the efficiency of which relative to charcoal and other timber-based energy sources is said to have enabled the maintenance of British industrialization over the course of the nineteenth century. E.A. Wrigley, drawing upon the work of Kenneth Pomeranz,[298] deploys an elegant concept-image to demonstrate the historical significance, relative to timber-based fuel sources, of coal as fossil fuel — namely, the "ghost acre." We can measure coal in terms of ghost acres, which amount to the number of acres of timber-based energy that would provide a magnitude of fuel equivalent to a given amount of coal. "By 1850," as Albritton Jonsson notes in his discussion of Wrigley's ghost acres:

> the level of coal consumption equaled 150 percent of the land area. For Wrigley, this is the real reason why the Industrial Revolution did not 'fizzle.' Although the productivity growth in the early stage of the process was not dependent on steam power, sustained growth would have been impossible 'by the middle decades of the nineteenth century' without the vast resources made available by coal.[299]

While certainly evocative, this formulation has the potential to result in a similar erasure as the stage-based notion of the "age of steam," since, as we have seen, the use of coal in nineteenth-century British industry did not result in a decline in the rate of British

consumption of timber. Rather, over the nineteenth century, British industry was characterized by an ever-growing reliance upon imports of timber from northern Europe and the Americas.[300] To his credit though, Wrigley deploys the notion of *ghost acres* to describe not only imagined acres of woodland, but also real acres, mostly in American and Asian colonies or former colonies, which supplied British markets with "cotton, silk, sugar, coffee, and tea," as well as, "grain, meat, wool, and timber."[301] Even still, is there not a second-level ghosting taking place in this sort of ecologically oriented formulation of nineteenth-century imperial history? Does not Wrigley's relatively narrow focus on *acres* risk an obscuring of *bodies*, and thus of the significantly determining role played by social antagonisms of race, gender, labor, and land ownership in the histories of energy use that occupy his attention?[302]

In this vein, it is interesting to note that Marx does make some reference to the distinctive qualities of colonial labor regimes, both in his coda on "Original Accumulation," but also immediately following his above-discussed invocation of coordination between unemployed and employed workers:

> Every combination between employed and unemployed disturbs the 'pure' action of this law. But on the other hand, as soon as (in the colonies, for example) adverse circumstances prevent the creation of an industrial reserve army, and with it the absolute dependence of the working class upon the capitalist class, capital, along with its platitudinous Sancho Panza, rebels against the 'sacred' law of supply and demand, and tries to make up for its inadequacies by forcible means.[303]

Marx suggests here that, within colonial contexts, force was more centrally involved in establishing capitalists' control over labor than in imperial metropoles, such as England, where relatively abstract, market-mediated dynamics had become, by the time he was writing, more sufficient to the task. In this way, Marx draws attention, albeit in a fleeting way, to distinctive forms of colonial enclosure, to state efforts to regulate immigration in ways that served the interests of those managing capital, and perhaps to coercive labor regimes such as slavery and indenture. Implicitly, then, he poses the problem of coordinating transnational and intra-imperial solidarities in ways that could confront divergent forms of state power and labor discipline. However, as with his call for coordination between employed and unemployed workers, what appears here as a rather expansive view of labor solidarity conceals significant limits, or at least ambiguities, in his approach to such solidarity. As his reflections on colonial labor regimes in his closing reflections on "The Modern Theory of Colonization" indicate, Marx probably has in mind here above all the working lives of European settlers in the Americas, who were engaged in contestations with representatives of the state and of capital over their relative freedom from subordination to the wage — contestations that also implicated them in colonial violence against native populations. As he frames these contestations: "[I]n the colonies…. the capitalist regime constantly comes up against the obstacle presented by the producer, who, as owner of his own conditions of labour, employs that labour to enrich himself instead of the capitalist."[304] Even as Marx seems to imagine labor in the colonies as constitutively "free," there are moments where he does register the dependency of metropolitan industry upon slave systems in the colonial and post-colonial world, as for instance when he notes that "the veiled slavery of the wage-labourers in Europe needed the unqualified slavery of the New World as its pedestal."[305] Marx

perhaps implies here the importance of European workers' solidarity with enslaved (or formerly enslaved) people of African descent — solidarity that would traverse the worlds of those engaged in the hyper-exploitative, labor intensive production of cotton, on the one hand, and those involved in the more highly capitalized textile industries through which cotton was fed at ever-increasing rates, on the other hand, or in the transit industries responsible for moving cotton though these various sites. Even so, as with his implicit gendering of the surplus population, *Capital*'s last chapters seem to prioritize, or presuppose, "free" (i.e. European) labor in the colonies at the expense of a more comprehensive analysis of how racial stratification and domination continued to define colonial and post-colonial labor regimes (including immediately following abolition) — a racial stratification of labor that tended to accompany the maintenance of discrepancies in productivity between different industries and sectors. It is certainly possible to read Marx against the grain on the question of colonial labor regimes, just as we can find in Marx resources for a less masculinist orientation to questions of surplus labor and social reproduction, or for a less stage-based analysis of industrialization. I have tried to suggest above that, to greater or lesser extents, Marx's illustration of the commodity through the figure of a dancing wooden table can be read as registering the trouble his work has in dealing with these three interrelated phenomena (or, formulated more positively, the conceptually generative tensions associated with such matters). Fred Moten has argued along similar lines that *Capital*'s early invocation of talking commodities implicitly registers the centrality of slave labor to dynamics of capital accumulation, even as the text itself does not think through this relation of capitalism and slavery, nor does it engage substantively with the promise of communism sounded in black performance and politics.[306] There are thus fleeting moments in *Capital* where Marx appears to push beyond the abstract formulations, and limits of vision, that otherwise seem to structure the work, offering openings to lines of inquiry that potentially exceed the categorical and historical parameters of *Capital*. The interpretation I am offering of Marx's late work attempts to confront his work with some of these historical dynamics, which the text gestures toward but does not fully pursue. In this way, my reading both stays with and pushes beyond *Capital*'s defining ambiguities, highlighting how the text — like its unsettled wooden table — seems sundered, pulled in multiple directions at once. To move such an interpretation forward, I will turn back in what follows to the relatively abstract, opening sections of *Capital*, demonstrating how Marx's approach to the study of the *value form* of the commodity is beset by ambiguities linked to those delineated above.

III. Abstraction's Injuries

We can begin again with the grain of the wooden table. The irregularity of wood grain, its irreducible singularity, posed a limit to the mechanization of the furniture industry in the nineteenth century. In part, wood's graininess prevented furniture making industries from being reconstructed according to the imperatives of abstract time: each item of furniture required an individual, temporally non-identical work process. The substance of this material would seem then to put a spanner in the works of Marx's stage-based approach to industrialization. If, as Moishe Postone argues, Marx attempts to show

over the course of *Capital* how the "concrete" dimensions of production and labor processes have tended to be reconstructed along lines prescribed by the "abstract," exchange value dimension (esp. in the shift from manufacture to large-scale industry), cases such as the furniture making industry would put in question the general purchase of this account. They suggest the recalcitrance of the concrete, the frustration of abstraction. But then, it is *Capital* itself that gestures toward the limits of abstraction, pointing us in the direction of the furniture industry in part by introducing us in its opening lines to an ostentatious wooden table. The table, given a prominent place in the opening chapter, suggests a counter-current in *Capital* — a back-flow that can be understood as a sometimes submerged or under-realized aspect of Marx's historical materialism. Echoing the sensuous materialism of the *1844 Manuscripts*, Marx's play with metaphor here suggests that, as much as he is interested in tracking the force of abstraction in an era dominated by capital, he also inclines to show the bodies and materials upon which various real abstractions depend; and not only this, but also how such bodies and materials impinge upon the real abstractions they nevertheless also help to make. That is to say, Marx cannot but register in his work the recalcitrance of the concrete, the injury of abstraction.

It is perhaps not incidental that this counter-tendency in *Capital* is signaled through the text's deployment of a figure — the wooden table — that can be characterized as a complex jumble of metaphor, metonymy, and prosopopoeia (roughly, *personification*). Here is a moment where, formally, the text seems knotted.

> The form of wood, for instance, is altered if a table is made out of it. Nevertheless the table continues to be wood, an ordinary, sensuous thing. But as soon as it emerges as a commodity, it changes into a thing which transcends sensuousness. It not only stands with its feet on the ground, but, in relation to all other commodities, it stands on its head, and evolves out of its wooden brain grotesque ideas, far more wonderful than if it were to begin dancing on its own free will.[307]

Marx begins here by illustrating, through the table, a general principle of how, independent of commodity relations, labor can convert matter into different forms. Wood retains its substance as wood even when converted into the form of the table. (This is an allusion as well to Aristotle's *Metaphysics*.) While an illustration of a general principle, we can also read this moment in Marx's discussion of the table as a metaphor, where the coexistence of the substance of wood with its table form is metaphorically parallel to the commodity's dual existence as at once concretely useful and a bearer of abstract value. But then, through the figure of prosopopoeia, he actually draws this example more directly into the field of commodity relations, noting that "as soon as [the table] emerges as a commodity, it changes into a thing which transcends sensuousness." In this moment, it seems that Marx is using a particular commodity to illustrate a general feature of all commodities — that is, the table appears as a metonym for commodities as such. But the metonymy of the table takes shape as a fantastical personification. Marx describes the table as a being that generates grotesque ideas from its wooden brain. This fantastical, animated object is then compared with a dancing table. Marx's flights of fantasy here can be read either as prosopopoeia or as body metaphor: he is of course not suggesting that tables, when commodities, have wooden brains, but rather is depicting the table as an

animated thing to say something about how commodities carry social relations and forces.

The play across different rhetorical devices here gestures toward the sundered quality of Marx's critical project. We can begin to understand this play, and ultimately the multi-sidedness of Marx's analysis, by thinking of a ladder, in which the bottom rung is the substance of wood, the second rung is the form of the table, and the third rung is the commodity form. In the passage from *Capital*'s Introduction at issue here, Marx walks us up the ladder, beginning with a reflection on the relations of the first and second rungs. Initially, what is at issue is the persistence of the matter of wood even as it is converted, via labor, into different "forms" (i.e. the ship, the railway sleeper, or the table). Marx then moves from this commonplace philosophical illustration up one rung of the ladder, as it were. In what is ultimately a metaphorical operation, the table as concretely useful object takes the place of the woodenness of the wooden table, while the commodity form takes the place of the table form (rung 1 is substituted for rung 2, while rung 2 is substituted for rung 3). What Marx wants to say is that, insofar as the table is a commodity, it remains concretely useful to its individual consumers (it "stands with its feet on the ground"), even as it participates in supersensible dynamics, organized by exchange value, that are relatively indifferent to a given commodity's concrete utility. This notion of indifference is important. Just as the table form can be thought of as relatively indifferent to the matter of which it is composed — a table is equally a table whether it is made of wood, steel, or plastic — the value form of the commodity is relatively indifferent to the particular uses enabled by a given commodity's form. The form of value does its work regardless of which concretely useful things are being exchanged. Once Marx gets to the third rung of the ladder though, a different rhetorical operation commences. In order to illustrate the supersensible quality of value, Marx personifies the table as a being that "stands on its head, and evolves out of its wooden brain grotesque ideas." Here Marx sets in motion a different figural operation, defined above all by prosopopoeia. But just as he seems to be casting off into a new figural sequence, the bottom rung of his original metaphor returns: the table as commodity is depicted as possessing a *wooden* brain. Through this figure of the wooden brain, Marx short-circuits the metaphorical and conceptual grid he had wired in the immediately preceding sentences. The first rung (woodenness) leaps over the second (the table) to link up directly with the third (the supersensible commodity).

There are two ways to read this return of the table's woodenness in the figure of the wooden brain, which, when considered together, get at the splintered quality of Marx's materialism. On the one hand, in keeping with the above discussion of the barrier wood grain posed to mechanization, we might say that Marx registers here — in an operation resonant with new materialist approaches — how commodity relations are molded by the limits of, or resistances posed by, the particular bodies and materials that underlie such relations. Even as Marx's metaphorical work with the figure of the table seems to involve a step-like process of supersession — perhaps suggestive of his argument for the subsumption of use to exchange, concretion to abstraction — the matter of wood sticks around, and in this way implies a kind of concreteness that frustrates the smooth circulation of value and impinges upon the dynamics of abstraction that accompany this circulatory operation. The wood of the table can be read along these lines as a kind of concreteness that dwells *below* the use value dimension of the commodity. It

is a concreteness that conditions and warps commodity relations, troubling any attempt at abstract theorizing about the structural dynamics of capitalism. Marx suggests this alternate register of the concrete through a sequential figural operation that ultimately doubles back on itself.

But there is another way to read Marx's wooden brain, which suggests a different side of his materialism. According to this second approach, what is significant in the return of the table's woodenness is not how it gestures toward recalcitrant materials, but rather how it demonstrates the return of something otherwise forgotten. Here, the woodenness, in its return, would suggest Marx's attempt in *Capital* to at once grasp, and critically work through, the reifications and fetish forms characteristic of capitalist society by linking these forms to the dynamics of class antagonism and exploitation with which they are implicated. In this reading, Marx recapitulates in his figural work with the wooden table the critical work he performs throughout *Capital* to counter the reification of labor, to show dead labor as such. Here, we strike again upon the spectral dimension of the animated wooden table, its resonance with various revenants that stalk the pages of Marx's late work. This interest in thinking with spectral phenomena suggests a very different sort of materialism than that proposed by those who recently have been calling us to think again about the material qualities of things and about how these qualities impinge upon social relations.[308] Here, the concern is rather with grasping social *relations* of class that tend to be obscured insofar as they appear as *things*. In this vein, Marx's materialism requires a critical movement through concrete commodities to the social relations — otherwise hard to perceive, in part because of their implication with certain *real abstractions* — that are realized in the exchange of such commodities. Marx's reference to the grotesquerie of a wooden brain thus condenses a critical project that itself is internally sundered, like a table occupying space in two ways at once. His engagements with the figure of the wooden table allow him to get at the heterogeneity of his critical project, which is concerned at once with how social relations, mediated through real abstractions, are condensed in things, as well as with how concrete bodies and materials undercut tendencies toward abstraction in the history of capitalism.

There is something particularly apt in Marx's use of metaphor to register the sundered quality of his critical project. A metaphor involves the use of a concrete image (vehicle) to portray a broader concept or to foreground features of a particular phenomenon (tenor). In doing so, the metaphor surfaces similarities between otherwise dissimilar phenomena — a move that can be understood as the germ of abstraction. But it does so by conscripting a seemingly unrelated concrete figure, by bringing into play a multiplicity of objects, thus forestalling the full cutting away of the concrete that abstraction requires. The metaphor as trope is thus particularly apt for Marx, given the conceptual and representational problems he faces in *Capital.* And, as we will continue to see, the particular metaphors he deploys help define and push forward the project of his late work.

In addition to the wooden table, there is another early metaphor in *Capital* that helps draw out some of the ambiguities of Marx's critical project. In his 1867 preface, Marx deploys a metaphor drawn from the biological sciences in asserting the necessity of abstraction for grasping the "commodity form of the product of labour":

> Beginnings are always difficult in all sciences. The understanding of the first chapter, especially the section that contains the analysis of commodities, will

> therefore present the greatest difficulty…. The value-form, whose fully developed shape is the money-form, is very simple and slight in content. Nevertheless, the human mind has sought in vain for more than 2,000 years to get to the bottom of it, while on the other hand, there has been at least an approximation to a successful analysis of forms which are much richer in content and more complex. Why? Because the complete body is easier to study than its cells. Moreover, in the analysis of economic forms neither microscopes nor chemical reagents are of assistance. *The power of abstraction must replace both.* But for bourgeois society, the commodity-form of the product of labour, or the value-form of the commodity, is the economic cell-form. To the superficial observer, the analysis of these forms seems to turn upon minutiae. It does in fact deal with minutiae, but so similarly does microscopic anatomy.[309]

Marx's argument here for the necessity of abstraction in the critical analysis of socio-economic forms turns on an analogy between body and political economy — an analogy similar to those dissected in Chapter Two. If we follow and fill in the details of the analogy, Marx characterizes the human body as a "composite and complex form," as opposed to the "elementary and simple" cell form. Given their small size, cells can only be perceived with the aid of technical or chemical supplements. To use such supplementary tools, a certain number of cells must be extracted from the body and brought into direct contact with chemical fluids or glass sheets. Doing so can offer general knowledge about cells only insofar as we assume that they share a common form and that this form is maintained even when cells are extracted from the body. In the above-quoted passage, Marx suggests that the work of abstraction in efforts to grasp the value form of the commodity is analogous to this work of extracting cells and subjecting them to technically or chemically mediated observation in efforts to grasp the cell form. Abstraction then is a tool for perceiving the value form, at least insofar as the value form is replicated, in identical fashion, across the social body and can be perceived in an isolated state.

Jordan/a Rosenberg has recently offered a reading of Marx's late work that takes off from this metaphor, arguing that Marx's implicit invocation of dissection here indicates his interest in histories of the scientific dissection of poor and working class bodies, and more broadly of the cruelties enacted against peasant populations as part of the process of original accumulation.[310] As Silvia Federici argues, original accumulation not only separated the peasantry from the means of reproduction but also spurred certain gender differentiations of labor, in part via the cruelties of the early modern witch-hunts.[311] In this way, original accumulation set in place key conditions not only of the capital/labor relation but also of the patriarchal relation of gender that was woven into emergent relations of class. The preface's metaphor of the microscope and the cell thus offers a clue to the interpretation of *Capital*'s early chapters on the commodity, linking these chapters to the text's closing consideration of original accumulation.

> On reading this section [on original accumulation] one begins to suspect that if the separations or dissections constitutive of primitive accumulation are grounded in the force and violence of the state, then it must also be the case that the originary dissection with which Marx presents us — the commodity as the dissected body of capital as a whole — itself bears molecularly the

> traces of the reiterated and originary violences constitutive of capital at its outset, and from thence forward. And if this is the case, then the seemingly eternal, atemporal fetish that *is* the commodity form contains, within the contradictions of its form, a contingency (201).[312]

The figure of dissection thus helps link Marx's opening and closing chapters in a way that enables the closing chapter to retroactively insert a dimension of contingency and historicity into what seems to be a highly abstract opening chapter —a chapter apparently concerned more with the logic of commodity relations than their fraught histories (although, as we have seen, this opening chapter gives its own nod to the unsettled, post-1848 conjuncture). Rosenberg suggests further that dissection can be understood as a figure for Marx's approach to *Capital*'s mode of representation (or, in German: *darstellung*), which is defined by a sequence of "unsuturable" genealogies of the commodity form, discrete textual moments that nevertheless form a totalizing representation of capital, its dynamics and associated relations. As Rosenberg reads the aesthetics of Marx's late work: "dissection is not simply about taking apart a preexistent body but about conjuring a body in the text of *Capital*— the ethereal body of the commodity, and the labors that are congealed within this form. In so doing, the methodology of dissection is not simply a dismembering, but — and this is the point — a form of totalizing suture. Or, a theory of mediation."[313]

Jordan/a Rosenberg's reading of Marx's metaphor of the microscope is generative, suggesting that an attention to figural resonances across *Capital* can contribute to our grasp of key historical and theoretical problems, including problems that Marx allowed to remain under-theorized in his writings. In this case, Rosenberg shows how the history of original accumulation can be understood in some way to inhabit the commodity form, to follow it in its unfolding and to perennially point it up as contingent, held in place only through state violence. There are some limits, however, that I would see in Rosenberg's interpretation. For one, we have to over-read a bit to find in Marx's metaphor of the microscope an attention to dissection. While it is certainly the case that cells must be extracted from bodies in order to make them available to microscope-mediated vision, this can occur through the scraping off of skin, for example, rather than the full-scale dissection of human remains. Rosenberg's quick passage from the cell to the dissected body anticipates and is recapitulated in their quick passage from the opening to the closing chapters of *Capital*. In both cases, Rosenberg skips over Marx's analysis of what he conceives as relatively abstract midcentury social relations and technical processes, particularly as realized in large-scale industrial production processes that depended upon new forms of scientific research. A fuller treatment of *Capital* would involve an attention to Marx's account of the particular dynamics of bodily injury that follow from the establishment of large-scale industry, with its accelerated, abstract temporalities, its extra-human scales, and its dependency upon specialized knowledge. In Marx's account, violence and injury are not confined to the moment of original accumulation, but also inhabit the relatively abstract times and places at the heart of industrial capitalist relations (which themselves draw upon new forms of scientific research and numerical tabulation — that is, upon microscopes and tables, among other material supports). In the following section, I will show how Marx's engagements with the dynamics of scientific and technical innovation in production processes open onto

another variant of the structural tension between abstraction and concreteness in the history of capitalism.

IV. The Social Brain

In the opening section of this chapter, I showed how questions of injury were central not only to Marx's account of the social effects of industrialization, but also to his prescriptions for working class organization: the "victim of injury" appears as a key face of the reserve army of labor, with which employed workers are enjoined to make common cause. As he makes this prescription, Marx implies that there is a connection between labor processes' injuriousness and their technical and scientific sophistication: he refers to victims of industry as those "whose number increases with the growth of dangerous machinery, of mines, chemical works, etc."[314] In the *Grundrisse*, he likewise makes reference to the role of natural sciences in enabling production processes to be restructured in ways that render workers relatively superfluous to, and endangered in, the making of commodities:

> The full development of capital, therefore, takes place … only when the means of labour has not only taken the economic form of fixed capital, but has also been suspended in its immediate form, and when fixed capital appears as a machine within the production process, opposite labour; and the entire production process appears as not subsumed under the direct skillfulness of the worker, but rather as the technological application of science. [It is,] hence, the tendency of capital to give production a scientific character; direct labour [is] reduced to a mere moment of this process. As with the transformation of value into capital, so does it appear in the further development of capital, that it presupposes a certain given historical development of the productive forces on one side — science too [is] among these productive forces — and, on the other, drives and forces them further onwards.[315]

Marx proposes a dialectic of industry and science for a situation in which scientific and technical knowledge relevant to production processes has been usurped from, and set against, those immediately involved in production: scientific advancement facilitates the automation of production, while also being driven forward by the structural imperatives of exchange and accumulation. Marx's arguments about natural science in this section of the *Grundrisse* serve to highlight the particular forms of alienation workers purportedly experience in automated, machine-driven production processes. Elsewhere, Marx underscores this argument concerning alienation when he asserts that: "The accumulation of knowledge and of skill, of the general productive forces of the social brain, is thus absorbed into capital, as opposed to labour, and hence appears as an attribute of capital."[316] Marx implies here a working class increasingly cut off from, and subordinated to, the *social brain*, as materialized in automated production processes. This alienation vis-a-vis knowledge is, in Marx's account, a crucial dimension of labor processes' becoming abstract: in such conditions, labor purportedly becomes a rote activity, a

mindless supervision of automated and relatively interchangeable processes about which the worker understands little.

And yet, we have seen in previous chapters how the introduction of large-scale, technically sophisticated machinery in the transit sector did not result in workers' being cut off from critical technical knowledge relevant to railway locomotion; rather, this change in production processes compelled workers, when they weren't hired directly from locomotive-making firms, to undertake new practices of education in order to develop the knowledge and capacities necessary to operate these new machines. This was a moment when working class men began to enroll in technical education workshops, including workshops in which they learned the conventions of visual illustration utilized by engineers in representing locomotives and other machinery.[317] We might see here something like a resistance of the concrete, as with the various cases of intransigent concrete phenomena outlined above. But the kind of concreteness at issue here — namely, workers' concrete knowledge of particular production processes, of how to repair machines, and of particular conventions of technical illustration — also drew upon and involved their cultivation of capacities for abstract thought. There are times in the *Grundrisse* when Marx suggests the possibility that participation in the *social brain* need not be such a class-restricted matter,[318] though these moments have tended to be read as anticipations of a potential future, rather than as descriptions of dynamics that were remaking Marx's present, if only to a limited degree. And yet, the historical material discussed in previous chapters would seem to justify a re-reading of the *Grundrisse* with a recognition of the emergence at the midcentury of new capacities for abstraction amongst a relatively broad stratum of working class subjects. Such a reading would incline toward highlighting the persistent tension between "abstract" and "concrete" dimensions of labor processes, rather than presuming that real subsumption entailed an eclipse of concretion and its embodied capacities and knowledges (including forms of relatively abstract thought involved in such capacities and knowledges). It would emphasize the somewhat ironic situation that the resistance to the becoming abstract of labor involved at this moment workers' cultivation of new capacities for abstraction. The forms of abstraction workers were involved in taking on at the midcentury were historically emergent; they followed upon shifts in labor processes and in forms of scientific representation.

In previous chapters, we have seen how the print culture of workers improvement circulated technical illustrations, including of tables and clocks. These images composed a small fraction of a broader economy of technical images, the form of which underwent a consequential change over the nineteenth century. Partly an effect of the late British reception of Gaspard Monge's descriptive geometry,[319] which set out the mathematical basis for a uniquely "flat" form of technical representation, images published in railway manuals, improving periodicals, and medical treatises began toward the midcentury to feature crisp, sectional drawings of machines and bodies. Rather than seeking to represent multiple depths or sides of an object at once, as had previously dominant forms of technical illustration, images structured along lines laid down by Monge's descriptive geometry turned objects into a series of flat surfaces, including "cuttings" that transected objects along a single plane. In such technical representations, three dimensional objects were remade into flat surfaces, akin to tables or to cells viewed under a microscope.[320] This turn toward descriptive geometry did not constitute the *introduction* of abstraction

into representations of bodies and machines, but rather a mutation in the dominant forms of abstraction governing these areas of representation: from abstraction as an imaginative boring into an object or an application of perspectival grids, to abstraction as a lateral cutting through an object.[321] In part, this new approach to technical representation allowed for more quantitatively precise renderings of various dimensions of objects and thus helped enable more exact reproductions of mass-produced machinery. But also, as Louise Purbrick argues, the turn to descriptive geometry served an ideological function, rendering the machines of the second industrial revolution apparently sleek, crisp, and efficient, in this way giving them an air of historical necessity.[322] As this example of technical illustration shows, visual abstraction itself changed over the mid-nineteenth century, its emergent forms following from and feeding into significant economic and intellectual transformations in this period.

This shift in the dominant form of visual abstraction also interacted with transformations in labor processes in ways that helped bring about mutations in workers' perceptual capacities. As we have seen in previous chapters, railway workers and nurses were involved at the midcentury in producing discrete units of information that had to be aggregated in order that a more systemic picture of railway and circulatory systems could be composed. A formally similar operation was required to make sense of the discrete sectional drawings that, when imaginatively combined, formed a composite image of a particular machine. The task of piecing together disparate fields of information to imaginatively produce a composite image of a particular machine or of a complex industrial system resonates in formal terms with the work of looking at stereoscopic images, which, as Jonathan Crary has shown, became a socially general habit in the 1830s and 40s:

> [I]n such images the depth is essentially different from anything in painting or photography. We are given an insistent sense of "in front of" and "in back of" that seems to organize the image as a sequence of receding planes. And in fact the fundamental organization of the stereoscopic image is *planar*. We perceive individual elements as flat, cutout forms arrayed either nearer or further from us. But the experience of space between these objects (planes) is not one of gradual or predictable recession; rather, here is a vertiginous uncertainty about the distance separating forms.[323]
>
> [….]
>
> A crucial feature of these optical devices of the 1830s and 1840s is the undisguised nature of their operational structure and the form of subjection they entail. Even though they produce access to "the real," they make no claim that the real is anything other than a mechanical production. The optical experiences they manufacture are clearly disjunct from the images used in the device. They refer as much to the functional interaction of body and machine as they do to external objects, no matter how "vivid" the quality of the illusion.[324]

For Crary, the stereoscopic image breaks with previous visual forms insofar as it is self-evidently synthetic, or produced through an interaction of the viewer's body and the machine. As real as the image is, it remains unrepresentable, and thus unreproducible. It exists only in the cognitive space opened up through the encounter of body and machine, or of body and discrete planar surfaces.

Crary's account of stereoscopic image-making offers an entry point for a historicization of Marx's *darstellung* that builds upon, while also departing from, Jordan/a Rosenberg's argument for Marx's "dissective" method. Over the course of his late work, Marx approaches the phenomenon of capital from a variety of perspectives, moving through an ever-shifting conceptual complex in order to highlight, in turn, particular aspects of capital. Beginning with the cell-like value form of the commodity, he moves through discussions of money, the dynamics of accumulation, the working day, shifts in labor processes, and population-level dynamics of capitalist societies. A connective thread throughout the text is the dialectic of abstract and concrete, a dialectic — at once a dynamic of transformation and a structural tension — that Marx locates in the cell-form of capitalist relations and that he then finds traces of in the various dimensions of capital toward which he turns. The reader of *Capital* must undertake a synthetic operation similar to those described by Crary, or outlined above in discussions of technical drawing and industrial record-keeping, in order to grasp the multi-sided, historically mobile, phenomenon that is capital. In this way, Marx's mode of representation is of his moment. It reworks conventions of scientific, technical, and aesthetic representation with which members of the midcentury working class were acquainting themselves, redeploying these conventions of representation in offering a systemic critique of the structuring social forms and dynamics of midcentury social life. *Capital* thus can be read alongside Dickens' *Mugby Junction* (1866) and J. Leahcimrac's *John Ingram*, discussed in Chapter Two, which also bear traces of Crary's "planar" vision, albeit in textual form. *Capital* resonates with these literary texts not only formally, but also insofar as it attends centrally to workplace injury and its spectral aftereffects. These texts initially appear to be organized "spatially" — as attempts to represent the different surfaces of complex objects (Mugby Junction, the railway industry, or capital, respectively) — but insofar as they keep finding in these multi-sided phenomena the spectral traces of lost lives, they introduce an irreducible temporal dimension to their inquiries, in this way disrupting the spatialization or abstraction of time characteristic of industrial capitalist technologies and social relations. In the closing section to follow, I will turn finally to the wooden table's association with midcentury British spiritualism, thinking once more about how Marx's engagements with questions of spectrality and temporal disjunction not only constitute central elements of his materialist project, but also enable a reflexive engagement in his work with the unsettledness of the conjunctures through which he lived.

V. Remnants of Past Defeats

The historicizing footnote Marx attaches to his description of a dancing wooden table invites the reader to "recall that China and the tables began to dance when the rest of the world appeared to be standing still – *pour encourager les autres* [in order to encourage the others]."[325] The footnote draws the reader back to 1853, when Marx published an overly-optimistic article about the Taiping Rebellion and when, in the industrial West Yorkshire town of Keighley, a group of former Owenites established a spiritualist circle. By the time *Capital* was published in 1867, the Taiping Rebellion had

been defeated, partly as a result of British intervention in support of the Qing government. The spiritualist movement, on the other hand, had grown dramatically. While in 1867 the spiritualist movement would have appeared successful, at its origin British spiritualism was also shadowed by political defeats. By the early 1850s, Owenism had been marginalized within working class movements, in part because its critical orientation to patriarchal marriage put it at odds with working class leaders' desire, following the 1834 Poor Law amendment, to assert the respectability of working class families.[326] The Keighley spiritualists' early writings evince an effort to reckon with political defeat and with their distance from what had become a central stream of working class politics.

In 1855 the Keighley spiritualists began publishing a penny periodical, the *Yorkshire Spiritual Telegraph*. The periodical's title suggests that the Keighley spiritualists understood their ritual practices to be at home in an emerging, modern world, crisscrossed by telegraph and railway lines. Perhaps they had in mind the similarity between the "rapping" of telegraph signal machines and the table rapping techniques they promoted. The early episodes of the *Telegraph* describe how the group of Keighley spiritualists learned how to converse with a number of spirits, in particular Robbie Burns, through the mediation of a wooden table and writing implements: "We may say, indeed, that we have seen [the spirit of Robbie Burns] manifest an intelligence in moving tables, giving and solving riddles, giving advice, poetry, medical prescriptions, and a variety of other things, not only equal to, but quite superior to that of our most acute and intelligent friends."[327] In the early articles of the *Yorkshire Spiritual Telegraph*, Robbie Burns is generally presented as respectable spirit, who encourages his mediums and, by extension, *Telegraph* readers, to undertake practices characteristic of midcentury forms of moral improvement, such as temperance, the pursuit of useful knowledge, and a reserved form of religiosity.[328] But Burns also manifests an iconoclastic streak, communicating strident challenges to Christian dogma and spinning allegories of class conflict. This oppositional side of the Keighley spirit was more in keeping with the historical figure purportedly communicating, through a rattling wooden table, with this West Yorkshire grouping. Robbie Burns had been a radical Scottish poet, whose late life coincided with the French Revolution. Persecuted for his pro-Jacobin commitments, he also retrospectively might have appeared out of step with the mainstream of midcentury working class politics for his having had multiple, longstanding affairs. The Keighley spiritualists' elevation of Burns' spirit to the status of oracle, more perspicacious than "our most acute and intelligent friends," can be understood at once as an attempt to reclaim a national figure for the Left, and as a challenge to mainstream British working class leaders' acquiescence to the broader reactionary response to the French uprisings of 1848 and to a new, marriage-centered morality.[329] The figure of Robbie Burns offered a way for a group of former Owenites to grapple with recent rightward turns in British working class politics — to both find in the past some inspiration for holding out against this rightward turn and to confront the present with the unrecognized radicalism of an otherwise sanitized national past. Their resuscitation of Robbie Burns was driven by impulses similar to those manifested by Marx in his citation of these wayward Owenites' spiritualist experiments and in his reference to the then-defeated Taiping Rebellion. For Marx in 1867, as for the Keighley spiritualists in 1853, the aim was to unsettle the present and to draw from the past a sense of possible futures. As much as Marx wanted in *Capital* to anatomize an

apparently settled order of social relations, he also sought to demonstrate how this order was haunted, not only by the specter of communism, but also by specters of pauperism, of dead labor, of capital's violent birth, and of provisionally defeated nineteenth-century rebellions. For Marx, capital's present was troubled by its unworked through pasts. The task Marx set for communists of his time was to find ways of articulating temporally non-identical formations — injured former workers and their employed neighbors, or geographically dispersed workers in industries with varying levels of productivity and forms of labor discipline — in forging a proper specter of communism.

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I have attempted in this chapter to provide an at once historicist and figural reading of the dancing table that Marx brings on stage in his opening chapter of *Capital*. Marx's wooden table carries associations that link it to a number of consequential midcentury shifts in historical experience, from the making of a new culture of workers' improvement to the reconfiguration of imperial energy and labor regimes. The rattling table also highlights key interventions and impasses of the three volume critical project that it helps introduce. The table evokes the forms of gendered labor involved in the tenuous reproduction of proletarians exposed to injury and immiseration, while also signaling Marx's difficulty in thinking through the possibility that the process of mechanization might stall out, in part because of the embeddedness of production and distribution circuits within particular natural conditions.

I have thus read Marx's wooden table as a figure that enables a certain amount of critical and historical reflexivity, both for the author and work that originally put this textual figure on display, and for contemporary historians of the nineteenth century. The table is an exemplary figure of and for reflexive writing. As Sara Ahmed notes, to draw a table into a text is to put on display the most directly consequential material support for the writing process itself.[330] We might think here of the wooden table at the British Museum upon which Marx is said to have written *Capital*. While conventional in this respect, Marx's reflexive putting on display of the writing table nevertheless manifests a certain deflection from the immediate materiality of the table — a deflection that tells us something about his critical practice. For one thing, the table Marx brings to view is not present for the writing process itself, but instead is branded, via a footnote, with the year 1853. Even at its moment of composition, the table is thus out of date. Not only is the table itself somewhat anachronistic, but through its allusions to spiritualism and imperial trade relations, not to mention a two-thousand year philosophical lineage, the dancing table also opens up broader questions of temporal contradiction and unevenness, of the tensions of abstraction and concretion, of historical closure and contingency. As Derrida might say, the table indicates that the time from which it emerges is out of joint. This contradictory quality of time, particularly for those caught up in industrial circuits of labor, forms a central preoccupation of Marx's later works, as of *Infrastructures of Injury*. Marx seeks out in such contradictions possibilities for class composition and social transformation, despite the seemingly fixed quality of midcentury class relations, and despite an ever-mounting record of historical defeats. Perhaps a certain spirit of this undertaking speaks to our present, with its own dynamics of fracture and its own specters of the recent past.

Chapter Four

Antagonisms of Gender and Grade in Early Railway Trade Unionism

In the early 1870s, railway workers unionized. Formalized in the June 1872 establishment of a national railway trade union, the "Amalgamated Society of Railway Servants" (ASRS), the push for unionization had been underway since at least the summer of 1871, and followed shortly upon an unsuccessful effort at combination in 1865-7. As James Cronin has shown, the first years of the 1870s were a time of relatively high labor militancy, when workers' participation in a wide range of industrial unions increased significantly. The strike wave of 1871-2 was led by skilled craft unions, but this wave of strikes brought in its wake the organization of workers in "heavy industry, like engineering and metalworking."[331] By the early 1900s, this dynamic would essentially be reversed, as industrial workers would assume a leading role in labor organizing, "with miners, dockers, railwaymen, and textile workers especially prominent."[332] In this way, the strike and unionization wave of the early 1870s formed a significant turning point in British labor history, setting in place some of the conditions for what would become a consequential period of industrial labor struggle over the first decades of the twentieth century.

In what follows, I will outline some of the key episodes of British railway unionism in the 1870s, considering them in relation to previous chapters' discussions of post-1848 gender and grade-based fractures in the railway sector. The portrait I will offer of the early years of railway trade unionism is an ambivalent one. On the one hand, unionization marked a break with family-based practices of improvement and self-help — practices that, as we saw in Chapter One, were conditioned in part by the midcentury legal and institutional dispossession of injured railway workers and their surviving family members. Unionization involved an effort to address, through workers' collective bargaining and agitation, the forms of insecurity that had previously been addressed, however inadequately, through family-based activity. In this way, unionization offered a potentially more effective basis from which to contest the crisis of injury and immiseration in and beyond the railway sector. On the other hand, early railway unionism can be understood to have shifted the locus, though not the logics, of midcentury ameliorative efforts. In particular, early trade unionist attempts to respond to the crisis of injury reiterated the moralization of railway widows and the attendant regulation of their domestic lives that we saw take shape in the early 1850s. And despite women's participation in union activities, from strikes to fundraising appeals, prominent union men explicitly endorsed the exclusion of women from railway work, in this way helping to sediment women's relatively dependent status vis-a-vis husbands, as well as their exposure to immiseration in the event of a husband's workplace injury. As we will see in the third section of this chapter though, women attached through relations of dependency to the railway industry, as well as some railway men, contested in various ways the patriarchal orientation of ASRS organizing. In particular, I will focus on efforts to shift union-managed injury benefits from a relatively inaccessible "orphanage" (to which widows had to apply to send their children), to direct payments to widows whose unionist

husbands had been killed on the job. By the late nineteenth century, railway unions were centrally involved in campaigns for the establishment of state-mediated compensation regimes. Gender antagonisms in the railway sector thus redirected in significant ways the trajectories of rail unionism, even if not to the point of enabling a break with the gender exclusionary politics that, as we saw in Chapter Three, were ascendant even in the left wing of the 1860s working class movement, and that would condition the mainstream British labor movement well into the twentieth century.

In addition to divisions of gender, this chapter will consider the effects of railway unionism on grade-based fractures in the industry. As we have seen, amongst railway workers, the project of improvement was largely limited to higher grade employees, including drivers, firemen, guards, and station masters. As John Foster has argued, this grade-based stratification in the midcentury project of improvement contributed to a relative estrangement between different sectors of workers, forestalling broad-based class politics.[333] We saw in Chapter Two how the association of higher grade railway labor with paternal care interacted with midcentury improving culture's prioritization of domestic relations. This sort of domestic frame was, however, less available for lower-grade laborers stationed in railway yards, whose dangerous work almost never brought them into contact with, or into a position of responsibility toward, railway passengers. The story of early railway trade unionism is largely one of the reproduction of such grade-based stratifications, although, as we will see, certain moments of struggle temporarily ruptured this dynamic of stratification and some more concerted steps helped begin to undermine grade-based divisions. Canonical historical accounts of late nineteenth and early twentieth century railway trade unionism tend to narrate a shift from early, grade-restricted unionism to late, "all-grades" unionism — a shift in the railway sector that is understood to participate in a broader transition in the British labor movement from *craft* to *industrial* unionism.[334] To a large extent, this chapter will chime with such canonical accounts, demonstrating how the domestic frame of railway labor persisted in early trade unionist discourse, and how the use of this frame was one of the ways that early unionists reiterated grade-based divisions in the industry. But I will also attempt to show that early unionism exhibited an aspiration toward inter-grade solidarities that could, in certain moments of struggle, give rise to coordinated action not only across railway grades but also with unemployed populations and workers in other industries. In this way, I will be seeking out the germs of what would become the "all grades" movement of 1906-7 and of the mass pickets of rail lines during the strike wave of 1911-12. Before turning to more detailed considerations of the gender and grade dynamics of early railway trade unionism, however, I will try to account historically for the successful unionization drive of 1871-2. The establishment of the ASRS was an effect of intertwined political, economic, and cultural dynamics, which not only gave rail unionists hitherto unprecedented room to maneuver in the first years of the 1870s but also allowed them to build a certain degree of support for their efforts amongst select MPs and a broader mass public. If unionists inhabited a context more amenable to organizing than in 1865-7, they and their fellow workers also were spurred by the losses they suffered during the early stages of what would become the most severe period of workplace injury in the history of the British railways. The confluence of these at once devastating and enabling dynamics formed the conditions for a historically consequential transformation of nineteenth-century rail workers' practice.

I. The Conjuncture

In beginning, we can return to Marx's case of the three prosecuted railway workers. The case, held in 1865/6, provides anecdotal evidence for intensifying overwork and speedup in the industry through the 1860s. The rail workers "declare with one voice before the jury that ten or twelve years before their labour lasted only 8 hours a day. During the last five or six years, they say, it has been screwed up to 14, 18, and 20 hours, and when the pressure of holiday travellers is especially severe, when excursion trains are put on, their labour often lasts for 40 or 50 hours without a break."[335] Here, the issue is overwork (or, in technical Marxian terms, the extraction of *absolute* surplus value). Rail management "screwed up" the average hours of labor for railway employees, purportedly from 8 to 18 hours a day. And insofar as such an increase in hours was not compensated with adequate overtime payments, management received more labor power per unit of wage than they had previously. Charles Bassett-Vincent, an early rail unionist, recounts a fireman's joke at the inadequacy of overtime payments in the early 1860s:

> I was going along the 'Salt Sidings' when I came to an engine in steam. Lying on the foot-plate was the fireman fast asleep. On the side of him near the firebox, the snow was melting, the other side of his body was covered with a snowy shroud. I awoke him. The driver was in the yardman's cabin. I asked him where he had come from and to where he was going? His mate and he had come from Paddington and were going to Pontypool. 'How long have you been coming from London,' I enquired. 'Seventeen hours,' he replied. 'How long to Pontypool.' 'Five hours more if we've luck.' 'You get paid for overtime, of course' I remarked. Fagged out as the poor fellow was and bitter as was the weather, yet he had a touch of humour. 'Oh!' said he, 'we get any amount of overtime but the Devil-a-bit do we get any pay for it.'[336]

The absence of payments for overtime became a central point of contention in rail workers' organizing from 1865 to '67. While protean efforts toward grade-specific unionization were quashed during this period — a result of collusion between owners to fire and blacklist organizers — the few strikes that did take place (of porters on the Great Eastern, engine drivers on the North Eastern, and engine drivers on the L.B.&S.C.) convinced rail managers, at least those less pressed in terms of profit rates, to agree to new norms for ten hour working days and to regular arrangements for overtime pay.[337] While not an industry-wide victory for rail workers, the agitation of the mid-60s — part of a broader renewal of the British labor movement — did impose some constraints on rail management's capacity to "screw up" the duration of the working day. There is evidence that management responded to this restriction over the late '60s and early '70s by attempting to run trains more frequently on the lines, thereby intensifying the exploitation of labor (or, in Marxian terms, extracting *relative* surplus value).[338]

Considered in aggregate terms, the period from 1856 to 1889 was defined by a dramatic increase in the ratio of train trips to the length of the rail system, a rough measure for the concentration of trains on the lines. Over this time, as Jack Simmons notes, the number of journeys multiplied by 6; tonnage of freight by 4.5; number of miles

travelled by passengers by 4.75; length of the railway system, however, by only 2.5.[339] Accident reports from the period of 1867 through 1876 suggest that the increasing concentration of trains on the line in this period exacerbated a number of starkly injurious dynamics in the industry, making for what appears to have been the most dangerous period in the history of the British railways. Simmons notes that, during this time, the state introduced an additional inspector to handle the high rate of accidents, which reached its peak in 1873.[340] Such statistics are potentially unreliable, especially insofar as labor agitation spurred the state in 1871 to mandate inspections not only of accidents affecting passengers but also of those that solely affected rail workers, which makes for an incommensurability between reports conducted before versus after this moment. Nevertheless, as the studies by H. Raynar Wilson and P.W. Kingsford show, the period immediately preceding this decision was marked by a dramatic increase in recorded accidents as well,[341] suggesting that the shift in officially registered accident rates is not, above all, a function of shifts in the parameters of record keeping. Wilson's study also offers support for the notion that the increasing concentration of trains — coupled with the persistence of relatively rudimentary brake technology and the slow adoption of the safer "block system" of signaling (which required specific spatially- rather than temporally-defined distances between trains)[342] — drove this spike in accidents. Between 1871 and 1890, the large plurality of accidents (921 of 2,473) occurred because of "collisions within fixed signals at stations or sidings." Especially prominent were accidents involving rear-end collisions. Recorded causes of such accidents included problems with brake power, problems with securing intervals between trains or signaling, defective arrangement of signals or points, excessive speed, and negligence.[343] Anecdotal evidence from the early 1870s helps explain as well how more concentrated and frequent train trips, in addition to making for higher rates of collisions on the lines, also created injurious conditions in railway sheds and yards. In its 11 January, 1873 issue, the *Railway Service Gazette* insists that accidents follow from the fact that "there is not a sufficient staff of men employed in the goods department to perform the work in the time specified by the company."[344] Along similar lines, the *Gazette*'s 3 February, 1872 report on an inquest held in the aftermath of an engine-fitter's accidental death argues for speedup as a key determinant of the spike in workplace injuries:

> The inquest that was held at the end of last week on the body of Rooks, the unfortunate engine-fitter who was crushed to death between two engines at Camden, gave occasion for certain remarks on the part of Dr. Lankester, the coroner, that just now apply with peculiar force to the disturbed state of the relations between railway servants and the various companies. First, as to the enormous waste of human life in the particular district over which the gentleman in question officially presides. It was stated by him that thirty railway servants were killed on the London and North Western line every year, and he not unnaturally wished to be informed if such wholesale slaughter was altogether unavoidable. The answer to this was that so many engines entered the shed in the course of the day that the men employed therein 'became careless.' It is questionable, however, if this is a perfectly impartial statement. May it not be that 'so many engines entering the shed,' all to be attended by a not over abundant number of hands, is the cause of an amount of desperate haste that may well pass as 'recklessness'?[345]

This concluding rhetorical question offers a succinct account of the dynamics of speedup in the railway industry, demonstrating how speedup was entwined with workers' exposure to injury in the early 1870s. The report quoted here was published at the same time as the ASRS was being formed and only months before a major strike of railway porters employed by the London and North Western company, which I will discuss in the following section. Before turning to the relationship between speedup in the early 1870s and the formation of the ASRS, however, it is worth taking a step back in order to consider wider socio-economic and political dynamics in and beyond the railway industry that also significantly shaped the terrain occupied by early railway unionists.

In the first years of the 1870s, rail managers realized record profits. The peak year was 1872, when their net return on capital reached 4.74 percent.[346] While partly an effect of the speedup they imposed on workers in the late 1860s and early 1870s, these profits were determined as well by larger economy-wide dynamics. As R.J. Irving notes, a broader economic expansion at this moment led to increased business for the railway industry:

> The boom of the early 1870s saw a sharp rise in receipts per train mile from both freight and passenger traffic. In both cases this reflected improved loading as business increased faster than train mileage. In the case of freight traffic it also reflected significant increases in charges imposed at the height of the inflation. After the boom ended [in 1873], however, a general fall in receipts per train mile took place. In the case of the passenger traffic the decline was rapid and was due partly to a great increase in third class business which changed the structure of the traffic and pushed receipts per train mile downwards.[347]

In his foundational study of early railway labor organizing, Philip Bagwell argues that the pre-1873 boom was a key enabling context for railway unionism. The record profits realized by rail mangers in this period made them more inclined to concede to workers' wage demands, while high profits also appear to have rendered managers of various firms less committed to coordinated repression, which had enabled them to block unionization drives in 1865-7. In 1871-2, by contrast, rail managers agreed to settle disputes with workers on a company-by-company basis.[348] Rail managers' relative willingness to engage in collective bargaining with their employees in the early 1870s can also be understood as an effect of a broader breakthrough in British class politics, signaled by the 1867 Reform Act and the Royal Commission that was initiated in the same year.[349] If the Royal Commission set in motion a process that resulted in the sanctioning of unions and thus partially enfranchised workers in the sphere of industrial relations, the Reform Act offered political enfranchisement, giving certain strata of working class men — including some higher grade railway workers — the right to vote.[350]

As Bagwell argues, this political enfranchisement enabled railway workers to secure a more sympathetic hearing from a small fraction of MPs. He notes that the formation of the ASRS was supported by four MPs, whereas no MPs had supported the failed unionization efforts of 1865-7.[351] Of particular significance in this respect was the support offered by Mr. M.T. Bass, who helped fund an early unionist, Charles Bassett-Vincent, to perform an independent inquiry concerning railway accidents and workers' injury. Bass' backing enabled Bassett-Vincent to meet with rail workers around England and to help build networks critical to the formation of the national ASRS.[352] Bass also

helped fund the establishment of the weekly *Railway Service Gazette* (RSG), which would become the union's official newsletter (though initially was primarily a vehicle for Bassett-Vincent's sectarian disputes with London-based railway unionists, some of whom, in response, took to publishing in *The Beehive*[353]). While Bassett-Vincent contributed to the forging of bonds between dispersed railway workers — a connective activity partially enabled by his previous work mediating relations between railway firms as a clerk at the Railway Clearing House — he was ultimately prevented from ascending to a position of leadership at the founding of the ASRS. Leadership of the union was taken instead, on the one hand, by a group of London-based organizers that had founded a provisional railway workers' association in the winter of 1872 and that remained the hegemonic force on the union's executive council through the 1870s; and, on the other hand, by a well organized grouping of Manchester railway workers, whose proposed bylaws ultimately became the basis for those of the national ASRS.[354] The story of early railway trade unionism is partly a story of tension and negotiation between northern and southern unionists, who brought different organizing contexts and priorities to their work building the ASRS. We can compare, for example, the stated aims of the London-based provisional rail union with those of the nationally unified ASRS. Whereas the former included positive language about the "prevention of strikes" and an aspiration to establish an "emigration fund" to support fired employees interested in settling in the Americas, the latter eschewed such language, opting for a simple opening that called for the "improvement of the general condition of all classes of railway employees," followed by references to locally-administered funds for injured, fired, or retired workers.[355] As we will see in the next section, after the defeat of the Broad Street porters' strike in August 1872, which resulted in more than one hundred strikers being fired, the executive council unilaterally established an emigration fund and began paying fired strikers a few pounds apiece to defray the costs of their overseas journeys. Shortly thereafter, Manchester unionists argued for the fund's termination and challenged the legitimacy of the executive council's unilateral action in disbursing payments.[356] The regional dynamics that defined this skirmish over the emigration fund would be repeated a few years later in relation to the union-supported orphanage for children of railway workers killed on the job, the history of which will be considered in section three below.

II. The Strike at Broad Street Station

The first years of the 1870s thus were characterized both by significant political and economic openings for workers, and by a wave of acute, speedup-induced workplace injuries. If the latter gave an urgency to collective organizing at and beyond railway yards, the former enabled such organizing to result in meaningful concessions from managers. Groups of workers from Liverpool to Brighton brought memorials to supervisors that "prayed," as they put it, for wage increases, for further limits on the length of the working day, and for shifts in policies pertaining to benefit funds.[357] Many of the prayers contained in such memorials were granted, ensuring relative labor peace along key rail corridors and setting in motion a significant, industry-wide increase in railway workers' wages over the 1870s. One of these memorials was brought in 1872 by

London-based porters employed by the London and North Western line. While their petition for wage increases was granted by the directors of the L&NW, a particularly hostile supervisor, Mr. Greenish, refused to disburse bonuses except to workers he perceived as especially loyal. Around the same time, Greenish fired a number of employees suspected of involvement in union organizing (including those attempting to coordinate an independent benefit fund), an act that echoed an earlier mass firing of those involved in bringing a wage-oriented memorial.[358] In response, London porters brought a memorial calling for the reinstatement of fired workers and for the removal of Greenish. When L&NW managers refused to consider the latter demand, and when Greenish opted to punish Broad Street porters by withholding their wages, workers engaged in a spontaneous strike, calling out to each other the slogan: "No pay, no work!"[359]

The unauthorized strike that was thus initiated on Friday 26 July set in motion a series of confrontations, both internal to the ASRS as well as between workers and representatives of state and company. The first such confrontation, between workers and a line of police, occurred on the afternoon of the 26th. As word of the strike spread from one goods depot to the next, servants from various stations gathered at Broad Street, and then marched northwest through Islington and onto the Chalk Farm goods depot, the gates of which,

> were found closed and a line of policemen drawn across. Speeches were delivered from the top of a cab…. After the speeches the men and their wives, in groups, discussed their grievances. They entertained no doubt whatever that they would ultimately be joined by the men at all the depots, that railway employes throughout the kingdom would support them, and that the directors will soon come to terms. The women here and there, it is true, talked about the dearness of provisions, but the men were perfectly sanguine and light-hearted as to the result.[360]

In addition to providing a sense of the gender diversity of the crowd at Chalk Farm, this passage conveys the enthusiasm the Broad Street strike provoked amongst workers stationed along the London portion of the L&NW line. In part, the enthusiasm of Friday 26 July, which the report quoted above depicts as having varied somewhat along lines of gender, was an effect of workers' optimistic view that sympathy strikes at other stations would shortly follow. As it happened, workers at only one other station — Poplar — joined the strike in solidarity with Broad Street porters, despite promises of sympathy from porters stationed at Camden Town station, and from workers in other sectors.[361] Had such solidarity been forthcoming, business in London would have nearly been ground to a halt, as the Broad Street strike occurred at the same time as a major strike of builders and other skilled craft unions in the city.[362]

While the railway strike's restriction to porters at only two stations ultimately sealed its fate, this relatively limited strike action nevertheless imposed significant costs on L&NW management. As the *Railway Service Gazette* noted, the company "lost some thousands of pounds, owing to goods of a perishable nature being thrown on their hands, because they could not deliver the same promptly. Tons of dead meat and fish had to be carted away to Willesden… and there buried."[363] In addition, while the company ultimately was able successfully to draw strike breakers from other cities, an early attempt at hiring workers in London to cross the picket lines apparently backfired on managers:

> The company have ceased to display the bills saying that 2,000 men were wanted; but why? Not because they have got men to do the work of those who are on strike, but to stop the prodigious influx of ruffians of every description bent on plunder. As soon as the notices referred to had been well displayed, gangs of roughs of all kinds presented themselves at the gates of the Broad-street goods station; and many of them were admitted. Some of these, correspondents inform us, were ticket-of-leave men, and it is alleged that a detective caught several men amongst them, on Tuesday, whom he had been seeking for some time. These persons did not, of course, go there with a view of getting honest work, and so events proved. Everything was turned upside down on the 'bank'; labels were torn off packages, hampers, bales, and goods of every description; so that the Company, not knowing to whom they were consigned, could not deliver them; the gas was turned off and the lights put out; a large amount of damage was done to all kinds of costly goods, and many articles were actually, it is alleged, stolen from the premises. The daily papers on Monday contained statements to the effect that old hands had played this havoc; but such reports were utterly untrue. The men on strike are far too manly and too sensible to do such things as these. They left their work peaceably and quietly when they did leave it, and since then they have never attempted either to intimidate those men who still continue at work, or to injure the property of their employers in any way.[364]

This passage offers a touchstone for considerations of grade-based divisions within early railway unionism and of potentials for the subversion of such divisions. While the story of sabotage here seems to pose a stark polarity between the "sensible" strikers who "left their work peaceably" and the "ruffians of every description bent on plunder," it is hard not to pick up on tongue-in-cheek or smug tones, especially in the opening lines about the company's comeuppance. The passage dwells on the details of packages' destruction and twice notes the frustration of the company, registering implicitly a pleasure in this effective act of sabotage. The passage thus seems to cut in two directions, at once insisting that respectable strikers have nothing to do with "ruffians… bent on plunder," while also undermining the force of this assertion with something of a wink to the reader. We are left wondering whether perhaps a handful of these unexpected saboteurs might not in fact have been striking workers, or at least might not have been acting in coordination with those on strike. Considered in relation to the question of grade- or employment status-based divisions, this passage suggests an association *in practice* between unionists and unemployed, so-called dangerous or rough fractions of the working classes, while also indicating the incapacity of unionists to directly avow this association, with its particular pleasures and political openings. Or, perhaps it would be better to read the passage the other way around, as indicating that certain tactics — in this case sabotage — cannot but be associated with roughness or criminality, and that the discourse of unionism is constituted at once by a dissociation from such tactics and by a naturalization of this dissociation through reference to the working class stereotypes of *the rough* and *the respectable*. That is, roughness is ascribed to bodies insofar as they participate in certain tactics, not based on a static evaluation of class position. From this perspective, it would be more or less irrelevant whether or not some of the saboteurs were ASRS members: in either case, their acts would have dissociated them from the unionist

ideal. Ultimately, I think that rather than choosing either this discursive reading or the previous reading that presumes some match between assignation and empirical class position, we can realize a more satisfactory account of how grade-based divisions are reproduced by keeping both of these readings in play. In this way, grade-based distinctions can be understood to follow from a complex of institutional sorting mechanisms (i.e. employment patterns, population-level state interventions) and discursive operations, which generally serve to fix the boundaries of institutions and their associated range of activities by conscripting individuals into particular subject positions (i.e. the position of the unionist who properly dissociates himself from "rough" saboteurs). Such a two-sided reading will also be useful in making sense of unionists' representations of women's participation in strike actions. Before considering the reproduction of gender divisions in representations of the L&NW strike though, it is worth staying with the troubles identified in the above-quoted passage on the sabotage of the Broad Street depot. While, as we have seen, this account put on display the ambivalence or partial breakdown of the proper unionist stance, pointing up the desire for sabotage and for cross-grade coordination hovering at the edges of this stance (especially at a moment of collective action); later references in the *Railway Service Gazette* to the Broad Street strike suggest an effort to discipline, and even expunge from history, such wayward affiliations and desires. In his postmortem on the strike, the ASRS President, Dr. Baxter Langley, denied that the looting of the station had ever taken place.[365] Langley also outlined a new policy on strikes, which barred local chapters from taking collective action unilaterally, and insisted that the Broad Street strike had been discredited largely because of "intemperate expressions [that], we are sorry to say, escaped some of the speakers at public meetings."[366] In this way, Langley attempted to relocate the strike's offense, from acts of sabotage to intemperate speech. Langley's intervention not only set in place a more restrictive union policy on strikes, but also reorganized the discursive landscape of unionism, supplanting the opposition of sabotage and respectable striking with the opposition of temperate and intemperate speech. Such a substitution can be read as an effort to hide from view the sorts of wayward association realized in the strike, but also as an attempt to shift his readers' focus away from the matter of strikes entirely by suggesting that interventions at the level of speech were the more proper arena of unionist action. In this way, his discursive reconstruction of unionist politics dovetails with his explicit regulation of strike action.[367]

Just as Langley's postmortem wrote out of the story of the strike the forms of implicit alliance realized between those of different grade and employment status, including unemployed populations, unionists generally discounted the involvement of women in strike actions. As we will see in the subsequent section, unionists tended to treat women who were attached to the railway industry as outside the circle of the ASRS, at least with respect to decision making and collective action. While women could, at times, appear as recipients of union benefits or as people on whose behalf the union acted, they generally did not appear in ASRS documents as agents or participants in the work of building the union and of challenging the prerogatives of state and company. And prominent unionists explicitly argued against the employment of women in the industry.[368] We might say though, that the above quoted description of women's involvement in the Broad Street strike serves as an exception to this general assertion of unionists' conception of the essentially masculine quality of ASRS action. The story of

the mass rally on the first day of the strike noted that: "After the speeches the men and their wives, in groups, discussed their grievances." Women's participation in the demonstration is treated here as unremarkable, and the grievances spurring the strike are depicted as shared by women and their husbands. If in this passage women's involvement in the strike is recognized, a few lines later they are subtly distanced from the strike: "The women here and there, it is true, talked about the dearness of provisions, but the men were perfectly sanguine and light-hearted as to the result." In reading this line, we can put to work a two-sided lens similar to that used in reading the tale of the Broad Street looting. On the one hand, we might see in this passage evidence that women, given their role as managers of domestic reproduction, were more attuned to the crisis of reproduction posed by the strike. In this way, the passage registers the division of reproductive and productive circuits, the impingement of the former on collective actions taken in the latter, and the gendering of this division via norms of working class family life. But then, on the other hand, we might read the passage as discursively producing gender difference through a process of disavowal and projection, wherein figures of women are made to speak the anxieties or hardships experienced by all those involved in the strike. In this way, a notion of gender difference is mobilized to sift and organize the contradictory affects entailed in collective action, with the expression of anxiety appearing as essentially feminine, and sanguinity as masculine. In light of this reading, we could say that the passage subtly distances women from the idealized, heroic agent of class struggle (the "happy warrior"), while producing this agent as masculine. Women appear as agents prone to introducing a sense of doubt or concern into what otherwise would be a lighthearted or sanguine engagement in strike actions. There is another valence here as well though, as men's purported sanguinity might also appear, especially in light of subsequent events, as a kind of naiveté or foolishness. Either way, this passage allows for the repositioning of discussions of the strike onto the terrain of gendered affect and its proper regulation — a discursive repositioning similar in some respects to the turn Langley introduces in focusing his concern on "intemperate speech."

Aside from resulting in the sorts of discursive and policy-level shifts evidenced in Langley's postmortem, the defeat of the strike also brought with it significant transformations in the everyday experience of those who had struck, especially for the hundred or so whom the L&NW refused to rehire. The acute crisis of reproduction introduced into the lives of former strikers as a result of this effective blacklisting, coupled with the popular concern for fired strikers, spurred the London-based executive council of the union to disburse funds for former workers' emigration to North America. A few months after the strike, in early October, supporters of the "emigration movement" organized a large demonstration in Hyde Park, suggesting the breadth of popular support in London for this sort of union-supported resettlement.[369] In the *Railway Service Gazette*, the emigration fund was promoted as well with arguments drawn from the discourse of political economy: "the object of [the emigration fund] is to improve the condition and raise the wages of the servants by removing railway men from this to other countries, and so causing the demand for labour to exceed the supply."[370] As mentioned above, this turn toward the politics of settlement was met with hostility by Manchester unionists, who raised a challenge to the executive council for their having unilaterally shared union funds with those interested in moving abroad.[371] Ultimately, the unilateral use of union resources for the emigration fund was found unlawful by the barrister

retained by the union to resolve this question.[372] And, while the emigration fund would later be re-established on a stable footing, much more prominent, in terms of relative share of the ASRS budget, would be a simple unemployment benefit — a benefit especially championed by Manchester unionists. In this way, the politics of settlement would remain a relatively minor strain within broader unionist efforts to address crises of unemployment, injury, and immiseration in railway communities. Another dimension of such efforts, to which we will turn in the section that follows, involved unionists' attempts to provide for the children of fatally injured workers.

III. The Care of the Orphan

As outlined above, the 1870s were defined by frequent and devastating railway accidents, which especially affected workers employed in the transportation of goods. The period was bookended by two of the worst train accidents in British history, both of which involved the deaths of dozens of passengers and employees. On 20 August, 1868, an Irish Mail train collided with a train carrying barrels of oil near the town of Abergele. The oil caught fire and consumed multiple carriages of the Irish Mail, resulting in the deaths of thirty three people.[373] Eleven years later, on 28 December, 1879, a train bound for Edinburgh fell from the Tay Bridge after a section of the bridge collapsed from heavy winds. Nearly seventy five people were killed as the train fell into the firth of Tay.[374] These two devastating railway disasters, along with their frequent, less severe counterparts, drew mass public attention over the late 1860s and 1870s to the crisis of rail accidents. As Roger Cooter has shown, by the late 1870s railway accidents and injuries had become matters of public concern and of mass mobilization, with the emergence of the first aid and ambulance movements.[375] As had been the case in the 1850s, such public attention focused primarily on the risks and losses faced by passengers, though the broader context of labor's enfranchisement over this period opened some room for mass appeals and campaigns relating to workers' exposure to injury on the rails. ASRS organizers, for example, were able to accomplish a number of charitable projects and legislative reforms over the 1870s and early 1880s, all of which relied to varying degrees on support from outside of the industry and of the working class. In this section, I will attend to three of these projects and reforms, all of which involved attempts at ameliorating the crisis of reproduction faced by the surviving family members of fatally injured workers. The three projects to be considered — the orphanage, the orphan fund, and compensation reform — were each in their own ways shadowed by failure. Especially when considered from the perspective of women whose husbands had been killed at work on the railways, these efforts appear remarkably unsatisfactory. The orphanage and orphan fund in particular tended to reify women's exclusion from the circle of railway unionism, to condition support upon their being mothers of young children, and to subject railway widows to moralizing scrutiny and to the reconstruction of their family relations.

The absence of more reliable union funds to support women whose husbands had been killed on the job was an effect of early unionists' active de-prioritization of such efforts. In the founding delegates meeting of the ASRS, unionists opted to establish a

superannuation fund for members, but decided not to establish a fund that would involve payments to widows. Some evidence for local branch participants' interest in the latter appears indirectly at the delegates meeting though, especially in the discussions that followed a resolution introduced by the Newcastle delegate, Mr. Huntingdon — "a resolution to the effect, that the Society recognise the principle of giving death benefits to all classes of its members." The delegate from South Wales seconded the motion, adding that, "He should be very glad to see the Society also provide for the widows and orphans of the men who were killed in the railway service." The motion was then ruled out of order by the Chairman, as the meeting had already decided against the establishment of such funds. (This ruling involved the Chair overlooking the distinction between *establishing* a fund and *affirming the principle* that the Society intended to do so). In conceding the point, Mr. Huntingdon noted that, "In bringing the matter forward, he had only done his duty to the branch he represented," suggesting the existence of support for these funds amongst those involved in the union at Newcastle.[376] Despite such rank and file support (evidenced as well in similar offhand comments by other delegates at the meeting[377]), men at the delegates meeting consented to the formation of a union that maintained no mechanisms for acting in concert with, or in support of, women in their districts.

The conspicuous absence of a foundational union commitment to address the crisis of rail widows' immiseration formed the negative background for the establishment of an orphanage in 1874, and then a few years later for the creation of an orphan fund and for the waging of a legislative campaign to win the right of compensation for fatally injured workers' surviving family members. On the one hand, this foundational disregard was carried forward through the 1870s, insofar as the question of direct support for widows never became an urgent priority for unionists, despite momentary irruptions of this question (as in the delegate from South Wales' musings in 1872). The question of support for widows was generally deflected into considerations of support for orphans — a terrain upon which unionists nevertheless determined how the Society would relate to women attached through relations of dependency to the railway industry. On the other hand though, the persistence and bitterness of debates about support for orphans over the 1870s, as well as the union's decision to lobby for a parliamentary bill on compensation in 1880, reveal, in part, the force of pressure applied by women in the districts — pressure that is evidenced in trace form across much of the ASRS archival material.[378]

In tracking the ASRS's fraught efforts at addressing the crisis of reproduction faced by surviving family members of fatally injured workers, we can begin with the ASRS-founded Railway Servants' Orphanage, which opened during 1874 in the city of Derby. While today we might tend to define an orphanage as a place where children without parents or other legal guardians are housed, in Victorian Britain orphanages were not infrequently homes for children whose fathers had died but whose mothers had not.[379] The Railway Servants' Orphanage housed both parentless children and those whose mothers were still alive. Thus, until the ASRS Orphan Fund was established in 1880, railway widows could only receive something like support from the union insofar as they were caring for young children and successfully applied to have one or more of their children admitted to the orphanage in Derby — an unreliable and in many ways unsatisfying prospect.

Like the ASRS itself, the Orphanage received much of its initial impetus from the efforts of Charles Bassett-Vincent, who subsequently came to be marginalized in relation to the operation of the institution. In his memoir, Bassett-Vincent passes over in relative silence his efforts to establish and maintain the Orphanage, noting simply that:

> It was at the above meeting I had the opportunity of formulating the scheme I had long in view – the establishing of an Orphanage, and it met with approval. But I wish to observe that the description of the building up of it is of such historic interest during the first six years of its growth as to form the subject of a special book, a book that I, would like to have published under the auspices of the 'Amalgamated' and a portion of the profits from the sale of the work devoted to the Orphan Fund.[380]

Aside from this passing reference to an unrealized desire, the only stories about the formation of the Orphanage that are included in Bassett-Vincent's *Authentic History* were supplied in an appendage to the 1963 version, which was composed by his granddaughter, Mrs. C.E.S. Hallam. There, she recalled that her mother helped care for the first five children admitted to the orphanage, and that, when the original building was being redecorated for a different purpose years later, "scribble was still there under the layers of old wallpaper which were being stripped off, reminiscent of the Orphans who were cared for there."[381]

Sharp debates over the Railway Servants' Orphanage erupted amongst ASRS members only a few years after the formation of the Derby orphanage. A significant question in such debates concerned the role of the union in the institution's founding. While the impetus for the orphanage had been provided by those, such as Charles Bassett-Vincent, who were directly or indirectly involved in the ASRS, from its earliest moment the orphanage relied as well upon charitable support and coordination from beyond the union's ranks.[382] The coordinating committee, based in Derby, was composed of representatives of the union and of independent philanthropists, and donations for the orphanage were collected both at and beyond local union halls. Despite this breadth of support, at the moment of its founding unionists understood the establishment of the orphanage to constitute an act of *self-help*. From the 1874 ASRS annual report:

> The members became active canvassers, and by the end of the year the establishment of an Orphanage for the destitute little ones of killed railway servants was an accomplished fact. Rarely has any charitable effort been so signally successful, and whoever may hereafter control what is hoped will be a national institution, the credit of having originated the Orphanage, and placing it in a fair way towards successful completion, will remain with the Society, and will be a lasting testimony to that principle of self-help which forms the very basis of our union.[383]

By the last years of the 1870s, this notion of self-help (familiar from discussions of 1850s-era improvement schemes) would be mobilized by those challenging the adequacy of the orphanage, who argued that non-unionists had seized too much control over the institution, including in determining which applicants would be accepted for admission. By the late 1870s, non-unionists on the board in Derby had even begun to argue that the ASRS had not been involved in the orphanage's founding.[384] In this moment of contestation for control of the orphanage (and of its origin story), unionists tended to present the institution as having suffered a fall from its original ideals. The 1880 ASRS

General Secretary's report polarizes the newly established Orphan Fund against the orphanage on the grounds that the former was based on the principle of self-help, while the latter had come to rely merely on charity:

> There is ample scope for both institutions. The difference between them is that ours leans on self-help for its main support, Derby on charity. Ours diffuses the help in the children's home, helping each one alike; Derby bestows all its help on one child, separating it from the family. The help from our fund reaches every family of orphans of members who subscribe; that of Derby reaches only one of the family elected by favor. Derby has spent two-thirds or 67% of its income in building and in management, and but one-third on the orphans; our Fund will not entail a charge of 5% of its income in management, leaving 95 percent for the orphans.[385]

The 1880 General Secretary's report can be read as echoing existing criticisms of the orphanage, including those presumably voiced by women faced with the prospect of separating from one or more of their children while receiving no support for themselves or for the care of children remaining at home. While the 1880 report draws as well upon unionist criticisms of corrupt practices in managing the orphanage and in electing orphans for admission at Derby,[386] it presses beyond these criticisms, suggesting that the inadequacies of the orphanage were a feature rather than a bug — that these inadequacies followed from the model of support embodied in the orphanage more than from the purportedly undemocratic or corrupt processes by which such support was brought into being. In a rare articulation of the class and gender discourses underwriting the orphanage as a model of support, Fred Evans, arguing for the Orphan Fund, noted that:

> I know it is sometimes urged that mothers are careless of their children, and that if they were given the money it would be improperly applied. This, I believe, would be the exception. In the majority of cases the mother's love for her children would be a guarantee of a careful use of the money for their benefit. Such an argument as I have mentioned is a reflection on the women who are to-day the wives of railwaymen.[387]

As this passage makes clear, debates in the ASRS about the proper care of orphans turned in part upon competing conceptions of working class motherhood. While Evans' position certainly involved a more "positive" view of working class women as mothers than those who would advocate that, for their own benefit, children be removed from their families of origin, his position nevertheless presumed a paternalistic relation to railway widows. This paternalistic relation would be codified in the bylaws of the ASRS Orphan Fund, which finally was established in 1880.

In the years immediately preceding the establishment of the orphan fund, some men in the union advocated as well for direct support of railway widows, regardless of whether or not they were caring for young children, suggesting a moment of flux in gender relations along the railways. In the 5 September, 1879 edition of the *Railway Service Gazette*, Mr. Cordwell, the Manchester branch representative, argued for the establishment of a "Railway Servants' Widows' and Orphans' Fund," which would help ensure that "our widows and our orphans [were] blessed and cared for."[388] Then, in the delegates meeting at which the orphan fund was established, those representing the Spa Road and Cambridge branches proposed: "That the benefits of the Fund be extended to widows, and be termed a 'Widow and Orphan Fund'." The Cambridge representative

then proposed that, "For the present scale of benefits substitute 'One shilling per week for each child under 14 years of age,' and insert 'Each widow shall received from the fund the sum of five shillings per week.'"[389] Like the proposal made by Mr. Huntingdon at the 1872 founding delegates meeting though, these proposals would fail, as the union ultimately established a fund for orphans but refused any guarantees of support for women without young children. This bar would be given force in the 1881 Resolution #1572, which stated: "That the word 'family' used in the Orphan Fund Rules shall mean one or more children."[390] In addition to clarifying the bar on payments to women without children, the bylaws associated with the orphan fund made explicit the paternalistic and invasive stance of the union toward women receiving funds for the care of their children.

> Rule XX.7: It shall be the duty of the secretary, or other officer appointed by the branch, to ascertain the condition of the orphans aided from the fund, and from time to time to report to the branch or to the Executive Committee as to their cleanliness, clothing, schooling, and general treatment. Should it be found that from any cause the orphans are neglected and the moneys not applied to their benefit by their guardian, the Executive Committee reserves to itself the right to withhold the moneys from the guardian, and to authorize the branch offers to expend the allowances in food and clothing for the children….
>
> 9: Should the mother of any orphan or family of orphans remarry, the children shall cease to be entitled to the benefit. Should the mother of a family receiving the benefit of the fund be guilty of immorality, the Executive Committee shall have power, on the representation of the branch, to withhold payment of the benefit while the children remain with the mother, or to apply it for the benefit of the children if separated from the mother. Should a mother of children on the fund desert them, the provisions of this clause and of Clause 8 shall apply to such children.[391]

These bylaws suggest that unionists understood the ASRS to be something of a surrogate father for children of fatally injured co-unionists — an institutional body toward whom railway widows were expected to remain faithful, lest they lose access to the surrogate wage of orphan fund payments. The reference to widows "guilty of immorality" in bylaw XX.9 demonstrates as well the degree to which the midcentury moralization of railway widows was carried forward into early unionist projects, while bylaw XX.7 shows the transactional quality of the orphan fund vis-a-vis women's reproductive labor. Unionists evidently saw themselves as paying widows to maintain their children's "cleanliness, clothing, schooling, and general treatment." Interestingly, it is here, in union benefit fund bylaws, that Leopoldina Fortunati's abstract account of the imbrication of gender hierarchies and capital/labor relations, discussed in Chapter Three, is perhaps most explicitly evidenced: the associated wage earning men who composed the ASRS established themselves as mediators between capital and individual women, whose reproductive labor they worked to extract.

Some indication of the fraught quality of this extractive and paternalistic relation between the ASRS and individual railway widows can be gleaned from the minutes of executive committee meetings, wherein individual cases related to the orphan fund were considered. Initially, we can note cases in which the executive committee denied on various grounds widows' applications for support, as, for example, a July 1880 reply,

"That the committee regret the position of Mrs Broughton, of New Holland, but have no funds from which to assist her."[392] Or the response to the "claim preferred on behalf of Mrs. Mills, of Bury," which "could not be considered, as her children are grown up."[393] Or again: "On the motion of Middlesbro' and Child's Hill, it was unanimously Resolved — That we cannot entertain the application of the St. Helen's Branch for aid on behalf of the imbecile child of the late J. Taylor, owing to its being over the age provided for by rule."[394] Despite their mere reproduction of bureaucratic platitudes, these moments in the minutes offer trace evidence of gender antagonisms in the railway sector, with women and supportive branch representatives asserting through their applications a sense that the parameters established for the orphan fund should not apply to their particular cases, that these parameters are faulty, or perhaps even that women attached through relations of dependency to the railway industry should generally be entitled to support, regardless of whether they are caring for young children. Beyond such moments in which the executive committee curtly refused support to applicants who attempted to push the limits of the orphan fund, the minutes of executive committee meetings from the late 1880s also give some indication of how unionists enforced bylaws that conditioned support on widows having remained unmarried and free of "immorality." In 1887, the committee passed a resolution introduced by Abergavenny and Leeds representatives, "That the payments to the family of the late T. Wright, of Middlesbro', which have been stopped on account of the widow's misconduct, be resumed, and that the branch be requested to appoint a guardian to look after the children's welfare."[395] Along similar lines, in 1890, "On the motion of Birmingham No. 2 and Leicester, it was Resolved — That the allowance to the orphans of the late W.E. Cave of Cambridge, be resumed, and that the Branch Secretary be requested to act as guardian to the children, and see that they are in no way neglected."[396] These resolutions seem to imply that the local branch representatives had in fact withheld payments following their assessments of "neglect" or "misconduct," and that, in these cases at least, the executive committee chose to respond by advising branches to circumvent the authority of mothers and to route payments through alternative guardians. These brief resolutions suggest that at least some local branch representatives had taken up the task of surveilling and disciplining widows who were receiving support from the orphan fund. In addition to these exceptional cases, records reveal frequent instances where women were removed from lists of benefit recipients upon their having remarried. An 1889 report noted that,"231 out of 788 [children] have been struck off the fund during the past nine years." (Stated reasons include death, aging beyond the limit of thirteen, and mothers' re-marriage.)[397] Beginning with its establishment in 1880, the ASRS orphan fund thus formed a key site around which divergent projects of gender and reproduction in the shadow of immiseration were articulated and fought out amongst working class populations attached to the railway industry. From around 1880, such projects also began to be elaborated through unionists' interactions with the legal and parliamentary sphere.

As we saw in Chapter One, the midcentury discursive and institutional closure experienced by women whose husbands had been killed on the railways was precipitated in large part by the simultaneous parliamentary abolition of the deodand and establishment of the Railway Compensation Act. With this two-sided move, parliament disenfranchised working class populations in relation to compensation law — a disenfranchisement reiterated by insurance and other economic institutions, as well as in

literary and cultural works. While working class populations initially responded to this multi-layered disenfranchisement and exposure to immiseration by turning to various forms of self-help, by the end of the 1870s they had begun to pursue other strategies as well. Most notably, in 1880, as part of a larger working class mobilization, the ASRS acted to expand legal rights of compensation to family members of fatally injured workers — an effort that suggests a widespread sense amongst unionists that railway widows were entitled to compensation from company accounts. Union representatives not only lobbied parliamentary representatives to support the Employers' Liability Act, but also organized around the 1880 election, pressuring candidates to endorse compensation reform and campaigning for those candidates who had pledged to support the union-sponsored compensation bill. These efforts succeeded in building enough support for the passage of the Act.[398] At least initially though, the union's legislative victory of 1880 was pyrrhic. Over the following year, company managers pressured workers to abrogate their rights under the Employers' Liability Act, in some cases offering slight wage increases as an inducement to workers signing waivers. Attempts by members of the executive committee to lobby for an amendment to the Act that would have established the illegality of waivers were unsuccessful. Moreover, because of the complexity and cost of filing legal claims, very few people eligible for compensation actually succeeded in claiming such rights. As the ASRS General Secretary observed in 1881: "I have noted a great number of accidents this year, in all of which there were clear legal claims under this Act, but I am not aware that any legal actions have been taken, although it is probable that, with regard to some of them, friendly settlements have been come to. It will take much time to make the scope of the Act fully known, but our branches and members who have copies should not fail to do their best in this direction."[399] In part, this failure followed from the union's individualizing, judicially-oriented approach to addressing the conditions of those attached to the railway industry who faced immiseration in the aftermath of fatal or severe railway accidents. Individual working class women faced significant barriers to bringing legal claims against well resourced company solicitors. It also suggests the relative estrangement of unionists and railway widows — the former evidently had difficulty translating their awareness of individuals' standing for compensation into effective coordination and support for their securing damages, despite the union's experience with judicial filings. The inadequacy of the Employers' Liability Act in addressing the crisis of injury and immiseration on the railways ultimately helped spur the passage of the 1897 Workmen's Compensation Act, which standardized compensation payments and separated the process of compensation from the courts.[400]

The wide variety of projects undertaken by the ASRS over the 1870s to address the crisis of reproduction attendant upon fatal railway accidents hint at some of the contested dynamics of gender in railway communities. While, over this time, ASRS leaders embraced campaigns for compensation directed at the state and railway companies, the forms of mutual aid they established and administered internally tended to manifest a combination of paternalism and disregard, the latter being especially salient in unionists' relations toward women who were not caring for young children. On the one hand, unionist men promoted railway widows' moralization and women's exclusion from wage labor; on the other hand, at times they echoed calls for basic social and economic security, if not rights, for working class women — calls that, for the most part, we can

only infer were being issued by working class women in railway communities over this period. As we will see in what follows, fictional writings published over the 1870s in the *Railway Service Gazette* offer further evidence of such gender contention in labor's railway sector. In addition to suggesting the co-presence of competing notions of women's social rights, these writings also at times problematize railway men's authority, including in their relations with women, suggesting another front of gender contestation in railway communities. The story to which the following section will particularly attend, "Kitty's Sketches," not only marks out some of the parameters of gender contention in railway communities, but also helps draw together and tie off some of the varied threads that have run through the preceding chapters of *Infrastructures of Injury*.

IV. Kitty's Sketches

Until its closure in 1880, the *Railway Service Gazette* regularly published serial fiction, which shared column space with reports from ASRS meetings, letters, national and international news stories, and occasional essays. In 1880, the *RSG* was replaced by the *Railway Review*, which only infrequently published fictional materials, and in this way offered a more one-dimensional reading experience for its predominantly working class railway audience. In its final year of publication, the *RSG* featured "Kitty's Sketches," a serial tale written by a pseudonymous author identified only by the first name, "Eona." This author, whose proper name was Emma Finniswood, published over her lifetime a number of other short stories and poems, many of which concerned life in railway communities. "Kitty's Sketches" was focalized through the character of a young orphan woman, Kitty Cheery, who had been brought under the care of her grandmother, Sophie Cheery, upon the death of her mother. The story begins with Sophie sharing with her granddaughters "her magic album of railway photographs." The album features images of particular railway servants, whom Sophie describes as having either commendable or censurable traits. In this way, Finniswood's fictional narrative offers a lens into working class railway communities from the perspective of women characters, including those who had become orphans. The class positions of such characters, however, are somewhat ambiguous, as Sophie seems more aligned with a railway director, J. Chatterbox, than with any particular working class individuals, her album notwithstanding. In this way, the story sets up a similar class and gender narrative configuration to that of Gaskell's *Cranford*, in which Mary and her middle class women friends mark out the social order against which the lives of Captain Brown and Miss Jessie are evaluated, even as the character of Miss Jessie also comes to be involved in the making of *Cranford*'s narrative form. This configuration is particularly salient in the scene depicting the party held upon Mary's return to Cranford, wherein the Captain's physical bearing and speech acts are judged against the norm of placidity that Mary associates with such parties. In addition to constructing a similar narrative configuration to that of *Cranford*, "Kitty's Sketches" also alludes explicitly to *Household Words*, Dickens' journal in which Gaskell's novel was first published, and deploys allegorical names in a way reminiscent of Dickens's writing.[401] The story features such characters as J. Chatterbox, Sir Ogre Blunderbore, and Gus Goldenhouse.

In addition to these elite figures, workers in Eona's tale are also betrayed by their names. The portion of Sophie's magic album that is filled with "unpleasant pictures" of censurable workers includes images of little Q__ of Quarreltown and Doubleface of Goneby, characters identified by their essential traits as well as the locations of their particular posts in the railway system. In presenting her magic album, grandma begins with a few of these unpleasant pictures. By this moment in the story though, we have already been presented with a contrasting image of a commendable railway servant, in the form of the kind guard with "thoughtful words" who cared for Kitty during her solo journey home from the hospital upon her mother's death: "Part of the way he took me into his own van… and he told me lots of things, all about his wife and children. He said he had got a little Kitty of his own…"[402] The guard's thoughtful care for Kitty is marked by his willingness to share with her details of his family life and to treat her with the care he presumably shows as well toward his own daughter, with whom he identifies Kitty. In this way, "Kitty's Sketches" echoes the midcentury texts discussed in Chapter Two that imagine railway workers' labor in terms of paternal regard. Kitty, the orphan child suffering from illness, appears exemplary of passengers in general — she is a vulnerable figure in relation to whom careful attention must be shown by guards and other railway workers in order that she safely arrive at her destination.

Just as Kitty's thoughtful guard is evaluated in terms of the paternal virtues he displays both at home and at work, grandma Sophie's negative judgments of workers involve evaluations of how they fail to care adequately for both passengers and family members. Her first unpleasant picture is of a late stationmaster who reliably had presented a hostile countenance to passengers and fellow workers. And yet, Sophie expresses some regret for her previous, unsparing judgments of this outwardly disagreeable station master, as, after his death, she had learned from others that he reliably donated to charitable schemes and had a sensitive bearing. A friend of his noted having "seen his eyes fill with tears at the simplest gift of a few spring flowers."[403] Moreover, the station master was said to have shielded other workers in the station from the discipline of company directors. Despite this evidence of his thoughtfulness, Sophie continues to array his image in the unpleasant column, insisting that he should have presented a warmer countenance to those working at and passing through his station. The next picture held in Sophie's negative column is of little Q__ of Quarreltown, whose "bark is decidedly worse than his bite."[404]

Having thus presented these two portraits of superficial vice, grandma then turns to two of "the very worst of the Railway Service," using uncharacteristically sharp language in condemning their failings.[405] The first of these thoroughly negative portraits is of a drunk station master. In portraying drunkenness as a particularly odious vice, Eona picks up on the midcentury rhetoric of temperance, which was especially prominent in railway communities, not only as a result of rail workers' inclination to embrace practices of improvement, but also because such workers could be prosecuted for drunkenness even if caught with a drink during their time away from work. "Kitty's Sketches" returns in its final installment to the question of rail workers' drinking, closing with a moralizing vignette of a railway tragedy that followed upon a group of workers skimming some alcohol from a goods shipment. Kitty concludes the vignette by reiterating the notion that "little sins" can lead to "horrible ends," and that, therefore, one should "never encourage a 'lark' which is in the slightest degree connected with fraud; never laugh at any 'clever

dodge' which gives pain to or causes loss to another." Quoting J. Chatterbox, a railway director and friend of Sophie's, she insists that "too many railway servants think nothing of stealing liquor, as well as of buying it openly, whenever they get the chance. Some men consider it quite a 'lark' to see what 'clever' dodges they can invent to get it out of the casks, etc., under their charge."[406] In this passage, we are brought back to the moralization of looting in early railway trade unionist discourse. Eona's tale, published in the *Railway Service Gazette*, here echoes the *RSG*'s 1872 description of the looting of the Broad Street warehouse, wherein upstanding strikers were contrasted with "rough" looters, purportedly drawn from unemployed and other marginal strata of the working class. "Kitty's Sketches" reiterates this polarization, attempting to socialize its earliest readers into the role of the virtuous unionist, who would discourage fellow workers even from the most minor acts of sabotage or from the skimming of cargo they were involved in transporting.

Aside from the drunken station master, Sophie reserves her most strident criticisms for Doubleface of Goneby, a station master who made her "'creep,' as we say of our involuntary shrinkings from evil things."[407] This creepy worker "fawned and cringed" over Sophie in a way that set her "very teeth on edge." She registers his aggressive obsequiousness in part through an orientalist recollection: "'Bless the man!' How his back must ache!' cried her somewhat abrupt ladyship one afternoon, when Mr. Doubleface had bowed and smirked like a gutta-percha Mandarin for five consecutive minutes at the door of the Hauteville carriage."[408] Such anti-Asian tropes were not uncommon in the *Railway Service Gazette*, which in an 1878 editorial went so far as to endorse Chinese exclusion acts in the US, justifying them in part on the grounds that Chinese workers were purportedly skilled at imitation and thus were particularly untrustworthy. Chinese exclusion acts were passed through the US Congress and written into California law in the years immediately following the anti-Asian pogroms carried out by San Francisco participants in the Great Railway Strike of 1877, making the RSG's endorsement of such exclusionary acts in 1878 an implicit endorsement as well of xenophobic violence perpetrated by European immigrant workers in the railway and other sectors.[409] In Sophie's account, published in 1879, anti-Asian tropes are deployed as part of a scathing criticism of a sexually violent railway worker. Doubleface of Goneby, whose name itself calls to mind the anti-Asian stereotypes deployed in the 1878 *RSG* editoral, epitomizes sexually violent masculinity. Sophie notes that damning evidence of his aggression appeared "very plainly in the pages of the Oldtown and Goneby Gazette. A pretty couple of columns he figured in! Not, indeed, in his railway, but his private life. A nice wife-beater, and ill-user of decent old women! Aye, and worse than that. He escaped 'promotion' in the form of the 'Hangman's Order of the Collar of Hemp,' solely by the most strenuous exertions of a well-fee'd lawyer."[410] This passage offers perhaps the most explicit criticism of husbands' domestic violence to be found in the *Gazette*, framing such violence as a crime on the order of those punishable by death and as a violation that marks the entirety of the perpetrator's life, from home to work. Sophie's portrayal of Doubleface, with its orientalist cast and its forceful condemnation of railwaymen's acts of intimate violence against women, presents on a small scale the aptness of Walter Benjamin's aphorism that: "There is no document of civilization which is not at the same time a document of barbarism."[411] This passage in "Kitty's Sketches,"

like so many from the archives of early railway trade unionism, calls for an ambivalent reading: its bold feminism is shadowed by racial and imperial violence.

Eona's fraught feminist interventions are not confined to criticisms of patriarchal violence in and beyond the home. Her story can also be read as offering an ambiguous counterpoint to early unionists' representations of widows and orphans. Given that the story is focalized through the character of Kitty and that Kitty's sisters also figure centrally in the story, the experience of being orphaned is at least indirectly at issue throughout the entirety of the narrative. One of the earliest explicit reflections on the experience of being orphaned, however, appears in the scene of Kitty's rail journey from the hospital to her childhood home, during which she was cared for by the unnamed guard. Having told Kitty about his family, the guard then, "looked very grave and said that his wife wasn't very strong and if he was killed on the railway line, his poor little Kitty wouldn't know what to do if she lost her mother, for she and Bob hadn't got any nice old grannie to look after them."[412] Here, the unnamed guard puts into words what we might see as the dominant ASRS orientation toward widows and their children, in which the agency of surviving mothers is dramatically downplayed and children are portrayed as utterly bereft upon the deaths of their fathers. The relations "Kitty's Sketches" establishes between its primary characters unsettle the typical unionist depiction of orphans as lacking means of support upon the deaths of their fathers. The story is organized around the care that grandma Sophie offered to her orphaned grandchildren. In this way, "Kitty's Sketches" thematizes the extended family bonds that, as Wally Seccombe shows in *Weathering the Storm*, offered at least limited security for working class individuals, including newly-orphaned children, who were faced with sudden losses of income, support, or social standing.[413] In contrast to Eona's story, ASRS documents virtually never depicted extended family networks, instead imagining working class familial relations overwhelmingly in terms of the patriarchal nuclear family unit. In the ASRS minutes discussed above, "orphans" generally were presumed to be under the care of their birth mothers, the widowed wives of fatally injured railway workers. "Kitty's Sketches" thus registers in its form the disjunction between unionist representations of working class family life and the more capacious networks of family relations in which individual railway workers were generally embedded, and upon which they and their immediate family members could often at least partially rely.

In addition to organizing the story around extended family networks, and thus demonstrating the restriction of vision involved in ASRS orphan fund regulations, "Kitty's Sketches" also problematizes the association of women with weakness that was so pervasive in unionist discourse. The guard's comments to Kitty draw this association to the surface: he says of his wife that she "wasn't very strong." The purported "weakness" of the guard's wife seems to require no supplementary explanation, perhaps because it conforms with representations of women, widows in particular, that otherwise filled the columns of the *Gazette*. A particularly glaring instance of this association of women with weakness appeared in an 1878 *RSG* editorial, which argued against women's suffrage:

> Theoretically, it is difficult to see by what right women can demand the franchise. A vote is only given to a person who is supposed to be capable of expressing an unbiased opinion. It is the free utterance of a free opinion. But, theoretically, no woman can be considered free. In a savage state, women

> have no rights whatever, and to this day women are protected in the same way that property generally is protected. There is an understanding between men not to injure women just as there is an understanding not to trespass on each others' lands. Men have bound themselves to this by law, and have imposed all sorts of severe punishments on those who break it. Can anyone pretend that women could protect themselves without this advantage?[414]

An anthropological discourse is mobilized here in an attempt to ground patriarchal relations and to argue against women's capacity to manage property or participate in democratic governance. The concluding rhetorical question casts this incapacity in terms of an essential weakness or vulnerability — women are presumed to be unable to protect their bodily integrity, and therefore unfit for suffrage. Eona's "Kitty's Sketches" offers a rejoinder to this sort of patriarchal rhetoric, staging women's efforts to grapple with their varied powers and capacities.

The scene that most directly thematizes questions of women's capacities takes shape in a textual interlude, during which some of the younger characters leave the confines of Sophie's house and transition from indirect to direct encounters with railway servants. Kitty's older sister Carrie agrees to go with Charley Chatterbox to see for herself what railway work entails, and the two of them welcome Kitty along on the trip as well. The three go to visit a nearby signal operator, Tom Jones, whose small station stands out for its tidiness and for the plants neatly maintained around the room. Upon encountering the signalman's station, Kitty "thought if grandma's cook could only have seen that nice little stove and that long row of iron levers so beautifully polished, she would have been ashamed of the untidy state of her cooking range all the rest of her days."[415] Kitty's comparison between Tom's station and the kitchen maintained by her grandmother's cook again positions railway labor in the same field as domestic labor. The association here, while familiar, is also somewhat remarkable, in that the labor at issue, unlike that of station masters and guards, did not regularly bring signal operators into direct contact with passengers, meaning that the extension of a domestic frame to signalmen implies the possibility that this frame could be extended to all grades of railway workers, and perhaps even to those working in other sectors of the industrial economy (an extension in keeping with the ASRS's aspiration, largely unrealized in its earliest years, to represent all grades of railway workers). In any case, during this scene, Tom's station becomes as well a site for the testing of various characters' strength. After Carrie is moved to tears upon hearing of the quotidian dangers faced by railway workers, Charley attempts to lighten the mood by encouraging her to try her hand on one of the switches:

> Carrie leant all her weight upon the long handle, and pulled it half-way. "I can't," she cried, laughing at her weakness; then, vexed by seeing Tom and Charley smiling also, she tried again, and, with a tremendous effort, contrived, as Tom said, to "bring it home."[416]

Her confrontation with patronizing masculinity spurs Carrie to press herself to the limit, and to demonstrate her capacity to perform one of the more physically exhausting tasks of railway work. Given that she initially commented on her weakness, her ultimate success can be read as a rejoinder to the widespread unionist rhetoric of women's weakness — a rhetoric that helped naturalize women's exclusion from political and workplace roles in the second half of the nineteenth century. Carrie's demonstration of

her capacity to turn railway switches seemed to significantly affect her sense of herself in the world. Upon returning home, Carrie chastises her sister for reading fiction, asserting that the trip to Tom's station:

> was far better, and more exciting than wasting your eyes over that nasty sensational novel! If you had gone with us to see Tom Jones, you would have seen something of real perils, and actual hard work, well and faithfully done by an honest man, and it would have done you far more good than lolling about on that bed, reading about a bad woman, who, I hope, for the credit of our sex, never had a living likeness. I've learn't something today, and it makes me feel thoroughly ashamed of some folks and their doings — it does![417]

Carrie's direct participation in "actual hard work" recasts her perception of leisure activities such as reading, giving her a negative perspective on the models of womanhood offered by sensation literature. While Carrie responds to her time at Tom's station by claiming for herself a capacity for physical activity, even power, which she contrasts with the vices of reading, Kitty's trip results in a more complex relation to her body and to the written word. Upon returning from the trip, she approaches Sophie to confess a sense of her physical incapacity, which had been exacerbated by her inability to turn the switch and by Carrie's report about the virtues of hard work. Her grandma responds in a way that recasts Kitty's physical disability and illness, insisting that: "If these poor little fingers are not strong, they are not 'useless' for all that. They can hold a pen and write kind words."[418] With this phrase, Sophie reconstructs the conceptual grid the novel had established in relation to Carrie's visit to the signal box. She gives the question of writing another turn of the screw, suggesting the possibility of a care-laden writing (in contrast to the shocking writing of sensation fiction), the power of which would not announce itself boldly but would retain a durable force nonetheless. Sophie's notion of "kind words" perhaps hearkens back to the model of discrete writing offered in Gaskell's *Cranford*. It also certainly picks up on unionist debates about the utility of polemical language — debates that we saw emerging in the aftermath of the failed Broad Street strike, and that also are engaged directly in "Kitty's Sketches," especially when Kitty notes in an aside:

> But oh, dear friends, take care how you use the pepper-pot, when you write for the cause you long to serve. When an article deals in 'too much pepper' or 'boils over' with long suppressed emotion in an out-burst of hot words, it is very apt to burn and scald friends as well as foes; and the Railway Gazette gets torn up or thrown into the fire through the influence of fear, scorn, or unreasonable rage, while the moderate well-chosen language of others makes even the nonchalant Gus Goldenhouse pay attention to their complaints. Be temperate in all things…[419]

This passage, perhaps the most openly reflexive in "Kitty's Sketches," presents the polarity of temperate and polemical speech through a culinary metaphor. Here again, domestic tasks are set up as models for unionist practice on the railways. The "moderate well-chosen language" that unionists are enjoined to cultivate also resonates with the "kind words" Sophie encourages Kitty to compose, suggesting a surprising convergence between idealized unionist speech-acts and the redeemed writing labors of a physically disabled young woman. In this way, the ideological freight loaded at this time upon the notion of physical weakness is cast aside: physical weakness does not appear incommensurable with what is purportedly the most effective form of unionist practice,

and, insofar as Kitty's response to visiting Tom's signal box differs from Carrie's, the phenomenon of physical disability is de-linked from womanhood. Rather, (dis)ability appears as a difference that cuts obliquely across the difference of gender.

Like so much else in the archive of early railway trade unionism, Sophie's assertion that injured or disabled bodies are capable of claiming power through the subtle force of "nice words" calls for an at least somewhat ambivalent reading. As we have seen, this move throws a spanner in prevailing discourses of gender and bodily capacity, opening up the possibility for a valorized practice of "weak" unionist writing — a practice available to people of various genders. The trouble though is that this discursive revision relies upon the reification of the hierarchical division between polemical and moderate speech, and the broader de-linking of unionism from collective action (which itself might generatively be reimagined as entailing vulnerability, care, and mutual support). In this way, even as it rewrites unionist discourses of gender, Eona's story remains within the moral and discursive landscape of improvement, with its exclusionary polarity of the rough and the respectable. Yet, even here, "Kitty's Sketches" is perhaps not as one-sided as this critical evaluation would suggest. Considering its form, Eona's story bears intriguing resonances with the melodramatic, radical literatures of the 1830s and 40s — literatures associated with an earlier wave of collective action. The story features allegorical names; alludes to John Bull; expresses an interest in "converting" exemplary elites to a politics that addresses the needs of working class victims of industry; and maps out a stark moral polarity, asking its readers to exercise their power of judgment in discerning the sometimes misleading marks of virtue or vice on characters' bodies. In all of these ways, "Kitty's Sketches" hearkens back to such radical literary works as the anonymous 1838 *Ghost of John Bull*, discussed in Chapter One. Traces of melodrama thus crop up in an otherwise altered narrative landscape, composed of picture albums, well kept signal boxes, and a distinct air of improvement. In this way, "Kitty's Sketches" speaks to a moment of transition in working class politics and culture, defined at once by the return to earlier moments of collective struggle, by the persistence of self-help principles, and by the charting of new courses in a sharply contested present.

Afterword

At the midpoint of the nineteenth century, the British state voided the legal standing of railway workers and their immediate family members to claim compensation in the event of workplace injury, even as it established this standing for passengers. In doing so, the state intervened in and redistributed the life prospects of those dependent upon railway technologies for mobility and economic survival, contributing to a new class division that was marked out in terms of security in and responsibility for life. Through legal reforms in 1846 and court decisions over the early 1850s, judges and MPs worked to address rail owners' concerns that the revival of the deodand had begun to threaten their profitability, while also assuaging passengers' anxieties about the unsafety of railway networks and outrage at family members' injuries. The state thus helped secure the footing of a key national industry and circulatory network, albeit in a way that exacerbated the precarity of those who daily maintained this network.

In her analysis of late eighteenth and early nineteenth-century public road projects, Jo Guldi has shown how the British state came to assume responsibility for designing the "flow of bodies, information, and goods" along the nation's transit networks, and in this way became what she terms an "infrastructure state."[420] Midcentury legal reforms of the railway industry can be understood as part of this history of the British state's infrastructural entailments. Through such reforms, the state acted to shore up a key transit sector, in part through the sifting of populations' security in life. Here the biopolitical and the infrastructural appear to be bound together, and to bear a particular class character. The medical tracts of the 1860s discussed in Chapter Two, which homologized the circulatory movements of blood and of trains in a way that obscured workers' quotidian exposure to injury on the rails, can perhaps be read as having registered in their form this emergent infrastructural/biopolitical mode of governance and of class rule.[421] We might even say that such tracts contributed to the making of this emergent mode of governance and of class rule, in part insofar as they played a role in the subject formation of doctors, nurses, and others involved in the maintenance of British medical institutions. Throughout *Infrastructures of Injury*, I have approached written sources in this dual manner: asking at once about how they shaped their early readers' capacities for action, while also tracing their ideological limits. In doing so, I have focused particularly on texts that were addressed to, read between, and/or written by members of the working class, and have thus attempted to chart the remaking of working class life in the shadow of its midcentury dispossession.

The picture that emerges from the preceding chapters is of a period of relative working class compliance, conditioned by emergent discourses of gender and improvement. We have seen how accidents came at the midcentury to be understood as events that revealed the moral and domestic virtues of working class individuals, rather than, as in an earlier radical rhetoric, the rottenness of state or company bureaucracies. What constituted a virtuous relation to accidents and injuries varied by gender. Railway workers, nearly all men, were held legally responsible for keeping passengers safe, and their responsibility to passengers tended to be portrayed as a matter of their maintaining a

paternal watchfulness on the lines – a portrayal that appears in a wide range of texts, including working class autobiographies. In this way, gender discourses associated with family life shaped work discipline beyond the domestic sphere as well. With respect to working class women, we have seen how work norms newly imposed upon waged nurses also came to appear as models for indirectly waged housewives. Working class women were enjoined to bear up silently in the face of losses, and their domestic labors were reimagined to entail above all care for injured or vulnerable family members. An attention to such mutations in discourses of labor and gender, and to the circulation of such discourses across distinct spheres of labor and reproduction, helps show how an emergent gender division of labor was made, and variously lived, over the second half of the nineteenth century. In conjunction with an attention to the role of gender discourses in forging new laboring subjects, I have also shown how discourses of improvement were linked to the emergence of various self-help practices amongst working class families, including keeping budgets, saving, purchasing insurance, abstaining from drink, and participating in industrial benefit funds. These domestic economic practices of improvement offered limited means for addressing crises of reproduction attendant upon industrial injury. They were efforts, undertaken by individuals or couples, to address this crisis from within the frame of the patriarchal nuclear family. In addition to solidifying patriarchal domestic norms, such forms of family-based self-help tended to deepen divisions of grade within the railway sector, given that lower-grade laborers generally were not paid enough to participate in self-help projects.

From an initial examination of midcentury cultures of improvement, *Infrastructures of Injury* then gradually turns to a consideration of early trade unionism in the railway sector. While rail unionism was distinct from existing self-help efforts in its more collective character, and in the way it politicized work relations along the lines, we saw in Chapter Four how early unionism drew upon norms of improvement and discourses of gender and labor that had taken shape at the midcentury. In particular, unionists' establishment and administration of benefit funds for members took place in ways that presupposed the nuclear family unit, and that reiterated the moralization of railway widows. While gender contestations within working class railway communities did spur shifts in the union's approach to workplace injury – shifts that ultimately resulted in successful lobbying efforts for the parliamentary reform of compensation law – patriarchal norms and prerogatives nevertheless prevailed in unionist responses to injury during and after this period.

As this summary makes clear, *Infrastructures of Injury* offers at best an ambivalent account of the rise of railway trade unionism. It stresses the continuities between unionism and post-1848 self-help and improvement efforts – continuities that are particularly evident insofar as the emergence of unionism is viewed from the perspective of working class women attached through relations of dependency to the railway industry. Nevertheless, the period of early railway unionism was in certain ways discontinuous with an earlier period defined by family-based responses to workplace injury, particularly insofar as union organizing helped shift how the state regulated transit industries and secured the health of populations dependent upon rail networks. Beginning at least in 1880, with the parliamentary reform of compensation law, state institutions began to revise what had been a stark legal delineation between workers and passengers' injuries. This turn was accompanied by broader shifts in representations of railway safety,

which began more widely to emphasize the connections between workers' safety and the smooth functioning of railway systems.[422] In this way, the infrastructural/biopolitical mode of governance and class rule that had materialized in the mid-1840s came under pressure, and was compelled to mutate, in the post-1867 period of reform and unionization. In part, this pressure was a function of unionists' construction of a counter-discourse of public health, which suggested that state and company practices were making railway lines unsafe, in part by preventing workers from effectively protecting passengers or by punishing those who took exceptional actions to keep passengers safe. Organized railway workers asserted a role in the maintenance of public health, and insisted that reforms in labor processes, safety regulations, and compensation regimes were necessary for the proper, healthy circulation of the railway network. At the same time, rail workers gained practice in acting collectively to disrupt such circulatory networks, which suggests a tension or two-sidedness in unionists' relations to the flows of the rail system. A recognition of this ambiguity in unionists' orientations to rail circulation may be helpful in making sense of the ambivalent responses to the looting of the Broad Street station in 1872 that are recorded in the *Railway Service Gazette*, in which evident pleasure at the disruptive effects of this act coexists with efforts to distance unionists from looters by presenting the former as "too manly and too sensible to do such things as these. They left their work peaceably and quietly when they did leave it, and since then they have never attempted either to intimidate those men who still continue at work, or to injure the property of their employers in any way."[423] Here we see how the polarization of unionists from looters picks up on imbricated discourses of gender, respectability, affect, and health. Unionists are "manly" (gender), "sensible" (respectability), "quiet" and "peaceabl[e]" (affect), and thus avoid "injur[ing] the property of their employers" (health). Even in striking, rail unionists can represent themselves as upstanding employees who act to maintain the health of railway property and networks.

While early twentieth century transit organizing remains beyond the scope of this project, we can identify in the history of transit unionism up through the First World War some of the ambiguities that characterized early rail unionism. By the last decade of the nineteenth century, unionists were attempting in a more concerted way to overcome divisions of grade within the railway workforce. The "all grades movement" that began in 1897 involved efforts to remake rail unions into bodies that represented the interests of lower-grade yard laborers as much as of station masters, engine drivers, and guards. And the irruption in 1911 of mass strikes in railway, shipping, and coal sectors brought unwaged workers, or workers employed in non-transit industries, into mass pickets along roads and rail lines. Epicenters of the strike wave included South Wales and Liverpool, wherein mass pickets were met with police and military violence, which sparked widespread looting and rioting by crowds composed not only of transit workers, but also of women, unemployed men, and those employed in other sectors.[424] Here, acts resonant in some ways with the looting of the Broad Street station appeared on a much wider scale during a moment of mass working class mobilization. In his reflections on this period of mass strikes, Ben Tillett, a key organizer of the 1911 London transit strike, summarized this period of rebellion and transit disruption in ways at least partially resonant with the *Gazette*'s description of the Broad Street strike:

> The Transport Worker, whether on the road, river, the ocean, dock, quay or wharf, is the most important industrial factor of our complex industrial system. To the body politic of commerce transport is the circulation of its blood without challenge in any other direction. The vast strides in transport have eclipsed every other branch of industry, and it has grabbed to itself every mechanism, invention, and improvement that human ingenuity has devised. Whatever the wonderful miracle-working brains and hands of the human has created, every possible advantage is seized in transport. The genesis and evolution of transport is a most remarkable study, and marks the revolutionary growths as distinctly as geological strata mark the growth of the world. Having claimed this one views with sorrow the lack of imagination in those who are at present the wonder-workers. So wonderful are they that even by antithesis our judgement compels us to marvel; immediately the so-called common labour ceased its travail, momentarily the whole complex social mechanism was dislocated; and while it is perfectly true that the lives of the Transport Workers are merely hand-to-mouth, the sudden rupture in the smooth working of supplies showed quite definitely that civilisation only lives hand-to-mouth, and is absolutely dependent upon labour, however ill-paid and however so-called "cheap." The Court itself, the Government departments, the vast mechanism of supplies and distribution affecting the Army and Navy, and the common life of our citizens were brought to a standstill, and convinced our posters and masters, if only for a period, that labour does count. If that concept can only go to the brain-cells of the Transport Worker he is bound to appreciate his personal service the more, and he will go forth equipped with the consciousness of his worth and demand better remuneration, a nobler moral being, and an economic security not vouchsafed to him by the capitalist system, and only possible by trade union organisation sufficiently enlightened to apprehend the full economic necessities of the toilers.[425]

Here, transit networks are analogized to the circulatory system of the human body, suggesting the persistence into the twentieth century of tropes associated with the biopolitical/infrastructural mode of governance, and the use of such tropes even by anti-capitalist transit unionists. Moreover, as in the *Gazette*'s representation of the Broad Street strike, Tillett finds in the mass strikes of 1911 an image of transit workers' moralization, in this way dissociating the strikes from their more motley elements. Tillett's account of the 1911 mass strikes, of which he was a key participant, calls to mind Marx's assessment in the *Eighteenth Brumaire* that in proletarian revolutions, "the content goes beyond the phrase."[426] As we have seen though, the early history of class struggle on the railways equally demonstrates the inverse: that "phrases" have their way of directing "contents."

With this rather blunt formulation of a dialectic of word and deed, we can begin to draw out some of the interventions *Infrastructures of Injury* has attempted to make in relation to contemporary intellectual and political activity. In the Introduction, I suggested that this project would provide a rejoinder to Timothy Mitchell's *Carbon Democracy* by emphasizing the "subjective" and discursive determinants of class struggle along the rails, and thus putting pressure on his argument for the primary determining force of coal-based infrastructures' relative vulnerability to disruption. Mitchell argues

that, "[t]here is no need… to detour into questions of a shared culture or collective consciousness to understand the new forms of agency that miners [as well as transit workers] helped assemble"[427] from the 1880s through the middle of the twentieth century. In arguing for the relative unimportance of "shared culture or collective consciousness" Mitchell cites E.P. Thompson's *The Making of the English Working Class*, suggesting that, in comparison to the agency assembled by later industrial workers, the political agency of early nineteenth-century workers was ineffective in forging less precarious forms of life and more democratic forms of governance.[428] "What was missing" in this earlier era, "was not consciousness, not a repertoire of demands, but an effective way of forcing the powerful to listen to those demands." This assessment seems to suggest that popular mobilizations had little role in shaping parliamentary reforms of the 1830s and 40s.[429] It also elides the matter of the "remaking" of the English working class from the late 1840s through the 1860s. As we have seen, this period was defined by the deepening of mines and their more comprehensive linkage to expanding railway networks, but was also marked by a striking quiescence on the part of working class formations. The history of this period demonstrates that workers' strategic situation in relation to vulnerable transit infrastructures did not alone ensure their political effectivity. Rather, as I have shown, drawing upon earlier waves of scholarship on the midcentury remaking of the British working class, culture mattered in determining the forms of agency that appeared sensible to those attached through relations of dependency to the railway network. Following their midcentury legal and institutional dispossession, higher strata rail workers attempted to address their precarious conditions of life above all through family-based practices of self-help, rather than through sabotage or mass strikes.

The debate with Mitchell I have set up here is not particularly novel. Its terms resonate, for one, with debates in labor sociology about the downturn in strike activity over the past thirty years. In attempting to account for the downturn, some have argued for the significance of discursive shifts, others have focused on organizational dynamics within unions and working class associations, while perhaps most have stressed alterations in labor processes, governance regimes, and patterns of capital accumulation.[430] In part, such debates have been organized in terms of the categorical distinction between "associational" and "structural" power. These categories appear to have been juxtaposed for the first time by Erik Olin Wright, in an essay on varieties of post-war class compromise in the West.[431] In this essay, Wright contrasts the power that workers receive from their strategic situation in the economy and through labor market conditions (structural power), from the power they must forge through collective organization, including especially though party, council, or union formations (associational power). Beverly Silver has offered a compelling engagement with these categories in *Forces of Labor*, wherein she charts global histories of labor from the 1870s through the present, demonstrating the patterned interactions of capital relocation and class struggle over this extended span of history. Silver's interest in the distinction between structural and associational power in *Forces of Labor* derives in part from the categories' utility in clarifying some of the variations in patterns of capital relocation and class struggle. In some industries, such as textiles, capital is relatively mobile and labor does not occupy an especially strategically significant node in the economy, meaning that workers' power, to the extent that it takes shape, relies more heavily on associational links forged not only on the job, but also more broadly, through political coalitions,

municipal associations, or social movement organizing. In contrast, auto and transit industries, for example, position workers in strategic nodes of the economy and are relatively difficult (though not impossible) for capital to relocate or reorganize. In these sectors, workers' power can be realized, Silver suggests, even in the absence of broad associational bonds at and beyond the workplace. A few strategically located activists can call entire supply chains to a halt.[432] Mitchell makes a similar point when he notes in relation to railway work that "the new effectiveness of sabotage derived from [the] vast concentration of kinetic energy in a mechanism that a single operator could disable."[433] Where Silver differs from Mitchell though, is in her recognition that workers at some distance from these strategic nodes nevertheless have ways of challenging management prerogatives and realizing political power, and in her emphasis upon the intensification of social struggles in the Global South following waves of capital investment (i.e. auto workers' strikes in Brazil, Mexico, and South Africa over the 1980s and 90s).[434]

Silver's work offers a useful point of reference for considerations of post-1870 railway workers' organizing in Britain. If, as noted above, rail workers tended not to realize the power their strategic situation made available to them over the third quarter of the nineteenth century, by the last decades of the century they were more regularly acting in concert to disrupt rail circulation. It is to this period that Mitchell draws our attention in arguing for the tight link between fixed carbon infrastructures and politically effective class struggles. He notes that:

> The most common pattern… was for strikes to spread through the interconnected industries of coal mining, railways, docking and shipping. In Britain, the miners, railwaymen, and transport workers organised three great national strikes in 1911-12, formalising their relationship in the Triple Alliance created on the eve of the First World War…. Workers were gradually connected together not so much by the weak ties of a class culture, collective ideology or political organization, but by the increasing and highly concentrated quantities of carbon energy they mined, loaded, carried, stoked, and put to work. The coordinated acts of interrupting, slowing down or diverting its movement created a decisive political machinery, a new form of collective capability built out of coalmines, railways, power stations, and their operators.[435]

Here again, Mitchell establishes a polarity between the "weak ties" of "culture, ideology, and organization," on the one hand, and the forms of "collective capability" he depicts as emerging almost directly from workers' structural interconnection along coal-based socio-technical systems, on the other hand. Mitchell's stark dismissal of culturally-mediated associational bonds resonates somewhat with Silver's notion that, in transit industries, structural power is generally more pertinent than associational ties forged at and beyond the workplace, though Silver would not dismiss the significance of associational dynamics to the same extent. But does this prioritization of structural over associational power square with the history of the 1911 transit strikes?

As noted above, the strikes of 1911 were characterized by the use of mass pickets and by a certain pattern of state repression and working class rebellion. In Tonypandy, Llanelli, and Liverpool, mass pickets or assemblies of working class groups were attacked by representatives of the state, including divisions of the military. In each case, local working class populations responded to the attacks by rioting and by looting

company and other property. In Tonypandy, a mining town in South Wales, looting was carried out in part by groups of women, who collected household supplies and took dresses from downtown shops to wear while rioting. In Llanelli, looting focused on the nearly one hundred railway cars sitting at the station and on a warehouse owned by the local notable rumored to have invited the military to repress the strike.[436] In Liverpool, a public assembly was attacked by the military, which set off weeks of rioting and street fighting that continued even after the strikes had been resolved. There are two particularly salient aspects of these sequences of struggle in relation to questions of structural and associational power. First, workers' use of mass pickets indicates that transit strikes of 1911 were enabled by associations between transit workers and those either employed in other sectors or only marginally employed. Strategically situated operators did not act in isolation. In Llanelli, for example, a broad cross-section of the local working class blocked the town's central railway crossing to help enforce a national rail strike in August 1911. While there were 500 or so rail workers stationed in the region, the pickets at the station ranged from 1,500 to 5,000 people.[437] When locomotives approached, picketers stayed on the lines and called for drivers to brake, encouraged them to leave their engines, and then put out the engine fires. While national rail union leaders were negotiating a resolution to the strike, soldiers who had been deployed to Llanelli conducted a bayonet charge against the picket, whose members retreated to the top of an embankment that jutted up against workers' houses. Strikers threw rocks at passing trains and soldiers below, who responded by firing shots into the crowd, killing two people. The identities of the two killed are a testament to the cross-sectoral quality of the mass picket: John John was a mill-worker employed at Morewood Tinplate Works, and Leonard Worsell was a Londoner with tuberculosis who had been sent to convalesce in a South Wales sanitarium.[438]

Given the particular configuration of the railway industry, mass pickets helped address challenges to the realization of workers' power along the lines. Outside of major urban junctions, rail workers were relatively dispersed, with anywhere from a couple dozen to a few hundred workers based near any given station. Their numbers were not necessarily sufficient to prevent police from clearing the lines in the event of a blockade or act of sabotage. Barring effective blockages of particular sites along the lines, rail unionists had to rely on the near-universal solidarity of engine drivers and firemen, whose positions in the railway division of labor were relatively secure and well paying, and whose industrial action likely would be apparent to supervisors. Mass pickets, which drew in members of the working class who lived near rail crossings, enabled more effective shutdowns of particular spans of track, even in the event that some drivers, firemen, or others in the industry continued working, or in the event that strikebreakers were deployed to operate trains. In this way, associations at the local level between rail unionists and working class groups outside the industry helped unionists overcome challenges to the realization of their structural power.[439]

In addition to the use of mass pickets, a notable dimension of the 1911-12 cycle of struggles was the role played by police and military forces in shaping class antagonism. The deployment of soldiers, who in some cases shot and killed striking workers, not only sparked local riots, but also became an important matter of working class agitation and national political contention.[440] In September 1911, five thousand workers in London held a funeral procession to mourn the two picketers killed in Llanelli. They carried a

banner that read: “In loving memory and in kind sympathy for our comrades in Llanelly and Liverpool killed in the interests of capitalism. Workers remember Trafalgar Square 1887, Mitchelstone 1887, Featherstone 1893, Belfast 1907, and now Llanelly 1911.” The same banner was unfurled the following week in Llanelli for a mass procession and rally, at which Ben Tillett spoke. [441] The banner offered a chronicle of class violence, linking the recent shootings in Llanelli to state assaults on, among others, tenant organizers in the south of Ireland, striking miners in Yorkshire, and anti-Coercion demonstrators in London. Not only did the banner discursively articulate dispersed acts of protest and repression, it also passed across the hands of those in both London and South Wales, making for a shared fabric of protest between these sites. If we are to understand the formation of working class power in early twentieth century Britain, such rituals of protest surely must occupy a meaningful place in the stories we tell. In this case, part of what the banner helps us see is how the matter of state violence was made to bridge discrete protest movements and dispersed, nationally differentiated populations.

The banner also brings us back to the question of how working class movements related to state institutions and forms of governance. While its text might suggest a starkly oppositional stance toward the state – appearing here as the repressive agent of capital – it is worth recalling that Ben Tillett, who marched with and may even have transported the banner from London, later gave an account of the 1911 strikes that framed them as having educated representatives of the state: “The Court itself, the Government departments, the vast mechanism of supplies and distribution affecting the Army and Navy, and the common life of our citizens were brought to a standstill, and convinced our posters and masters, if only for a period, that labour does count.” In the same passage, Tillett analogized the circulation of blood in the body to the movements of transit infrastructures in the “body politic of commerce.” Here, the horizon seems to be a politics of state reform led by and reflecting the interests of the working class – reform that would socialize the body politic of commerce. His later endorsement of the British role in the First World War and work as a Labour representative in parliament are consistent with such an ameliorative orientation to state and capital. While questions of the state were certainly contested on the British Left over this period, the writings and career of Ben Tillett offer illustrations of how partisans of the mass strike could be drawn into efforts at reforming the very infrastructures they had so intensively worked to call to a halt. A figural reading of his work suggests as well the continuing force of discursive complexes formed decades earlier in the making of an infrastructural/biopolitical state. If the early twentieth century was defined by the forging of social democracy in part through the construction of workers’ power along coal-driven circuits, this period was defined as well by missed connections and roads glimpsed but not followed.

In the Introduction, I suggested that the post-1848 history of injury and class recomposition along the British railways could perhaps be “recognized by the present as one of its own concerns.” From the perspective of the present, the twentieth century era of Fordism looks like a relatively brief and geographically bounded moment of exception in a broader history of precarious and bonded labor regimes and of relatively unregulated capital accumulation. Without downplaying stark historical differences, might the pre-Fordist period be made to appear as a concern of the present? This is a question that has begun to provoke varied responses, and has even become something of a political rorschach test in certain circles. If the pre-Fordist period is “like” the present, the

argument goes, the Left need not fundamentally rethink its organizing priorities, as the construction of working class power could be achieved in ways that are similar to past episodes of struggle and political advance. To put the question more starkly, the issue in such debates seems often to be whether waged workers in strategic industries are in a position today to lead a wave of class struggle that could effectively confront increasingly precarious conditions of life and labor? And if not, which forms or agents of social struggle could more effectively do so?[442] Those arguing that something has changed fundamentally tend to point to structural shifts in dynamics of accumulation, emphasizing perennially weak profit rates, high rates of unemployment, contingent and automated labor regimes, and the restructuring of supply chains to make them more dispersed and flexible. These shifts purportedly make unionization and other modes of workers' organization at the point of production incapable of forcing reforms that would offer meaningful social and economic advance for the broad majority of those who struggle to secure the means of reproduction. In light of this negative assessment, Jasper Bernes, for one, argues that we might find more promise in efforts by those excluded from supply chains to block strategic economic nodes, to appropriate materials necessary for reproduction, and in this way to make the conditions for more effective breaks with labor, value and other capitalist forms of social mediation.[443]

As I have sought to show above, the terms of this debate are ripe for revision. The presupposition of a sharp distinction between workers' collective action at the point of production, on the one hand, and precarious or surplus populations' coordination of blockades and appropriations at strategic economic nodes, on the other hand, tends to distort our understanding of pre-Fordist histories of class struggle, in which these two dimensions frequently overlapped and at times took shape in mutually enabling ways. The mass picket, a key tactic of the mass strike, relied on and made manifest associations between various faces of surplus labor – those employed along strategic economic nodes, but also those employed in less strategic sites and those unemployed, terminally or otherwise. While these associations were often fraught and sometimes fleeting, they were anything but marginal to the history of working class struggle at the turn of the century. The history of the mass picket thus reshuffles the terms of debates about similarities and differences between the pre-Fordist moment and the contemporary moment. To the extent that the former is "like" the latter, there is in the present a need for shifts in Left discourse and strategy, including a thinking otherwise of the industrial worker / surplus population polarity, and an effort to forge tactics and organizational forms that could enable these groups to act in concert toward the realization of shared interests. This is not to say that there aren't examples today of effective associations between those employed in transit industries and those at some distance from such industries. Katy Fox-Hodess has demonstrated in a comparative study of recent dockworker organizing in England, Portugal, and Greece that dockworkers in Lisbon have been particularly successful in counteracting regressive labor reforms insofar as they have brought together international solidarity efforts, union democratization, and, critically, coordination with local social movement formations and unemployed groups in waging strikes and protests.[444] Along similar lines, Deborah Cowen, in her study of the securitization of supply chains, has discussed recent efforts along West Coast ports to coordinate dockworker unionists with those involved in mass occupations and other forms of local, autonomous organizing.[445] Cowen's work is particularly suggestive in relation to the early history of mass pickets in

transit sectors, insofar as she demonstrates how those managing capital have recently undertaken a range of initiatives to prevent non-workers from accessing strategic nodes in global supply chains, and to screen, monitor, and discipline workers in an attempt to prevent them from engaging in disruptive forms of industrial action. In other words, the contemporary management discourse of "supply chain security" presupposes the potential of workers and non-workers to coordinate effective blockades of strategic nodes of the global economy. In addition to registering an anxiety about mass blockades, the securitization of supply chains, as of society more generally, makes the question of state violence unavoidable, even potentially central, in counter-systemic practice.

Beyond questions of social agency in an era of automated and globally dispersed supply chains, the history of post-1848 British railway labor potentially is of interest in relation to pressing questions of social reproduction and of cognitive mapping. While I have turned in the Afterword to a somewhat less distant, relatively antagonistic moment in British class relations, the bulk of *Infrastructures of Injury* has concerned itself with the immediately preceding period of working class quiescence. In dissecting this period, I have attempted to show how gender discourses of labor and injury significantly conditioned the practices of those dependent upon railway industries for survival. Such discourses played a role in the composition of the twinned breadwinner/housewife ideal, in the moralization of railway widows, and in broader turns toward family-based self-help initiatives amongst higher grade employees – turns that tended to separate railway workers into distinct social strata defined by different outlooks and interests. In this way, patterns of social reproduction and discourses of gender came to appear as key determinants of grade-based divisions in the railway industry, and thus as constraints to working class association across various registers of difference. While gender discourses thus shaped divisions of grade, they also above all helped construct stark gender divisions of labor, which ultimately proved more intractable over the first half of the twentieth century than did divisions of grade amongst men working in the industry.

In terms of the question of parallels between past and the present, the history of gender relations outlined in *Infrastructures of Injury* in some ways offers an inverted mirror image of the history of gender in post-Fordist societies, in which women's employment rates have tended to steadily increase, and in which consequential challenges to patriarchal family norms have been sustained over time. And yet, as has become particularly salient in the context of post-2008 privatizing reforms in the sphere of social reproduction, these feminist advances have not overcome the division of socially recognized labor and socially unrecognized reproductive work, and the gendering of this division.[446] Such reforms have tended simultaneously to intensify burdens of *waged* reproductive labor (among teachers and nurses facing speedups, for example), and of *unwaged* reproductive work (among caregivers newly unable to afford child care or responsible for administering elder care).[447] The fact that regressive transformations in conditions of care work have been taking place simultaneously in waged and unwaged spheres has shaped my historical vision, opening up questions of how, in the Victorian period, gender discourses of labor and injury may have reshaped at once waged and unwaged spheres. We have seen how norms of reformed nursing set out models for women's unwaged domestic labor, while norms of paternal watchfulness shaped railway workers' labor. Attending to these crossings has helped make visible the degree to which certain grades of railway service entailed the management of passengers' affect, and has

also indicated the importance of injury and its management for emergent norms of women's domestic work. The former observation might tend to unsettle distinctions between industrial and service-sector labor processes, while the latter suggests the importance of considering together questions of unwaged gendered labor and of lives' uneven grievability and life chances.

In addition to emphasizing the relational dimensions of Victorian railway servants' labor in order to unsettle presumptions of industrial labor's non-affective nature, I have also attempted to write against the conventional notion that early railway labor was relatively degraded, rote, or automated.[448] In part, this has involved drawing attention to the forms of judgment and repair work required of servants occupying various grades in the railway division of labor. It has also entailed efforts to grasp the recording labors and visual capacities required of rail servants and nurses, and to draw links between these labors and capacities, on the one hand, and emergent forms of literary, visual, technical, and theoretical representation, on the other hand. *The Life of Roger Langdon*, discussed in Chapter Two, particularly makes apparent some of these connections between labor processes and nascent forms of representation. Ultimately, I have attempted to show how Dickens' experiments with multi-authored writing and Marx's innovative mode of representation in *Capital* can be associated with emergent industrial labor processes, and especially with the visual and record-keeping capacities required of railway, nursing, and other workers. Dickens and Marx's efforts to represent multiple-sides of their social worlds within a single work thus appear as efforts at cognitive mapping that are informed by, or convergent with, historically emergent techniques of technical representation and vision. In addition to a desire to unsettle the notion that early railway work entailed simply rote or repetitive motions, this inquiry is also motivated by anxieties about our capacity to construct cognitive maps of the present, and particularly about the relative inaccessibility to representation of automated, computerized labor processes and logistical chains.[449] Perhaps, as some have argued, computerization sets historically unprecedented limits on our capacity to imagine and orient ourselves within global flows. Perhaps it holds some unrealized potentials for critical cognitive mapping, or for counter-logistical knowledges. The history of labor and techniques of representation presented in *Infrastructures of Injury* thus can serve at once as a foil and spur for the present, pushing us to press the limits of our capacities to make sense of, and intervene in, the material flows and informational circuits upon which our lives currently depend.

Notes

[1] Walter Benjamin, "Theses on the Philosophy of History," *Illuminations* (Schocken, 1968), p. 255.
[2] Jack Simmons, *The Express Train and Other Railway Studies* (Nairn: David St. John Thomas, 1994), p. 118.
[3] Cf. Benjamin's conception of 'information' as a constituent element of modern communication. Walter Benjamin, "The Storyteller," *Illuminations* (Schocken, 1968), pp. 88-9.
[4] Simmons, *Express Train* (1994), p. 119. Baron's reference to Maddox's hanging seems mistaken. On 4 January 1862 David Brandrick was hanged at the Stafford Gaol for allegedly having murdered Mr. Bagot during a robbery. His associates,William Jones and William Maddocks, were reprieved by Sir George Grey. Cf. Brandrick Ancestry Forum (http://www.brandrick.co.uk/html/brandrick_ancestry_-_research.html), and Capital Punishment UK (http://www.capitalpunishmentuk.org/1837.html).
[5] Karl Marx, *Capital, vol. 1*, trans. Ben Fowkes (London: Penguin, 1990 [1867]), p. 553.
[6] Jamie Bronstein, *Caught in the Machinery: Workplace Accidents and Injured Workers in Nineteenth-Century Britain* (Redwood City: Stanford University Press, 2007).
[7] With respect to cultural studies, see, for example: Fredric Jameson, *The Political Unconscious: Narrative as a Socially Symbolic Act* (Ithaca: Cornell University Press, 1981), p. 102; Fredric Jameson, *The Ideologies of Theory* (London and New York: Verso, 2008), pp. 77-124; and Jameson's 1983 introduction to Lukacs' *The Historical Novel*. Georg Lukacs, *The Historical Novel* (Lincoln: University of Nebraska Press, 1983).
[8] Geoff Eley and Keith Nield, *The Future of Class in History: What's Left of the Social?* (Ann Arbor: The University of Michigan Press, 2007), p. 180.
[9] For a detailed account of these historiographical transformations, see: Dennis Dworkin, *Class Struggles* (Harlow: Pearson, 2007).
[10] Joan Wallach Scott, *Gender and the Politics of History* (New York: Columbia University Press, 1988). Cf. William Sewell, "How Classes Are Made: Critical Reflections on E. P. Thompson's Theory of Working-class Formation," in *E. P. Thompson: Critical Perspectives*, ed. Harvey J. Kaye and Keith McClelland (Cambridge: Cambridge University Press, 1990).
[11] Gareth Stedman Jones, *Languages of Class: Studies in English Working Class History, 1832-1982* (Cambridge: Cambridge University Press, 1983).
[12] These national dynamics also refracted international events, above all the fall of the Soviet Union. For accounts of the contested reconstruction of the Left in Britain over the 1980s, see: Stuart Hall and Martin Jacques, *New Times: The Changing Face of Politics in the 1990s* (London: Verso, 1989); Ralph Miliband, "The New Revisionism in Britain," *NLR I/150* (March-April, 1985).
[13] James Vernon, *Politics and the People: A Study in English Political Culture, C. 1815-1867* (Cambridge: Cambridge University Press, 1993).
[14] Patrick Joyce, *Visions of the People: Industrial England and the Question of Class, C. 1848-1914* (Cambridge: Cambridge University Press, 1991).
[15] Mary Poovey, *Making a Social Body: British Cultural Formation, 1830-1864* (Chicago: University of Chicago Press, 1995).
[16] Denise Riley, *Am I that Name? Feminism and the Category of Women in History* (Minneapolis: University of Minnesota Press, 1988), 44-66.
[17] E.P. Thompson, *The Making of the English Working Class* (New York: Vintage, 1966 [1963]), p. 205.
[18] Anna Clark, *The Struggle for the Breeches: Gender and the Making of the British Working Class* (Berkeley and Los Angeles: University of California Press, 1997). For a consideration of the gender dynamics of a later period of class politics, see Sonya Rose, *Limited Livelihoods: Gender and Class in Nineteenth-Century England* (Berkeley and Los Angeles: University of California Press, 1992).
[19] Cf. Dworkin, *Class Struggles* (2007), p. 155. Carolyn Steedman, in *Master and Servant* (2007) also rewrites from a feminist perspective the Thompsonian narrative of class formation, re-centering domestic labor in the representation of early nineteenth-century history. Carolyn Steedman, *Master and Servant: Love and Labour in the English Industrial Age* (Cambridge: Cambridge University Press, 2007). See also: Steedman, *Labours Lost: Domestic Service and the Making of Modern England* (Cambridge: Cambridge University Press, 2009).

[20] Rose, *Limited Livelihoods* (1992); Sonya Rose and Laura Frader, Eds., *Gender and Class in Modern Europe* (Ithaca: Cornell University Press, 1996); Leonore Davidoff and Catherine Hall, *Family Fortunes: Men and Women of the English Middle Class 1780-1850* (Chicago: University of Chicago Press, 1987); Davidoff, Doolittle, and Holden, *The Family Story: Blood, Contract and Intimacy* (London and New York: Longman, 1999); Carolyn Steedman: *Childhood, Culture and Class in Britain: Margaret McMillan*, 1860-1931 (New Brunswick: Rutgers University Press, 1990).
[21] Kathleen Canning, *Gender History in Practice: Historical Perspectives on Bodies, Class, and Citizenship* (Ithaca and London: Cornell University Press, 2006), pp. 123-138.
[22] James Vernon, "Historians and the Victorian Studies Question: Response," *Victorian Studies* 47:2 (2005), pp. 273-4.
[23] James Vernon, *Distant Strangers: How Britain Became Modern* (Berkeley and Los Angeles: University of California Press, 2014).
[24] Gareth Stedman Jones, *Languages of Class: Studies in English Working Class History, 1832-1982* (Cambridge: Cambridge University Press, 1983), p. 70.
[25] Geoff Eley, "Historicizing the Global, Politicizing Capital Giving the Present a Name," *History Workshop Journal*, 63 (Spring 2007), pp. 154-188.
[26] Eley, "Historicizing the Global" (2007), p. 166.
[27] Brett Neilson and Ned Rossiter, "Precarity as a Political Concept, or, Fordism as Exception," *Theory, Culture & Society*, 25:7-8 (December 2008), pp. 51-72.
[28] R.W. Kostal, *Law and English Railway Capitalism, 1825-1875* (Oxford: Clarendon Press, 1997), pp. 259-79.
[29] H. Raynar Wilson, *Railway Accidents, Legislation and Statistics, 1825-1924* (London: Raynar Wilson Company, 1925), p. 3.
[30] See also, Carolyn Steedman, "A Boiling Copper and Some Arsenic: Servants, Childcare, and Class Consciousness in Late Eighteenth-Century England," *Critical Inquiry*, 34:1 (Autumn, 2007), pp. 37-77.
[31] Eley, "Historicizing the Global" (2007), p. 167. On the question of the temporal co-existence of discontinuous labor regimes, see also recent work on the histories of capitalism, slavery, indenture, and the Black Atlantic, including: Sibylle Fischer, *Modernity Disavowed: Haiti and the Cultures of Slavery in the Age of Revolution* (Durham: Duke University Press, 2004); Frederick Cooper, Thomas Holt, and Rebecca Scott, *Beyond Slavery: Explorations of Race, Labor, and Citizenship in Postemancipation Societies* (Chapel Hill: UNC Press, 2000); Thomas Holt, *The Problem of Freedom: Race, Labor, and Politics in Jamaica and Britain, 1832–1938* (Baltimore: Johns Hopkins University Press, 1992); David Northrup, *Indentured Labor in the Age of Imperialism, 1834–1922* (Cambridge: Cambridge University Press, 1995); Walter Johnson, *River of Dark Dreams* (Cambridge, Mass: Harvard University Press, 2013); Sven Beckert, *Empire of Cotton: A New History of Global Capitalism* (London: Allen Lane, 2014); Edward Baptist, *The Half Has Never Benn Told: Slavery and the Making of American Capitalism* (New York: Basic Books, 2014).
[32] Cf. Beverly Silver, *Forces of Labor: Workers' Movements and Globalization Since 1870* (Cambridge: Cambridge University Press, 2003).
[33] Maxine Berg, "From Globalization to Global History," *History Workshop Journal*, 64 (Autumn 2007), p. 338.
[34] Karl Marx, *Capital, vol. 1* (London: Penguin and NLR, 1982 [1976]), chs. 15, 25.
[35] Timothy Mitchell, *Carbon Democracy: Political Power in the Age of Oil* (London and New York: Verso, 2011).
[36] In *Forging Democracy*, Geoff Eley provides a fine-grained, social and political history of these transformations. Geoff Eley, *Forging Democracy: The History of the Left in Europe, 1850-2000* (Oxford: Oxford University Press, 2002).
[37] See, for example: Wally Seccombe, *Weathering the Storm: Working-Class Families from the Industrial Revolution to the Fertility Decline* (London and New York: Verso, 1993); Sonya Rose, *Limited Livelihoods* (1993); Mary Poovey, *Uneven Developments: The Ideological Work of Gender in Mid-Victorian England* (Chicago: University of Chicago Press, 1988); Eric Hobsbawm, *Industry and Empire* (New York: The New Press, 1999 [1968]); pp. 96-8. On the intimate violence perpetrated by men against women that accompanied the reconstruction of working class domestic norms, see: Nancy Tomes, "A 'Torrent of Abuse': Crimes of Violence between Working-Class Men and Women in London, 1840-1875," *Journal of*

Social History, 11:3 (Spring, 1978), pp. 328-345.

[38] Mitchell does, however, ascribe a determining role in labor antagonisms to relations of race, nation, and ethnicity. This appears especially in his discussion of the dynamics of labor struggle in early twentieth century oil and railway industries in the Russian-controlled Caucuses. His only explicit reference to organizing by women appears in a synthetic moment of the text, where he mentions the effects of the suffrage movement in challenging the "exclusion of women from public life." What is missing is an account grounded in the work experience of women, or in their organizing in response to material immiseration in ways that affected the coal-driven infrastructures that form the object of Mitchell's attention. Mitchell, *Carbon Democracy* (2011), pp. 12-31, 33-36.

[39] See Sidney Lens, *The Labor Wars: From the Molly Maguires to the Sit-Downs* (Chicago: Haymarket Books, 2008 [1973]), pp. 311-54; Rebecca Solnit, *River of Shadows: Edward Muybridge and the Technological Wild West* (New York: Viking, 2003).

[40] Cf. Geoffrey Crossick, *An Artisan Elite in Victorian Britain: Kentish London, 1840-1880* (London: Croom Helm, 1978). Eric Hobsbawm, *Worlds of Labour: Further Studies in the History of Labour* (London: Weidenfeld and Nicholson, 1984). John Foster, *Class Struggle and the Industrial Revolution: Early Industrial Capitalism in Three English Towns* (London: Weidenfeld and Nicholson, 1974). Foster's analysis sought to corroborate, in fine-grained detail, Lenin's theory of the labor aristocracy. According to this theory, which Eric Hobsbawm and E.P. Thompson introduced to British historiography, a relatively secure and depoliticized fraction of the working class emerged in Western European societies over the second half of the nineteenth century, largely as an effect of imperial dynamics. With the increasing concentration of profits in imperial centers over this period, capitalists were able to "buy off" a portion of the metropolitan working class in the form of raises and job security. Foster adds to this theory an argument about work roles, suggesting that new supervisory positions contributed to labor aristocrats' political and cultural disaffiliation from the broader working class — a disaffiliation enabled by their participation in sectorally specific forms of mutual aid, in benefit funds, and in a broader culture of workers' improvement. Vladimir Lenin, *Imperialism, the Highest Stage of Capitalism* (London: Penguin, 2010 [1917]). Lenin's analysis of the labor aristocracy followed Bakunin's use of this term, as well as Engels' argument, made in letters to Marx and in essays published in the 1850s and 1880s, that "the English proletariat is actually becoming more and more bourgeois." Friedrich Engels, *The Condition of the Working Class in England* (London: Penguin, 1987), pp. 39-45. In his account of the emergence of an "aristocracy of labor" in mid-nineteenth-century Britain, Friedrich Engels ascribes the conservative turn in British working class politics in part to a reactionary national response to the French Revolution of 1848. Engels, *The Condition of the Working Class in England* (1987 [1892]), p. 39.

[41] On class and regional dynamics of British settlement and their relation to transnational socio-historical transformations, see: James Belich, *Replenishing the Earth: The Settler Revolution and the Rise of the Anglo-World, 1783-1939* (Oxford: Oxford University Press, 2011). On genealogies of sentimental abolitionism, which speak to some of the racial discourses manifest in railway unionist publications, see Jodi Melamed, *Represent and Destroy: Rationalizing Violence in the New Racial Capitalism* (Minneapolis: University of Minnesota Press, 2011); Sibylle Fischer, *Modernity Disavowed: Haiti and the Cultures of Slavery in the Age of Revolution* (Durham: Duke University Press, 2004); Saidiya Hartman, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America* (Oxford: Oxford University Press, 1997).

[42] Peter Howlett, "The Internal Labour Dynamics of the Great Eastern Railway Company, 1870-1913," *Economic History Review*, LVII:2 (2004), pp. 396-422; Peter Kingsford, *Victorian Railwaymen: The Emergence and Growth of Railway Labour, 1830-1870* (London: Frank Cass, 1970).

[43] Nancy Armstrong, *Desire and Domestic Fiction: A Political History of the Novel* (Oxford: Oxford University Press, 1989).

[44] See, for example, Mariarosa Dalla Costa, "Women and the Subversion of the Community," in *The Power of Women and the Subversion of the Community* (Bristol: Falling Wall Press, 1973), pp. 19-54; Leopoldina Fortunati, *The Arcane of Reproduction: Housework, Prostitution, Labor and Capital* (New York: Autonomedia, 1995 [1981]); Lise Vogel, *Marxism and the Oppression of Women: Toward a Unitary Theory* (New Brunswick: Rutgers University Press, 1983); Angela Davis, *Women, Race & Class* (New York: Vintage, 1983 [1981]); Michele Barrett, W*omen's Oppression Today: The Marxist/Feminist Encounter* (London and New York: Verso, 1980); Silvia Federici, *Caliban and the Witch: Women, the*

Body and Primitive Accumulation (New York: Autonomedia, 2004).
[45] Cf. Stedman Jones, *Languages of Class* (1983), pp. 64-9.
[46] For a remarkable illustration of this shift in normative life paths for working class women, see: L. Twining, *Nurses for the Sick: With a Letter to Young Women* (London, 1863).
[47] For a compelling study of shifting family forms amongst the British working class over the late nineteenth and early twentieth centuries, see: Wally Seccombe, *Weathering the Storm: Working-class families from the Industrial Revolution to the Fertility Decline* (London and New York: Verso, 1995).
[48] For a consideration of the role of contemporary gender discourses of labor and injury in determining the limits, across various sites globally, of shifts in gender divisions of labor, and particularly in setting limits to the feminization of manufacturing, see: Teri Caraway, *Assembling Women: The Feminization of Global Manufacturing* (Ithaca: Cornell University Press, 2007).
[49] Rosalind Williams, *Notes on the Underground: An Essay on Technology, Society, and the Imagination* (Boston: MIT Press, 2008), pp. 63-4.
[50] See: P.W.J. Bartrip and S.B. Burman, *The Wounded Soldiers of Industry: Industrial Compensation Policy, 1833-1897* (Oxford: Clarendon Press, 1983), pp. 34, 75-7.
[51] See, for example: Athanasiou, Athena and Judith Butler, *Dispossession: The Performative in the Political* (Cambridge: Polity, 2013); Judith Butler, *Frames of War: When is Life Grievable?* (New York and London: Verso, 2009); Butler, P*recarious Life: The Powers of Mourning and Violence* (London: Verso, 2004); Ruth Wilson Gilmore, *Golden Gulag* (Berkeley and Los Angeles: University of California Press, 2007), p. 28.
[52] Carolyn Lesjak, "Reading Dialectically," *Criticism*, 55:2 (2013). See also: Fredric Jameson, *Valences of the Dialectic* (London and New York: Verso, 2009).
[53] Fredric Jameson, *The Political Unconscious: Narrative as a Socially Symbolic Act* (Ithaca: Cornell University Press, 1981), pp. 52-3.
[54] My approach to conjunctural analysis is particularly influenced by Etienne Balibar's work on this category and mode of reading. Etienne Balibar, *Masses, Classes, Ideas: Studies on Politics and Philosophy Before and After Marx* (London: Routledge, 1994). There are two aspects of such analysis that will be particularly salient for this project: first, the notion that cultural representations in some way bear in their form the shifts and impasses constitutive of relatively contemporaneous historical conjunctures; and second, the sense that, while periods or moments are defined by contingent convergences of historical processes taking place at different levels and according to different temporalities, the moment of convergence nevertheless takes on a certain contingent logic, and poses particular problems for those living through given conjunctures.
[55] Aileen Fyfe, *Steam Powered Knowledge: William Chambers and the Business of Publishing, 1820-1860* (Chicago: University of Chicago Press, 2012), pp. 147-153.
[56] "W.H. Smith and Son", *The English Illustrated Magazine*, Vol. 9 (Macmillan and Company, 1892), p. 806. Fyfe, *Steam Powered Knowledge* (2012), pp. 147-153.
[57] Fyfe, *Steam Powered Knowledge* (2012), p. 149.
[58] Fyfe, *Steam Powered Knowledge* (2012), p. 171.
[59] I will be focusing in my reading on the first two chapters of Gaskell's *Cranford*, which were published together in Dickens' *Household Words* on December 13, 1851, as the first installment of what would become a series of vignettes about the town of *Cranford*. These vignettes were not initially conceptualized, either by Dickens or Gaskell, as component parts of a full-length novel, but would only later be collected together and published in book form. This publication history of the novel is significant in part because it helps explain the sudden, early death of the Captain in the narrative. As Gaskell writes in an 1865 letter to John Ruskin, "The beginning of 'Cranford' was *one* paper in 'Household Words'; and I never meant to write more, so killed Capt Brown very much against my will." Here Gaskell seems to hold the form of serial publishing itself responsible for the Captain's premature death, a view that echoes Miss Jenkyn's insistence at the end of the installment that the Captain "was killed for reading" the *Pickwick Papers*. In each case, the institution and rhythms of serial literature are imagined to be responsible for the Captain's premature death. J.A.V. Chapple and Arthur Pollard, *The Letters of Mrs. Gaskell* (Cambridge, MA: Harvard University Press, 1967), pp. 747-8. When considered in relation to the publication history of *Cranford,* the narrative fates of Captain Brown and of his daughter, Miss Jessie, might put some pressure on Alex Woloch's theorization of minor characters and of the distribution of character space in *One vs. the Many*. The Captain

and Miss Jessie arguably are accorded as much narrative space as any other characters in the first installment of *Cranford*, but are almost entirely absent from the remainder of what would become the novel. Nevertheless, as we will see, these characters help establish a narrative polarity that will remain operative throughout the entirety of the novel. They are thus hard to characterize in terms of their relative allocation of narrative space: they fill the space of the original text of what would become the novel and they remain present in spectral form throughout the novel. Woloch, Alex, *The One vs. the Many: Minor Characters and the Space of the Protagonist in the Novel* (Princeton: Princeton University Press, 2003).

[60] When *Cranford* was originally published in serial form within Dickens' *Household Words*, the Captain was depicted reading serialized work by Thomas Hood, rather than Dickens' *Pickwick Papers*. Dickens insisted on the switch, and refused to honor Gaskell's preference to have the installment pulled rather than edited in such a fundamental way. When the novel was subsequently published, including in W.H. Smith's collection of cheap railway fiction, the reference to *Pickwick Papers* was restored. I've chosen to present a reading of Gaskell's intended text, and of the text that ultimately would be included in the book versions of *Cranford*, rather than the text that was originally serialized. The reading that follows will hopefully show some of the reasons why Gaskell's original plan for the first installment is more coherent and interesting than is Dickens' hastily revised version. One problem with this choice on my part is that it will tend to obscure the ways that the original installment would have been read, which will matter when I discuss the resonances between Gaskell's *Cranford* and H.M. Rathbone's *Mignionette*, published in two installments in the *Working Man's Friend and Family Instructor*, beginning only a week after the publication of *Cranford*'s initial installment. Hilary M. Schor, *Scheherezade in the Marketplace: Elizabeth Gaskell and the Victorian Novel* (New York and Oxford: Oxford University Press, 1992), pp. 92-93. Dorothy W. Collin, *The Composition and Publication of Elizabeth Gaskell's Cranford* (unpublished dissertation: Department of English, University of Western Australia). In text citations in what follows refer to the following edition of the novel: Elizabeth Gaskell, *Cranford* (London: Penguin Classics, 2005).

[61] *The Principles and Practice and Explanation of Locomotive Engines in Operation on the Several Lines of Railway… : with descriptive text… : completing Division A., and forming the first volume of the new edition of Tredgold on the steam engine* (London, 1850. The Making of the Modern World. Web 2 Aug. 2011), p. 15.

[62] At the historical moment (as mediated through the fictional text of *Cranford*) when the Captain was struck down, the distribution of serial literature had a somewhat more informal, irregular quality than in the moment of *Cranford*'s publication, as discussed in the introduction to this chapter. On distribution practices of mass literature in the 1830s and 40s, see: Louis James, *Fiction for the Working Man 1830-1850* (London: Oxford University Press, 1963), pp. 1-44. On the midcentury shift in distribution practices, see: Fyfe, *Steam-Powered Knowledge* (2012), pp. 159-173. "W.H. Smith and Son", *The English Illustrated Magazine*, Vol. 9 (Macmillan and Company, 1892), pp. 795-809.

[63] The importance of affective labor to railway work can be seen in Kirkman's 1878 compilation of a variety of British and American railway manuals and rulebooks: Marshall Kirkman, *Railway Service: Trains and Stations. Describing the Manner of Operating Trains, and the Duties of Train and Station Officials* (New York: The Railroad Gazette, 1878).

[64] Charles Dickens, *The Pickwick Papers* (New York: Hurd and Houghton, 1868), p. 191. (This is a later edition of the novel, which was originally published in serial form in 1836, and was attributed to "Boz," Dickens' pen name.)

[65] Dickens, *Pickwick Papers* (1868), p. 191.

[66] Hilary Schor argues that *Cranford*'s "real project" is "literary (self-)awareness," and that it is "a divided and deeply self-conscious novel, aware of itself as a document" (87). Schor shows how the novel is involved in thinking through contemporary dynamics of serial publication and distribution, gender relations in the literary field, and the effects of reading upon differently situated subjects' capacities to act in the world at the midcentury. Hilary M. Schor, *Scheherezade in the Marketplace: Elizabeth Gaskell and the Victorian Novel* (New York and Oxford: Oxford University Press, 1992), pp. 83-119. For other work on reflexivity in Cranford, particularly focusing on the novel's representation of objects, including those caught up in the publication industry, see: James Mulvihill, "Economies of Living in Mrs. Gaskell's Cranford", *Nineteenth-Century Literature*, Vol. 50, No. 3 (Dec., 1995), 337-356; Christina Lupton, "Theorizing Surfaces and Depths: Gaskell's 'Cranford'", *Criticism*, Vol. 50, No. 2 (Spring 2008), pp. 235-254.

[67] Lorna Huett argues that, while *Household Words* generally cultivated and retained a new middle class audience, the *2d*. charged for its weekly installments would not have been out of reach for those working class readers accustomed to purchasing *1d.* periodicals, particularly if two or more buyers shared the cost. Lorna Huett, "Among the Unknown Public: 'Household Words', 'All the Year Round' and the Mass-Market Weekly Periodical in the Mid-Nineteenth Century," Victorian Periodicals Review, Vol. 38, No. 1 (Spring, 2005), pp. 61-82. In her discussion of weekly newspapers addressed to working class readers over the second half of the nineteenth century, Virginia Stewart Berridge notes the midcentury popularity amongst working class readers of a number of weekly newspapers, some of which cost 2 pence. Virginia Stewart Berridge, "Popular Journalism and Working Class Attitudes 1854-1886: A Study of Reynold's Newspaper, Lloyd's Weekly Newspaper and the Weekly Times (Dissertation: University of London, Birkbeck College, 1976). On working class consumption of periodicals at the midcentury, see also: Patricia J. Anderson, "'Factory Girl, Apprentice and Clerk': The Readership of Mass-Market Magazines, 1830-60", *Victorian Periodicals Review*, Vol. 25, No. 2 (Summer, 1992), pp. 64-72. There is some evidence as well that Gaskell's first novel, *Mary Barton*, may have enjoyed some popularity amongst working class readers. As Louis James notes in his reading of the 1849 Parliamentary Report on libraries: "lower-class interest was aroused by 'a tale of factory life' in Manchester (perhaps Mrs. Gaskell's Mary Barton), in army barracks, police-stations, and linen drapers." Louis James, *Fiction for the Working Man 1830-1850* (London: Oxford University Press, 1963), p. 5. Possible evidence for *Cranford*'s popularity and relative accessibility is the fact that it formed the first "yellow book" republished by W.H. Smith and sold in a "cheap edition" along railway terminals, in 1855. Dorothy W. Collin, *The Composition and Publication of Elizabeth Gaskell's Cranford* (unpublished dissertation: Department of English, University of Western Australia), p. 79. Schor, *Scheherezade in the Marketplace* (1992), p. 85.

[68] Patrick Brantlinger, *The Reading Lesson: The Threat of Mass Literacy in Nineteenth Century British Fiction* (Bloomington, Indiana: Indiana University Press, 1998).

[69] W.R. Greg, "Mary Barton", Edinburgh Review (April 1849), pp. 402-35. Reprinted in: Elizabeth Gaskell, *Mary Barton: authoritative text, contexts, criticism*, Thomas Recchio, ed. (New York: Norton, 2008), pp. 382-390.

[70] Greg (1849). Quoted in Recchio (2008), p. 385. As we will see, this portrait of an "improved and improving" stratum amongst the industrial working class is surprisingly consonant with John Foster's depiction of the emergence in the late 1840s and early 1850s of a "labour aristocracy" in the Lancashire town of Oldham. Foster argues that the new labor aristocrats isolated themselves from the mass of workers by forming institutions of social improvement that put them primarily in relation to each other and to middle class reformers. John Foster, *Class Struggle and the Industrial Revolution: Early industrial capitalism in three English towns* (London: Weidenfeld and Nicolson, 1974), pp. 203-250. Greg's depiction also resonates with Patrick Joyce's account of the relative neutralization of workers' opposition in the second half of the nineteenth century, which he attributes in part to the convergence of familial and cultural norms with the norms of factory work, where multiple generations of family members often worked in hierarchically distributed roles. In his review, Greg depicts families with multiple incomes from factory work as exemplars of working class improvement. Patrick Joyce, *Work, Society and Politics: The culture of the factory in later Victorian England* (New Brunswick, NJ: Rutgers University Press, 1980).

[71] Greg (1849). Quoted in Recchio (2008), p. 385-390.

[72] Upon arriving in Cranford, the Captain shocks the women who occupy the world of the novel by speaking frankly about his class position: "he was so brazen as to talk of being poor – why! then, indeed, he must be sent to Coventry. Death was as true and as common as poverty; yet people never spoke about that, loud out in the streets. It was a word not to be mentioned to ears polite" (8). The Captain brings an outspoken language of class to the streets of Cranford and to the lines of *Cranford*.

[73] On melodramatic gesture in early- and mid-nineteenth-century Britain, see: Henry Siddons, *Practical Illustrations of Rhetorical Gesture and Action* (London, 1822); Matthew Wilson Smith, "Victorian Railway Accident and the Melodramatic Imagination", *Modern Drama*, Vol. 55, No. 4 (Winter 2012). On the appropriation of melodramatic rhythms and rhetorical forms in Dickens' Dombey and Son, see William Axton, *Circle of Fire: Dickens' Vision and Style and the Victorian Popular Theater* (Lexington: University of Kentucky Press, 1966), pp. 219-61.

[74] Schor, *Scheherezade in the Marketplace* (1992), pp. 101-103.

[75] The invocation of "grieving life" here introduces a conceptual and historical problem, as it would seem to

suggest a transhistorical understanding of the psychic and temporal dynamics of grief. This is a problem that I will not be able adequately to work through here. Tentatively though, I would want to say that this chapter is attempting to contribute to a history of the present, in showing how a narrative grammar of loss takes shape in *Cranford* that bears what we might recognize as characteristic features of grieving life—features of psychic and temporal dislocation performed, for example, in Denise Riley's 2012 *Time Lived, Without its Flow*, a journal of her experience of temporal distension following the death of her son. In this way, my project is indebted to, and resonant with, Jill Matus' recent history of trauma's present, which attends to the late nineteenth-century literary construction of forms of shock, trauma, and unconscious psychic activity. Jill Matus, *Shock, Memory and the Unconscious in Victorian Fiction* (Cambridge University Press, 2009). As we will see in the concluding discussion of "Poor Peter," *Cranford* puts on display its own conceptions of shock and what we might call trauma.

[76] Christopher Herbert suggests that, while the gothic melodramas interpolated in the *Pickwick Papers* do not immediately appear to relate to the primary narratives that they interrupt, in fact they can be seen to infiltrate these narratives, particularly in episodes of haunting that appear within the primary narratives of the *Pickwick Papers*. Christopher Herbert, "Converging Worlds in Pickwick Papers," *Nineteenth-Century Fiction*, 27:1 (Jun., 1972), pp. 1-20. Sally Ledger discusses the narrative devices that Dickens' early fiction, including *Pickwick Papers,* shared with early nineteenth-century radical melodramatic tales: Sally Ledger, "From Queen Caroline to Lady Dedlock: Dickens and the Popular Radical Imagination," *Victorian Literature and Culture*, 32:2 (2004), pp. 575-600.

[77] Gaskell remembered Greg's review in an 1845 letter to Emil Souvestre, remarking that Greg had "abused" the novel, but that "we are none the less friends." J.A.V. Chapple and Arthur Pollard, *The Letters of Mrs. Gaskell* (Cambridge, MA: Harvard University Press, 1967), pp. 275-6. Interestingly, she also references the review in a letter to "Mrs. Greg," the wife of Samuel Greg, who was W.R. Greg's older brother. Gaskell had apparently received written remarks about the novel, which she assumes had been written by Samuel Greg. She writes: "Those remarks and the note which accompanied have given me great and real pleasure. I have heard much about the disapproval which Mr. Greg's family have felt with regard to 'M.B.,' and have heard of it with so much regret that I am particularly glad that Mr Sam Greg does not participate in it." Chapple and Pollard, *The Letters of Mrs. Gaskell* (1967), p. 73.

[78] Catherine Gallagher argues that *Mary Barton* performs the "absorption" of melodramatic and tragic narrative modes—modes that had allowed for a relatively explicit depiction of class antagonisms—into what remains, at least in *Mary Barton*, an only partially realized domestic narrative, which is organized around the character of Mary. Taking Gallagher's reading as a starting point, it would seem possible to read the characters of Jessie and Mary as performing parallel roles in their respective novels, despite the fact that Jessie remains a minor character in *Cranford*. Catherine Gallagher, *The Industrial Reformation of English Fiction: Social Discourse and Narrative Form 1832-1867* (Chicago and London: University of Chicago Press, 1985), pp. 62-87.

[79] Jessie only once appears with a book: when being introduced to the reader, she is shown passing her prayer book to her father as they depart from church (11). She is also shown briefly reading a card from her soon-to-be husband, Major Gordon: "while [Jessie's] head was bent over it, Miss Jenkyns went through a series of winks and odd faces to me, and formed her lips into a long sentence, of which, of course, I could not understand a word" (28). In both of these instances, it is possible to discern a symptomatic registration of the novel's effort to conceal, through displacement, Jessie's position as a reader of literature. In the first scene, she gives her prayer book away, while in the second, she bends over the note, as if praying, while Miss Jenkyns mouths indiscernible text to the narrator. Miss Jessie's passing associations with reading are thus shrouded in a religious silence; her encounter with text remains illegible.

[80] Nancy Armstrong, *Desire and Domestic Fiction: A Political History of the Novel* (Oxford: Oxford University Press, 1987), p. 12.

[81] D.A. Miller, *Jane Austen, or the Secret of Style* (Princeton: Princeton University Press, 2003), pp. 40-56.

[82] Jessie's marriage plot, while somewhat disjointed, does conform to Sharon Marcus' account of the Victorian marriage plot, which as she shows is driven forward by intimate relations between women. Both in nursing her sister and in sharing a moment of grief with Mary, Jessie realizes intimate bonds with women in a way that precipitates her marriage to the Major. Sharon Marcus, *Between Women: Friendship, Desire and Marriage in Victorian England* (Princeton: Princeton University Press, 2007).

[83] Sue Hawkins, *Nursing and Women's Labour in the Nineteenth Century: The Quest for Independence*

(Routledge, 2010), pp. 89-90; 136-71. On nursing as an alternative to marriage, see also: Basak Demirhan, *Food for Sympathy: Illness, Nursing, and Affect in Victorian Literature and Culture* (Unpublished Thesis, Rice University: Houston, TX, 2010), p. 120.

[84] As we will see, Elizabeth Gaskell was conscious of nursing's ambiguous relation to norms of gender and domestic life, as evidenced in her correspondence with Parthe Nightingale and Emily Shaen concerning the career of Parthe's sister Florence.

[85] The association of domestic labor, and particularly of married women's work, with nursing was not a nineteenth-century invention. In Shakespeare's *Comedy of Errors*, for example, Adriana argues that the Abbess should let her husband go, saying, "I will attend my husband, be his nurse, / Diet his sickness, for it is my office." What is new about this association in the nineteenth century is the degree to which the affective and attentional labors of reformed nursing offered a template for nearly all aspects of feminized domestic labor, not merely for the care of a sick husband, as in earlier understandings.

[86] The first installment of *Cranford* was published in the December 13, 1851 edition of *Household Words* (No. 90); "Mignionette" began publication in *The Working Man's Friend and Family Instructor* on December 20, 1851 (New Series – Vol. 1, No. 12). For biographical materials on John Cassell, see: Simon Nowell-Smith, *The House of Cassell, 1848-1958* (London: Cassell and Company, 1958).

[87] See: *The Rathbone Papers*, University of Liverpool Special Collections; Chapple, *Letters of Mrs. Gaskell* (1967), esp. letters 42, 21, 114, 85, 186. I first learned of this connection when I came across a hand-written inscription in the UC Berkeley copy of Rathbone's, *So Much the Diary of Lady Willoughby* (London: Longman, Brown, Green & Longmans, 1846), which mentions a marriage between Hannah Mary's son, Benson Rathbone, and Mrs. S.H. Greg (one of many marriages between the Rathbones and Gregs, it turns out). In a letter to Marianne Gaskell, Elizabeth notes: "I always regret when I hear of Helen having taken [Mata] out or introduced her to any of their acquaintances, such as the Benson Rathbones &c. I had always rather have her left quietly at Helen's if they have an engagement for the evening; and then & there if she is neat & and not in rags it is all she need mind about; no great stock of dress is required for this in winter" (letter 174).

[88] Charles Manby Smith describes the "unflinching labor" performed by printers "as the day of publication drew near," contrasting this with the relative inactivity of the first three days of the week. He also describes how a certain "popular author" wrote his installments in marathon, last-minute sessions at the printing house. Smith's anecdote suggests that manuscripts could be processed almost immediately upon their arrival at the printing house. Charles Manby Smith, *Working-Man's Way in the World: Being the Autobiography of a Journeyman Printer* (New York: Redfield, 1854), pp. 221-2. See also: James, *Fiction for the Working Man 1830-1850* (1963), pp. 30-34.

[89] J.C.O. Gardener, "The Education of the Working Classes," *The Working Man's Friend and Family Instructor*, 1:1 (London: John Cassell, 1850), pp. 2-6.

[90] For a consideration of the radical context out of which Cassell's *Working Man's Friend and Family Instructor* emerged, see: Malcolm Chase, "Out of Radicalism: The Mid-Victorian Freehold Land Movement," *The English Historical Review*, 106: 419 (Apr., 1991), pp. 319-345.

[91] James, *Fiction for the Working Man 1830-1850* (1963), pp. 39-40.

[92] Anonymous, "House-Keeping Accounts," *The Family Economist*, 4 (London: Groombridge and Sons, 1851), pp. 3-5.

[93] Anonymous, "Household Furniture," *The Family Economist*, 4 (1851), pp. 61-2, 102-3.

[94] Anonymous "A Gossip about Clocks," *Working Man's Friend and Family Instructor*, 3:57 (Saturday, October 30, 1852), pp. 71-4. For material on the making of abstract time in the mid-nineteenth century, see: Wolfgang Schivelbusch, *The Railway Journey: The Industrialization of Time and Space in the 19th Century* (Berkeley and Los Angeles: University of California Press, 1977); Moishe Postone, *Time, Labor, and Social Domination: A reinterpretation of Marx's critical theory* (Cambridge: Cambridge University Press, 1993), pp. 291-297; Peter Galison, *Einstein's Clocks and Poincare's Maps: Empires of Time* (New York: Norton, 2003); Mary Ann Doane, *The Emergence of Cinematic Time: Modernity, Contingency, the Archive* (Cambridge, Mass: Harvard University Press, 2002); pp. 108-139; Vanessa Ogle, *The Global Transformation of Time 1870 - 1950* (Cambridge, Mass: Harvard University Press, 2015).

[95] Francis Plimley, "Letters to Working Men, No. 2, The Benefits of Life Insurance," *The Working Man's Friend and Family Instructor*, 3 (London: Cassell, 1853), pp. 42-3.

[96] See, for example: Wally Seccombe, *Weathering the Storm: Working-Class Families from the Industrial*

Revolution to the Fertility Decline (London and New York: Verso, 1993); Rose, *Limited Livelihoods* (1992); Poovey, *Uneven Developments* (1988); Eric Hobsbawm, *Industry and Empire* (New York: The New Press, 1999 [1968]); pp. 96-8. On the intimate violence perpetrated by men against women that accompanied the reconstruction of working class domestic norms, see: Nancy Tomes, "A 'Torrent of Abuse': Crimes of Violence between Working-Class Men and Women in London, 1840-1875," *Journal of Social History*, 11:3 (Spring, 1978), pp. 328-345.

[97] Foster, *Class Struggle and the Industrial Revolution* (1974); Crossick, *Artisan Elite* (1978).

[98] Penelope Ismay, "Between Providence and Risk: Odd Fellows, Benevolence and the Social Limits of Actuarial Science, 1820s-1880s," *Past and Present*, no. 226 (Feb. 2015); Simon Cordery, *British Friendly Societies, 1750-1914* (Palgrave, 2003); Simon Cordery, "Mutualism, Friendly Societies, and the Genesis of Railway Trade Unions," *Labour History Review*, 67:3 (December 2002).

[99] Leland Jenks, *The Migration of British Capital to 1875* (New York and London: Alfred Knopf, 1927), 129; Hobsbawm, *Industry and Empire* (1968); Jamie Bronstein, *Caught in the Machinery: Workplace Accidents and Injured Workers in Nineteenth-Century Britain* (Redwood City: Stanford University Press, 2008); Elisabeth Cawthon, *Job Accidents and the Law in England's Early Railway Age* (Lewiston: Edwin Mellen Press, 1997); Bartrip and Burman, *The Wounded Soldiers of Industry* (Oxford: Clarendon Press, 1983); Kostal, *Law and English Railway Capitalism* (1994).

[100] Karl Marx, *Grundrisse*, trans. Martin Nicolaus (London: Penguin, 1973), pp. 699-732; Karl Marx, Economic Works of Karl Marx, 1861-1864, *Marx Engels Collected Works*, 34, trans. Ben Fowkes (New York: International Publishers, 1975).

[101] See, for example, Foster, *Class Struggle and the Industrial Revolution* (1974).

[102] Hobsbawm, *Worlds of Labour* (1984), pp. 194-272.

[103] On the midcentury making of a stratum of working class subjects concerned with practicing respectability, see: Geoffrey Crossick, *An Artisan Elite in Victorian Society: Kentish London 1840-1880* (London: Croom Helm, 1978); Neville Kirk, *The Growth of Working Class Reformism in Mid-Victorian England* (Urbana and Chicago: University of Illinois Press, 1985), pp. 174-240; P. Bailey, "'Will the Real Bill Banks Please Stand Up?' Towards a Role Analysis of Mid-Victorian Working-Class Respectability," *Journal of Social History*, 12:3 (1979), pp. 336-353.

[104] P.W.J. Bartrip and S.B. Burman, *The Wounded Soldiers of Industry: Industrial Compensation Policy 1833-1897* (Oxford: Clarendon Press, 1983), pp. 32-6.

[105] Bartrip and Burman, *Wounded Soldiers* (1983), p. 32.

[106] Bartrip and Burman, *Wounded Soldiers* (1983), p. 33.

[107] For a discussion of the means by which railway companies produced forms of loyalty and discipline amongst its early workforce, see: Frank McKenna, *The Railway Workers, 1840-1970* (London: Faber and Faber, 1980), pp. 40-64.

[108] P.W. Kingsford, *Victorian Railwaymen: The Emergence and Growth of Railway Labour 1830-1870* (London: Frank Cass and Co., 1970), p. 174.

[109] Kingsford, *Victorian Railwaymen* (1970), pp. 170-1; 173-5. Kingsford notes that the banks were primarily used by station masters and station clerks, while enginemen, firemen, guards, and signalmen were somewhat less typical depositors, though more so than the lower-paid shunters and other laborers in railway yards.

[110] The *Great Western Railway Enginemen and Firemen's Mutual Assurance Sick and Superannuation Society*, as well as its precursor in the 1850s, should be included as well in the short list of exceptional benefit funds that provided a widows fund in the 1850s. See: J.T. Lea, *The Great Western Railway Enginemen and Firemen's Mutual Assurance Sick and Superannuation Society, 1865-1965* (Swindon: Swindon Signcraft, 1965), pp. 1-3.

[111] Kingsford, *Victorian Railwaymen* (1970), pp. 172-3.

[112] Railway Guards' Universal Friendly Society, Minutes, 1849-1873; Rules, 1849-1863. Cited in Kingsford, *Victorian Railwaymen* (1970), p. 173. Emphasis in original. Cf. "The Sixth Annual Report of the Society for the Relief of Distressed Widows, Applying Within the First Month of their Widowhood. Instituted October, 1923. (London: Henry Baylis, 1830).

[113] On the midcentury eclipse of radical, melodramatic forms of discourse, see: James Vernon, *Politics and the People* (Cambridge: Cambridge University Press, 1993). On this discursive eclipse as it relates specifically to the matter of railway accidents, see: Matthew Wilson Smith, "Victorian Railway Accident

and the Melodramatic Imagination," *Modern Drama*, 55:4 (Winter 2012). The anonymously published *The Ghost of John Bull: or, the Devils Railroad, a Marvellously Strange Narrative* exemplifies an earlier, radical melodramatic representation of railway accidents. Anonymous, *The Ghost of John Bull* (London: James Pattie, 1838).

[114] Bartrip and Burman make a similar assessment, noting that "[T]he great and obvious difference between accidents in the railway industry and the others considered in this study is that members of the public almost never suffered personal injury in mines and factories whereas this was clearly not the case on the railway network. This distinction did not produce any great benefit for railway servants…. [O]n the whole, railway workmen can be considered little better off than their colleagues in the other industries examined in this study. In a sense they suffered more, in that factory and mines legislation for the safety and compensation of employees had no parallel in the Railway Regulation Acts.… Members of the public, including non-passengers, were, therefore, treated much more favourably than railway servants when the question of compensation arose. The distinction was also evident in the debate on safety, for this concentrated almost exclusively on passenger safety at the expense of work aspects." Bartrip and Burman, *Wounded Soldiers of Industry* (1983), pp. 34, 75-7.

[115] Anonymous, *The Ghost of John Bull: or, The Devils Railroad, a Marvellously Strange Narrative* (London: James Pattie, 1838), p. 37.

[116] On populist rhetorics of the 1830s and 40s, see: Gareth Stedman Jones, *Languages of Class: Studies in English Working Class History, 1832-1982* (Cambridge: Cambridge University Press, 1983); James Vernon, ed., *Re-Reading the Constitution: New Narratives in the Political Historical of England's Long Nineteenth Century* (Cambridge: Cambridge University Press, 1996).

[117] On the popular resistance to railway companies' rights to acquire and lay tracks on privately owned land, see: Kostal, *Law and English Railway Capitalism* (1994), pp. 144-182.

[118] Anonymous, *The Ghost of John Bull* (1838), p. 59.

[119] Anonymous, *The Ghost of John Bull* (1838), pp. 34-6.

[120] Elisabeth Cawthon, "New Life for the Deodand: Coroners' Inquests and Occupational Deaths in England, 1830-46," *The American Journal of Legal History*, 33:2 (Apr., 1989), pp. 137-147.

[121] Bartrip and Burman, *Wounded Soldiers* (1983), pp. 56-60. See also: Kostal, *Law and English Railway Capitalism* (1994), pp. 254-321.

[122] Kostal, *Law and English Railway Capitalism* (1994), pp. 11-109.

[123] These legal decisions were bolstered in more informal ways as well. As Bartrip and Burman note, state agents advised in 1851 against publicizing accident and inspectors' reports on the grounds that doing so might encourage workers' heirs to sue companies for damages. Bartrip and Burman, *Wounded Soldiers* (1983), p. 56.

[124] Kostal, *Law and English Railway Capitalism* (1994), pp. 254-321.

[125] W.A. Dinsdale, *History of Accident Insurance in Great Britain* (London: Stone and Cox, 1954), pp. 53-4.

[126] Railway Passengers Assurance Company, *Claims and Compensation, From November 1849 to March, 1851,* p. 8. F. Hayter Cox, *The Oldest Accident Office in the World: being the story of the Railway Passengers Assurance Company, 1849-1949* (1949).

[127] W.A. Dinsdale, *History of Accident Insurance in Great Britain* (London: Stone and Cox, 1954), p. 55. Cf. Cox, *Oldest Accident Office* (1949), p. 21.

[128] Cox, *Oldest Accident Office* (1949), p. 25.

[129] Cox, *Oldest Accident Office* (1949), p. 25.

[130] Cox, *Oldest Accident Office* (1949), p. 25.

[131] Cox, *Oldest Accident Office* (1949), pp. 23-4.

[132] Martha Vicinus, *The Industrial Muse: A Study of Nineteenth Century British Working-Class Literature* (New York: Harper and Row, 1974), p. 214. From: Edwin Waugh et al., *Lancashire Dialect Poems, Sketches and Stories* (Manchester: Abel Heywood and Son, 1915), p. 46.

[133] Hawkins, *Nursing and Women's Labour* (2010), pp. 62-71; Louisa Twining, *Nurses for the Sick: with a letter to young women* (Longman, 1861), pp. 10-11. The following passage from Twining's letter is particularly suggestive: "Up to within a comparatively recent period no especial training was thought necessary for the office of nursing the sick; the term 'hospital nurse' conveyed an idea of one of the lowest workers in the social community. It raised up in our minds the image of a woman who had fallen below

other occupations, and was reduced to this office by necessity. How often drunken habits formed a part of her character we need not inquire; drinking, to some degree, was thought to be a necessary accompaniment of her work. As to a religious mind being at all essential to its performance, we suppose that such an idea was hardly ever entertained. The race of old women who undertook to nurse private patients were, generally speaking, ignorant and vulgar, acting upon experience or prejudice rather than from actual knowledge" (10-11).

[134] Demirhan, *Food For Sympathy* (2010), pp. 113-120. Twining, *Nurses for the Sickn* (1861), pp. 18-19. Gillian Whitlock, *The Intimate Empire: Reading Women's Autobiography* (London: Cassell, 2000);

[135] Hawkins, *Nursing and Women's Labour* (2010), pp. 55-6. Anne Marie Rafferty, *The Politics of Nursing Knowledge* (London and New York: Routledge, 1996).

[136] On the employment of men as contingent nurses at St. Georges over the second half of the nineteenth century, see: Hawkins, *Nursing and Women's Labour* (2010), pp. 76-7.

[137] J. H. Barnes, surgeon to the workhouse hospital, *Notes on Surgical Nursing: being a short course of lectures delivered at the training school for nurses in connection with the Liverpool workhouse* (London: Churchill, 1874 [first ed. 1865]) pp. 5-7.

[138] Twining, *Nurses for the Sick* (1861), pp. 9-10.

[139] Twining, *Nurses for the Sick* (1861), pp. 3-6.

[140] Cf. Barnes, *Notes on Surgical Nursing* (1874), p. 3: "In the winter of 1866, at the suggestion of Wm. Rathbone, Esq., to whose efforts this change in the system of nursing was in the first place due, Dr. Gee, the Physician to the Hospital, delivered a course of lectures on medical nursing, while the following notes on surgical nursing were prepared by myself" (3).

[141] Hawkins, *Nursing and Women's Labour* (2010), pp. 62-3. The concern about nurses' exposure to infection structures much of Joseph Bell's *Notes on Surgery for Nurses* (Oliver and Boyd, 1887). Cf. "One word now on your duty to yourself. No nurse or doctor either should think much of self or of self-preservation. That is not our business, which is to cure our patients. Still no unnecessary risks should be run, and in tracheotomy for diphtheria it is right to remind you that both nurse and doctor run risks of infection, if by any chances the membrane or mucus be blown out of the tube with force, and thus enter either mouth or eyes. When the tube is being inserted there is generally a great rush of bloody mucus, most infectious, so keep back your head, it is just the moment when you are apt to put it forward most eagerly; also when cleaning or changing the tube just keep your face out of the direct line of fire. Do not kiss the child at all, as your tender heart may wish to show your sympathy" (131).

[142] Twining, *Nurses for the Sick* (1861), pp. 22-4.

[143] Rafferty, *Politics of Nursing Knowledge* (1996), pp. 33-36. Lees, *Handbook for Hospital Sisters* (1874); Barnes, *Notes on Surgical Nursing* (1874).

[144] Margot Finn, *The Character of Credit: Personal Debt in English Culture, 1740-1914* (Cambridge: Cambridge University Press, 2003).

[145] For evidence of nurses' use of thermometers over the second half of the nineteenth century, see: Barnes, *Notes on Surgical Nursing* (1874), p. 13. Veitch, *Handbook for Nurses for the Sick* (1870), pp. 45-8.

[146] Zepherina Veitch, Late Head Surgical Sister of King's College Hospital, *Handbook for Nurses for the Sick* (Churchill and Sons, 1870), pp. 40-43.

[147] Rafferty, *Politics of Nursing Knowledge* (1996), p. 33. Cf., Barnes, *Notes on Surgical Nursing* (1874), pp. 8-9: "The three errors most liable to be run into are deficiency, excess, and perversion. In observation and description, things should neither be magnified or exaggerated, nor, on the other hand, diminished or omitted, but intelligently observed and correctly described. Every nurse ought to be able to write a plain readable hand. If she cannot do so, the sooner she sets to work and learns the better; for the things that come before a nurse's attention are frequently too much for the unaided memory to carry. A small note book or set of tablets and pencil will be found very useful, in order that any observation or direction may be definitively recorded and fixed" (8-9).

[148] Rafferty, *Politics of Nursing Knowledge* (1996), p. 18. On nurse resistance to doctors' authority, see Hawkins, *Nursing and Women's Labour* (2010), pp. 82-88. On doctors' desire for nurses to take over basic record keeping duties, see Hawkins, *Nursing and Women's Labour* (2010), pp. 55-6.

[149] Rafferty, *Politics of Nursing Knowledge* (1996), p. 33.

[150] In Chapter Two, we will consider an autobiographical narrative that describes how this process unfolded in the author's village over the 1830s and 40s.

[151] R. Barwell, *Guide in the Sick Room* (Macmillan, 1864), p. 2.
[152] Anon, *The Nurse and the Nursery, by A Physician* (Hope and Co, 1854). Ann Jane, ed., *The Mothers' Friend*, 1 (Ward & Co., 1860). With respect to the latter, see especially: "A Letter to the Editor, on two very interesting subjects. 'My Dear Madam, -- A number of physicians of New York and Brooklyn have come to the conclusion, from facts and observation, that one leading cause of the great mortality among children arises from their being left too much to the care of servants. It has been observed that children who are taken care of by their mothers, undressed and dressed by them night and morning, and kept under a loving mother's eye during the day, are as a general rule far more healthy, good-tempered, and intelligent, than those who are left almost exclusively to the care of servants. In addition to this, it must be remembered that most of the accidents which happen to children, whereby they are seriously injured, and sometimes maimed for life, or rendered idiotic, occur through the negligence of those in whose care they are left by unthinking or unloving parents. These statements are certainly deserving the earnest consideration of mothers. I thought this might be suitable for the pages of your excellent little work, as facts that should be extensively known; for though all who read the *Mothers' Friend* may not be able to keep servants, no doubt many do; and those mothers who are training daughters to go into service as young nurses, should be anxious to teach them the vast importance of being careful and tender over the dear little ones committed to their charge" (229). Cf. Jonathan Crary, *Suspensions of Perception* (Boston: MIT Press, 2000).
[153] Hawkins, *Nursing and Women's Labour* (2010), p. 170.
[154] Basak Demirhan shows how, in her autobiography, Seacole scripted herself into a maternalist relation to the national/imperial body. This relation differed from the somewhat more austere role projected through Nightingale's works, though was not significantly less widely consumed or even embraced in 1850s and 60s Britain. Demirhan, *Food for Sympathy* (2010), pp. 113-120. On the construction of the nurse leader as independent of family ties, see especially: "These examples reveal maternalism to be a performative subjectivity that can at times be incongruous with the lived experience of motherhood. Ironically, although they all draw from maternal metaphors in their narratives to extol their professional services, Nightingale, Seacole, Davis, and the nuns all rejected marriage and domestic life in favor of alternative means of maintaining social and/or financial stability. Like Nightingale and others, whose rejection of marriage and reproductive domestic life afforded them the opportunity to nurse the soldiers as surrogate mother figures, Seacole's choice to suppress the existence of her biological daughter in her narrative enhances her textual performance of symbolic maternalism (120).
[155] J.A.V. Chapple, *Elizabeth Gaskell: A Portrait in Letters* (Manchester University Press, 1980), p. 113.
[156] Marcus, *Between Women* (2007), pp. 191-256.
[157] Marcus, *Between Women* (2007), p. 194.
[158] Marcus, *Between Women* (2007), p. 3.
[159] Marcus, *Between Women* (2007), p. 100.
[160] It does seem remarkable though that an author who constructed an entire novel around a fictional town inhabited and run almost exclusively by women would receive not even a mention in Marcus' study of relations between women in Victorian literature.
[161] Theodor Adorno and Ernst Bloch, "Something's Missing: A Discussion between Ernst Bloch and Theodor W. Adorno on the Contradictions of Utopian Longing," *The Utopian Function of Art and Literature*, trans. Jack Zipes and Frank Mecklenburg (Boston: MIT Press, 1989), pp. 1-17.
[162] Such an effort to excavate unspeakable desires would follow what Eve Sedgwick refers to as the "minoritizing" discourse of queer studies but not its counterpart, the universalizing discourse, which asks how queer subject positions illuminate something general about the instabilities of gender or sexuality. Eve Sedgwick, *Epistemology of the Closet* (Chicago: University of Chicago Press, 1990). Marcus' work can be understood as following from this latter approach. What is new in Marcus' study is that marginal and normative are not quite so distinguishable, and that intimate relations between women are actually constitutive of gender/sexual relations (not just indicative of something universal).
[163] Ralph Harrington, "The Railway Accident: Trains, Trauma, and Technological Crisis in Nineteenth-Century Britain," *Traumatic Pasts*, Micale and Lerner, eds. (Cambridge: Cambridge University Press, 2001), p. 36.
[164] Alfred Haviland, *Hurried to Death: especially addressed to railway travellers* (London: Renshaw, 1868), p. 20.
[165] Haviland, *Hurried to Death* (1868), p. 22.

[166] Haviland, *Hurried to Death* (1868), pp. 22-3.
[167] Haviland, *Hurried to Death* (1868), p. 23. Cf. "The Influence of Railway Travelling on public health," *The Lancet* (London: Hardwick, 1862).
[168] See: Haviland, *Hurried to Death* (1868), p. 24.
[169] Ellen Wood, *Oswald Cray* (London: Macmillan & Co., 1901 [1864]) pp. 86-7.
[170] The representation of the railway worker as a paternal figure can be seen in, among other mid- and late-nineteenth-century texts, Dickens' 1846-8 *Dombey and Son*, where Toodle, a locomotive driver, asks Paul Dombey before a journey for support in caring for his son, Biler, who has "gone on the wrong track." (Interestingly, in relation to the discussion of the midcentury discursive de-linking of railway passengers and workers, in this text, written at a transitional moment, paternal regard forms a point of partial connection between Toodle and Paul Dombey, who is mourning the death of his son in a railway accident); in the *Life of Roger Langdon*, discussed in the subsequent section of this chapter; in J. Leahcimrac's 1889 *John Ingram: or, railway life behind the curtain*, which depicts an invalid child predicting the death of his father, an engine driver, who refuses his wife's pleas to stay away from work, and, when faced with an imminent accident, chooses to sacrifice himself in order to protect the train's passengers (while he fails in his paternal regard for his wife and invalid child, who both die shortly after his fatal accident, he fulfills this regard in another sphere, by saving the passengers); and in Elton Keane's 1893 "The Signalman's Boy," which routes a story of workplace injury and mistaken identity through a depiction of the relations of a signalman and his son. Charles Dickens, *Dombey and Son* (Oxford: Clarendon Press, 1974), pp. 274-5. Elton Keane, "The Signalman's Boy," *Shaw's Penny Series*, No 21 (London: John F. Shaw & Co., 1893); J. Leahcimrac, *John Ingram; or, railway life behind the curtain* (Glasgow: Holmes, 1889). And, as we will see in Chapter Four, through the early years of railway trade unionism in Britain, this conceptual blending of the railway worker and father was ubiquitous.
[171] Jonathan Crary, *Suspensions of Perception* (Boston: MIT Press, 2000); Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Boston: MIT Press, 1992 [1990]).
[172] John Carter, *On the Influence of Education and Training in Preventing Diseases of the Nervous System* (London: John Churchill, 1855), pp. 152-3.
[173] Carter, *On the Influence of Education and Training* (1855), pp. 156-7.
[174] Anon (A Signalman), *A Voice from the Signal-Box: or, Railway Accidents and their Causes* (London: Longmans, Green, and Co., 1874), pp. 21-2. See also: J. Leahcimrac, *John Ingram; or, railway life behind the curtain* (Glasgow: Holmes, 1889), pp. 39-40, 48-9, 166.
[175] On the stilted quality of representations of grief in working class life writing, see Vincent, *Bread, Knowledge and Freedom* (1981), p. 41-2. "[I]ncidents and states of emotion are described in stilted and unspecific language which transmits only a limited sense of the personalities involved or the relationship which existed between them. Even the many published and unpublished poets in the ranks of the autobiographers found it much less easy to write in prose about their private lives. It was a rare autobiographer who could fashion his own language of emotion. When a barely literate farm labourer James Bowd suddenly writes, 'for I was as fond of my wife Has a Cat is of New Milk,' we know exactly what he means; the same can rarely be said of the other accounts we have" (42). For a reading of working class life writing more attentive to the varied affective registers in writing about fathers' relations to children, see: Julie-Marie Strange, *Fatherhood and the British Working Class, 1865-1914* (Cambridge: Cambridge University Press, 2015).
[176] H.C. Lambert, *The Life of Roger Langdon: Told by himself, with additions by his daughter Ellen* (London: Elliot Stock, 1909), p. 5. In-text citations throughout this section refer to this volume of Langdon's *Life*. The text was originally "published in parts, in *Wit and Wisdom*, June 1889; the *Great Western Railway Magazine*, September 1889; and in the summer edition of the *Western Weekly News*, 1894 (84).
[177] See, in particular: Vincent: *Bread, Knowledge and Freedom* (1981). Vincent's bibliography gives some indication of the distribution over the nineteenth century of relative high-points in the composition of working class autobiographies, which include the 1850s and the years between 1870 and 1900.
[178] Cf. Carolyn Steedman, *Strange Dislocations: Childhood and the Idea of Human Interiority* (Cambridge, Mass: Harvard University Press, 1998).
[179] "For there is no creature whose inward being is so strong that it is not greatly determined by what lies outside it… Her full nature, like that river of which Cyrus broke the strength, spent itself in channels which

had no great name on the earth. But the effect of her being on those around her was incalculably diffusive; for the growing good of the world is partly dependent on unhistoric acts, and that things are not so ill with you and me as thy might have been, is half owing to the number who lived faithfully a hidden life, and rest in unvisited tombs." George Eliot, *Middlemarch* (London: Penguin, 1994), pp. 794-5.

[180] For a discussion of the representation of Langdon's father's strictness as a foil to Roger's paternal regard and as an indicator of midcentury shifts in paternal norms, see: Davidoff, Leonore et al, *The Family Story: Blood, Contract and Intimacy, 1830-1850* (London and New York: Longman, 1999), pp. 146-149.

[181] Chapter Four of this work addresses the emergence of railway trade unionism in the 1870s. Evidence for this suggestion can be found in Charles Bassett-Vincent's autobiographical account of the pre-history of British railway trade unionism, where he describes the everyday comments of railway shunters bitter at their exposure to injury and the fact that, in the event of their workplace death, the companies would do nothing more for their family members than deliver their bodies back home in a spare wooden box. Charles Bassett-Vincent, *An Authentic History of Railway Trade Unionism* (Derby, 1902), pp. 16-17.

[182] Cf. Crary, *Techniques of the Observer* (1990).

[183] For an instance of the metaphoric contamination of these two "circulatory systems," see: John Macvicar, *The Motions of the Heart, The Circulation of the Blood, etc, viewed morphologically* (Edinburgh: Reprinted from the Edinburgh Medical Journal, March 1871).

[184] Vincent, *Bread, Knowledge and Freedom* (1981), pp. 43, 195.

[185] Vincent also notes of the working class autobiographies he studies that "bereavement is everywhere in these pages, there are references to at least 220 deaths of parents, siblings, wives and children in this collection of autobiographies…" (46). "Yet," he suggests, "although these narratives are peppered with references to bereavement they are far from dominated by the subject…. Where the writer retained a memory of a bereavement his capacity to analyse its impact on his developing personality was hampered by the absence of appropriate language and concepts. Many of the autobiographers gave up the attempt and settled for a brief summary…" (56). What my reading of Langdon's *Life* suggests is that the registration of loss' formative quality need not involve an explicit reflection on the subject, as Vincent seems to imply, but rather can be encoded through thematic or figural resonances.

[186] Martha Vicinus, *The Industrial Muse: A Study of Nineteenth Century British Working-Class Literature* (Harper and Row Publishers: New York, 1974), pp. 193-4.

[187] Vincent, *Bread, Knowledge and Freedom* (1981), p. 195.

[188] Cf. Fredric Jameson, *Postmodernism, or, the Cultural Logic of Late Capitalism* (Durham: Duke University Press, 1991), pp. 49-54; Fredric Jameson, "Cognitive Mapping," *Marxism and the Interpretation of Culture*, Nelson and Grossberg, eds. (University of Illinois Press, 1990), pp. 347-60.

[189] John Cassell, Ed., *The Literature of Working Men* (London: J. Cassell, 1851), Preface.

[190] George Davies, "Tears," *The Literature of Working Men*, John Cassell, ed. (London: J. Cassell, 1851), p. 17.

[191] Davies, "Tears," *The Literature of Working Men* (1851), p. 17.

[192] Davies, "Tears," *The Literature of Working Men* (1851), p. 17.

[193] Davies, "Tears," *The Literature of Working Men* (1851), p. 18.

[194] Davies, "Tears," *The Literature of Working Men* (1851), p. 19.

[195] Denise Riley, *Am I that Name?: Feminism and the Category of 'Women' in History* (Minneapolis: University of Minnesota Press, 1988), p. 46.

[196] Armstrong, *Desire and Domestic Fiction* (1987), p. 4.

[197] Cited in: "The Influence of Railway Travelling on public health," *The Lancet* (London: Hardwicke, 1862), pp. 65-6. Waller Lewis was employed as the principal Medical Officer of Her Majesty's Post Office. On the reception in Britain of medical debates over railway workers' health, see also: James Ogden Fletcher, Medical Officer to the Manchester, Sheffield, and Lincolnshire, and Great Northern Railways, *Railways in their Medical Aspects* (London: Cornish, 1867), pp. 34-5.

[198] Haviland, *Hurried to Death* (1868), p. 23.

[199] Crary, *Suspensions of Perception* (2000); Crary, *Techniques of the Observer* (1992).

[200] John Carter, *On the Influence of Education and Training in Preventing Diseases of the Nervous System* (London: John Churchill, 1855), pp. 152-3.

[201] Marshall M. Kirkman, *Railway Service: Trains and Stations. Describing the Manner of Operating Trains, and the Duties of Train and Station Officials* (New York: The Railroad Gazette, 1878), p. 37.

[202] Kirkman, *Railway Service* (1878), p. 2. On political theories of vision in nineteenth-century Anglophone imperial culture, see: Nicholas Mirzoeff, "On Visuality," *journal of visual culture*, 5:1 (2006), pp. 53-79.
[203] Schivelbusch, *The Railway Journey* (1986 [1977]), p. 30.
[204] Kirkman, *Railway Service* (1878), p. 156-7.
[205] Wood, *Oswald Cray* (1901 [1864]), pp. 86-7.
[206] Anonymous, *The Principal Causes of Railway Accidents, with Proposed Remedies, by a Railway Servant of Fifteen Years Experience* (Edinburgh: Maclaren and Macniven, 1873).
[207] Anon., *Principal Causes of Railway Accidents* (1873), pp. 3-4.
[208] Anon., *Principal Causes of Railway Accidents* (1873), p. 5.
[209] Another such story, though one with a less fully realized unionist perspective, is: Elton Keane, "The Signalman's Boy", *Shaw's Penny Series*, No 21. (London: John F. Shaw & Co., 1893). As we will see, John Ingram invokes the possibility of a man working as a nurse — a possibility that is more directly thematized in "The Signalman's Boy," as Kenneth, the middle class character through whom the story is focalized, voluntarily acts as a nurse for Mike Connellen, the eponymous signalman's boy, who falls into shock and then chronic injury following his heroic act to prevent a railway collision.
[210] J. Leahcimrac, *John Ingram; or, railway life behind the curtain* (Glasgow: Holmes, 1889), pp. 22-3.
[211] Leahcimrac, *John Ingram* (1889), p. 52.
[212] Leahcimrac, *John Ingram* (1889), p. 180.
[213] Something of this experience does appear peripherally in the opening scenes of the text, as the woman John attempts to save from drowning had been working voluntarily as a nurse for a railway widow who otherwise wouldn't have had any support during and immediately after her pregnancy and labor.
[214] Leahcimrac, *John Ingram* (1889), p. 188.
[215] Leahcimrac, *John Ingram* (1889), p. 97.
[216] Hawkins, *Nursing and Women's Labour in the Nineteenth Century* (2010).
[217] Florence Nightingale, "Observation of the Sick," *Notes on Nursing* (Appleton and Company, 1860).
[218] Barnes, *Notes on Surgical Nursing* (1874), 8.
[219] *Encyclopaedia Britannica*, 11:2:1:1, "Animal Heat," by Various (New York, 1910-1911).
[220] Haviland, *Hurried to Death* (1868), p. 14.
[221] Alfred Haviland, *The Geographical Distribution of Disease in Great Britain* (London: Sonnenschein, 1892).
[222] Barnes, *Notes on Surgical Nursing* (1874), p. 12.
[223] Barwell, *Guide in the Sick Room* (1864), pp. 13-4.
[224] Macvicar, *Motions of the Heart* (1871), p. 1.
[225] Macvicar, *Motions of the Heart* (1871), p. 5.
[226] Macvicar, *Motions of the Heart* (1871), pp. 6-7. For "trunk lines," see: Robert Ritchie, Civil Engineer, *Railways; their Rise, Progress, and Construction: with remarks on Railway Accidents, and Proposals for their Prevention* (London: Longman Brown, Green, and Longmans, 1846), p. 432.
[227] Macvicar, *Motions of the Heart* (1871), p. 9.
[228] Edwin Morris, M.D. FRCS, Surgeon to the Spalding Dispensary and Union Infirmary; author of 'a practical treatise on neuralgia', *A Practical Treatise on Shock After Surgical Operations and Injuries: With Especial Reference to Shock Caused by Railway Accidents* (London: Hardwicke, 1867), p. 15.
[229] William Camps, *Railway Accidents or Collisions: their effects, immediate and remote, upon the brain and spinal cord, and other portions of the nervous system, as determined by recognizable symptoms* (London: Lewis, 1866), p. 9.
[230] Edwin Morris, M.D. FRCS, Surgeon to the Spalding Dispensary and Union Infirmary; author of 'a practical treatise on neuralgia', *A Practical Treatise on Shock After Surgical Operations and Injuries: With Especial Reference to Shock Caused by Railway Accidents* (London: Hardwicke, 1867), pp. 16-7.
[231] Cf. Edwin Morris, *A Practical Treatise on Shock* (1867); John Charles Hall, M.D. (Fellow of the Royal College of Physicians, Edinburgh; Fellow of the Royal College of Surgeons, England; Senior Physician to the Sheffield Public Hospital; Lecture on Medicine at the Sheffield Medical School; Physician to the Midland Railway Company; author of 'Medical Evidence in Railway Accidents'), *Railway Pathology: Case of Harris versus The Midland Railway Company* (London: Richards, 1875). Reprinted from the British Medical Journal; William Camps, *Railway Accidents or Collisions: their effects, immediate and remote, upon the brain and spinal cord, and other portions of the nervous system, as determined by*

recognizable symptoms (London: Lewis, 1866); Wyatt G. Johnston, MD, Assistant Professor of Public Health and Lecturer on Medico-Legal Pathology, McGill University, Bacteriologist to the Board of Health of the Province of Quebec, *Recent Work Bearing Upon the Pathology and Morbid Anatomy of Shock* (Reprinted from The Railway Surgeon, Jan. 24 1899); Thomas Wharton Jones, FRS, *Failure of sight from railway and other injuries of the spine and head, its nature and treatment* (London: James Walton, 1869); J.E. Erichsen, *On Railway and Other Injuries of the Nervous System* (London: Walton and Maberly, 1866); J.E. Erichsen, *On Surgical Evidence in Courts of Law with Suggestions for its Improvement* (London: Longmans, Green, 1878).

[232] Ralph Harrington, "The Railway Accident: Trains, Trauma, and Technological Crisis in Nineteenth-Century Britain," *Traumatic Pasts*, Micale and Lerner, eds. (Cambridge: Cambridge University Press, 2001); George Drinka, *The Birth of Neurosis: Myth, Malady and the Victorians* (New York: Simon and Shuster, 1984); Michael R. Trimble, *Post-traumatic Neuroses: from Railway Spine to Whiplash* (Chichester: John Wiley, 1981); Eric Caplan, "Trains, Brains and Sprains: Railway Spine and the Origins of Psychoneuroses," *Bulletin of the History of Medicine,* 69:3 (Fall 1995), pp. 387-419); Roger Cooter, "The moment of the Accident: Culture, Militarism and Modernity in late-Victorian Britain," *Accidents in History: Injuries, Fatalities and Social Relations*, Roger Cooter and Bill Luckin, eds. (Amsterdam: Rodopi, 1997); Matus, *Shock, Memory and the Unconscious in Victorian Fiction* (2009).

[233] William Camps, *Railway Accidents and Collisions* (1866), p. 8.

[234] Anonymous, *The Principal Causes of Railway Accidents, with Proposed Remedies, by a Railway Servant of Fifteen Years Experience* (Edinburgh: Maclaren and Macniven, 1873), pp. 4, 5.

[235] Charles Dickens, *Christmas Stories* (London, 1914), 429–30; Quoted in: Norris Pope, "Dickens's 'The Signalman' and Information Problems in the Railway Age," *Technology and Culture*, 42:3 (July 2001), pp. 436-461.

[236] Charles Dickens, *Mugby Junction: the extra Christmas number of All the year round, conducted by Charles Dickens… for Christmas 1866* (December 10, 1866), p. 21.

[237] References to phantom signals appear in the writings of railway workers. See, for example: Richard Pike, ed., *Railway Adventures and Anecdotes: Extending over more than Fifty Years* (London: Hamilton, Adams and Co., 1884), pp. 223-4.

[238] Geoff Eley, *Forging Democracy: The History of the Left in Europe, 1850-2000* (Oxford: Oxford University Press, 2002).

[239] Friedrich Engels, *Condition of the Working Class in England* (Moscow: Institute of Marxism Leninism 1969 [1887]).

[240] Engels' approach to Marx's *Capital* echoes and amplifies Marx's own account of his project, contained in his preface to the 1867 German edition of *Capital*, in which he seeks to justify to a German readership his extensive attention to British class relations. Marx argues that certain features of capitalism are becoming generalized across national boundaries, and that England presents the clearest picture of these relations, at least at the time of Marx's writing. Karl Marx, *Capital, vol.1*, trans. Ben Fowkes (London: Penguin, 1990 [1976]), pp. 89-93.

[241] Marx, *Capital* (1990 [1976]), p. 363.

[242] Marx, *Capital* (1990 [1976]), pp. 163-4.

[243] Marx, *Capital* (1990 [1976]), p. 164.

[244] Logie Barrow, "Socialism in Eternity: The Ideology of Plebian Spiritualists, 1853-1913," *History Workshop,* 9 (Spring, 1980), p. 40.

[245] Karl Marx, "Revolution in China and in Europe," *New York Daily Tribune* (June 14, 1853). Emphasis added.

[246] Such a historicist reading of *Capital* parallels the reading of Hegel's *Phenomenology of Spirit* (1807) that Rebecca Comay offers in *Mourning Sickness*. Comay argues that Hegel's early work ruminates, in a melancholic vein, upon the recent containment of the French Revolution's emancipatory potentials. Rebecca Comay, *Mourning Sickness: Hegel and the French Revolution* (Redwood City: Stanford University Press, 2010).

[247] Nicola Brown and Carolyn Burdett, eds., *The Victorian Supernatural* (Cambridge: Cambridge University Press, 2004). For discussions of historically later moments of spiritualism's influence in British culture, see: Alex Owen, *The Place of Enchantment: British Occultism and the Culture of the Modern* (Chicago: University of Chicago Press, 2004); Alex Owen, *The Darkened Room: Women, Power, and*

Spiritualism in Late Victorian England (Chicago: University of Chicago Press, 1989).
[248] Walter Benjamin, "Theses on the Philosophy of History," *Illuminations* (New York: Schocken, 1968), pp. 253-265. The sense in which I mean to suggest that the midcentury moment of closure might retroactively have been recast is that, had a revolutionary process unfolded in late nineteenth-century Europe, the 1850s would retroactively have been refigured as a period that set in place enabling conditions for a revolutionary transformation, rather than being cast as a period when the apparently unending power of capital reasserted itself.
[249] Sigmund Freud, "The Dream-Work," *The Interpretation of Dreams* (Mineola, NY: Dover, 2015 [1913]). "The first thing which becomes clear to the investigator in the comparison of the dream content with the dream thoughts is that a tremendous work of condensation has taken place. The dream is reserved, paltry, and laconic when compared with the range and copiousness of the dream thoughts…. As a rule the extent of the compression which has taken place is under-estimated, owing to the fact that the dream thoughts which are brought to light are considered the complete material, while continued work of interpretation may reveal new thoughts which are concealed behind the dream. We have already mentioned that one is really never sure of having interpreted a dream completely; even if the solution seems satisfying and flawless, it still always remains possible that there is a further meaning which is manifested by the same dream. Thus the *amount of condensation* is—strictly speaking—indeterminable."
[250] Henry George Liddell, Robert Scott, James Morris Whiton, *A lexicon abridged from Liddell & Scott's Greek English lexicon* (New York: Harper and Brothers, 1891), p. 725.
[251] Derrida writes that "One would have to put this table on the auction block, subject it to co-occurance or concurrency, make it speak with so many other tables in our patrimony, so many that we have lost count of them, in philosophy, rhetoric, poetics, from Plato to Heidegger, from Kant to Ponge, and so many others. With all of them, the same ceremony: a séance of the table." Jacques Derrida, *Specters of Marx*, trans. Peggy Camuf (New York and London: Routledge, 1994), p. 151.
[252] Marx, *Capital* (1990 [1976]), pp. 274-7.
[253] See, for example: Silvia Federici, "The Reproduction of Labor Power in the Global Economy," *Revolution at Point Zero* (Oakland: Common Notions, PM Press, 2001), pp. 93-94.
[254] See, for example: Seccombe, *Weathering the Storm* (1993); Rose, *Limited Livelihoods* (1992); Poovey, *Uneven Developments* (1988); Hobsbawm, *Industry and Empire* (1999 [1968]); Wally Seccombe, "Patriarchy Stabilized: The Construction of the Male Breadwinner Wage Norm in Nineteenth Century Britain," *Social History*, 11:1 (January, 1986), pp. 53-76.
[255] Karl Marx, *Grundrisse*, trans. Martin Nicolaus (London: Penguin, 1973), pp. 699-732; Marx, Economic Works of Karl Marx, 1861-1864, *Marx Engels Collected Works*, 34, trans. Ben Fowkes (New York: International Publishers, 1975).
[256] Marx, *Capital* (1990 [1976]), p. 553.
[257] Marx, Economic Works of Karl Marx, 1861-1864, *Marx Engels Collected Works*, 34, trans. Ben Fowkes (New York: International Publishers, 1975).
[258] Postone, *Time, Labor, and Social Domination* (Cambridge: Cambridge University Press, 1993), pp. 43-83; 123-185.
[259] Postone, *Time, Labor, and Social Domination* (1993); 123-185; 307-348.
[260] Cf. E.P. Thompson, "Time, Work Discipline, and Industrial Capitalism," *Past and Present, No. 38* (Dec., 1967), pp. 56-97.
[261] Bronstein, *Caught in the Machinery* (2008), p. 7.
[262] Postone, *Time, Labor, and Social Domination* (1993), pp. 71-83. Cf. Donald MacKenzie, "Marx and the Machine," *Technology and Culture, 25:3* (Jul., 1984), pp. 473-502; Andrew Zimmerman, "The Ideology of the Machine and the Spirit of the Factory: Remarx on Babbage and Ure," *Cultural Critique, 37* (Autumn, 1997), pp. 5-29.
[263] According to this approach to the text, the section on original accumulation is more a coda than a conclusion.
[264] Marx, *Capital* (1990 [1976]), pp. 793-4.
[265] Even though Marx does make a reference to the lumpenproletariat in *Capital*, his positive account of the possibilities for alliance between unemployed and employed populations cuts against his overwhelmingly negative treatment of marginal urban populations in the *Eighteenth Brumaire*. In this way, a consideration of *Capital*'s concluding chapter would put in question Laclau's critique of Marx on the basis of his

incapacity to think the so-called lumpenproletariat — and generally unemployed populations — on any but negative terms. Cf. Ernesto Laclau, "Why Constructing a People is the Main Task of Radical Politics," *Critical Inquiry* 32:4 (2006), pp. 646-680; Laclau, *On Populist Reason* (London and New York: Verso, 2005).

[266] Marx, *Capital, Vol. 1* (1990 [1976]), p. 797.

[267] Marx, *Capital, Vol. 1* (1990 [1976]), p. 797.

[268] See: Lise Vogel, *Marxism and the Oppression of Women: Toward a Unitary Theory* (New Brunswick, NJ: Rutgers University Press, 1989 [1983]), pp. 136-175.

[269] Maya Gonzalez, "The Gendered Circuit: Reading the Arcane of Reproduction," *Viewpoint Magazine* (September 28, 2013); Leopoldina Fortunati, *The Arcane of Reproduction: Housework, Prostitution, Labor and Capital* (New York: Autonomedia, 1995 [1981]).

[270] See, for example: Ruth Schwartz Cowan, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).

[271] Marx, *Capital, Vol. 1* (1990 [1976]), p. 788.

[272] Marx, *Capital, Vol. 1* (1990 [1976]), p. 799.

[273] See: Clark, *The Struggle for the Breeches* (1997); Robert Gray, *The Factory Question and Industrial England* (Cambridge: Cambridge University Press, 1996).

[274] This reading suggests that Marx's implicit reflections in *Capital* concerning restrictions on women's employment depart from his and Engels' dialectical critique of bourgeois family morality in the *Manifesto*. There are, however, traces of this dialectical critique in *Capital*, as for instance in Marx's insistence that: "However terrible and disgusting the dissolution of the old family ties within the capitalist system may appear, large-scale industry, by assigning an important part in socially organized processes of production, outside the sphere of the domestic economy, to women, young persons and children of both sexes, does nevertheless create a new economic foundation for a higher form of the family and of relations between the sexes…. It is also obvious that the fact that the collective working group is composed of individuals of both sexes and all ages must under the appropriate conditions turn into a source of humane development, although in its spontaneously developed, brutal, capitalist form, the system works in the opposite direction, and becomes a pestiferous source of corruption and slavery, since here the worker exists for the process of production, and not the process of production for the worker" (620-1). As much as this passage would seem to contain a thread, however thin, of feminist sense, Marx follows this passage with an argument for the necessity of the "generalization of the Factory Acts, for transforming them from exceptional laws relating to mechanical spinning and weaving — those first creations of machinery — into the general law for all social production" (a necessity that he suggests imposed itself upon state and capital, given the powers of [adult male] working class organization and the distortions introduced by the initial partiality of these acts). Thus, as much as Marx appears to want to hold onto a vision of gender equality in a future communist organization of social production, he also embraces the "necessity" of gender (and age) restrictions of employment under capitalism, as part of a larger dynamic of industrial regulation (See: 620-631).

[275] For an early articulation of this position, see: Joan W. Scott and Louise A. Tilly, "Women's Work and the Family in Nineteenth-Century Europe," *Comparative Studies in Society and History*, 17:1 (Jan., 1975), pp. 36-64.

[276] Gray, *The Factory Question and Industrial England* (1996); Wally Seccombe, "Patriarchy Stabilized: The Construction of the Male Breadwinner Wage Norm in Nineteenth Century Britain," *Social History*, 11:1 (January, 1986), pp. 53-76.

[277] For a source demonstrating the midcentury bourgeois fear of working class women involved in sexual and economic exchanges with multiple men at once, see: Anon, "Moral and Physical Evils in Connection with Railway Works," *Manchester Guardian*, Saturday, March 7, 1846.

[278] See, for example: Josephine Butler, ed., *Woman's Work and Woman's Culture: A Series of Essays* (London: Macmillan, 1869); Jane Rendall, "Recovering Lost Political Cultures: British Feminisms, 1860-1900," *Women's Emancipation Movements in the Nineteenth Century: A European Perspective*, ed. Sylvia Paletschek (Stanford: Stanford University Press, 2005), pp. 33-52; Marcus, *Between Women* (2007).

[279] Cf. Seccombe, *Weathering the Storm* (1995).

[280] Marx's work on industrial injury might offer a point of entry for thinking together psychoanalytic and historical materialist categories. We will recall that Freud's theories of trauma were constructed in part out of reflections on the wartime phenomenon of *shell shock*, and that his early research was influenced by

work on *railway spine*. And, as I hope to show, Marx's engagement with the phenomenon of industrial injury can be linked to his broader interest in spectral phenomena, thus drawing the key Marxian categories of commodity, capital, labor, and value into relation with the structurally injurious, traumatic qualities of modern life.

[281] See, for example: Karl Marx, *Capital, Volume 3,* Intro, Ernst Mandel (London: Penguin, 1991), pp. 368-9.

[282] Raphael Samuel, "Workshop of the World: Steam Power and Hand Technology in Mid-Victorian Britain," *History Workshop,* 3 (Spring, 1977), pp. 6-72.

[283] Samuel, "Workshop of the World," *History Workshop* (1977), p. 37.

[284] Samuel, "Workshop of the World," *History Workshop* (1977), pp. 37-8.

[285] Pat Kirkham, "The London Furniture Trade 1700-1870," *Furniture History, 24. The London Furniture Trade 1700-1870* (1988), p. 109.

[286] See, for example, Wolfgang Schivelbusch's canonical *Railway Journey*. Schivelbusch, *The Railway Journey* (1986 [1977]), pp. 1-15.

[287] James Belich, *Replenishing the Earth: The Settler Revolution and the Rise of the Anglo-World, 1783-1939* (Oxford: Oxford University Press, 2009). James Vernon, *Distant Strangers: How Britain Became Modern* (Berkeley and Los Angeles: University of California Press, 2014), p. 32.

[288] While the felling of trees remained relatively non-mechanized over the eighteenth and nineteenth centuries, the timber industry was linked to one of the first large-scale mechanized workplaces in Britain, the naval dockyards. Cf. Carolyn C. Cooper, "The Portsmouth System of Manufacture," *Technology and Culture*, 25:2 (Apr., 1984), pp. 182-225; Peter Linebaugh, "Ships and Chips: Technological Repression and the Origin of the Wage," *The London Hanged* (London: Harmondsworth, 1991), pp. 371-401.; Henry Lewis, *A Guide Book through the Royal Dockyard and Naval Establishments* [Portsmouth, 1854].

[289] Belich, *Replenishing the Earth* (2009); G.D. Holmes, "History of Forestry and Forest Management," *Philosophical Transactions of the Royal Society of London. Series B, Biological Sciences, 271:911, A Discussion of Forests and Forestry* (Jul. 10, 1975), pp. 69-80.

[290] See, for example: Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, Mass: Harvard University Press, 2013); Roxanne Dunbar-Ortiz, *An Indigenous Peoples' History of the United States* (Boston: Beacon Press, 2014); Walter L. Hixson, *American Settler Colonialism: A History* (London: Palgrave, 2013).

[291] See: Marcus Rediker, *The Slave Ship: A Human History* (London: Penguin, 2007), pp. 41-72. Incidentally, the family fortune inherited by William Greg, and by the broader Greg and Rathbone families, originated from a timber business, established by William Rathbone II in 1742, based in Liverpool. This timber company was the only of its kind to refuse to sell to shipbuilding companies involved in the construction of slave ships.

[292] Stephen Bunker and Paul Ciccantell, *Globalization and the Race for Resources* (Baltimore, MD: Johns Hopkins University Press, 2005), pp. 99-189; Holmes, "History of Forestry and Forest Management" *Philosophical Transactions of the Royal Society of London* (1975), pp. 69-80.

[293] Belich, *Replenishing the Earth* (2009); G.D. Holmes, "History of Forestry and Forest Management," *Philosophical Transactions of the Royal Society of London* (1975), pp. 69-80; E.A. Wrigley, *Energy and the English Industrial Revolution* (Cambridge: Cambridge University Press, 2010).

[294] Karl Marx, *Capital, Volume 3,* Intro, Ernst Mandel (London: Penguin, 1991), pp. 9-90; Marx, *Capital, Volume 1* (1990 [1976]), 340-654. With respect to the question of relative surplus populations, see, for example: "The working population therefore produces both the accumulation of capital and the means by which it is itself made relatively superfluous; and it does this to an extent which is always increasing." Marx, *Capital, Volume 1* (1990 [1976]), p. 783.

[295] Karl Marx, *Capital, Volume 3,* Intro, Ernst Mandel (London: Penguin, 1991), pp. 368-9.

[296] On the latter, see, for example: Giovanni Arrighi, *Adam Smith in Beijing* (London and New York: Verso, 2007). For a counter-perspective, which registers the reliance of the BRIC economies on relatively capital-intensive service sectors, but that nevertheless notes the decline of traditional manufacturing and its replacement with labor-intensive supply chains, see: Clover and Benanav, "Can Dialectics Break BRICs" *South Atlantic Quarterly*, 113:4 (Fall 2014), pp. 743-759. "Developing countries now provide two thirds of global manufacturing employment but only one-third of global MVA (manufacturing value added). Peripheral manufacturing firms have expanded, not only in labor-intensive industries, but more precisely,

in the labor-intensive segments of sprawling global supply chains. Many of the factories in low-income countries do not house massive quantities of fixed capital, set to work by human appendages. Production and assembly have largely been separated, globally."

[297] F. Albritton Jonsson, "The Industrial Revolution in the Anthropocene," *The Journal of Modern History*, 84:3 (September 2012); T.L. Steinberg, "An Ecological Perspective on the Origins of Industrialization," *Environmental Review 10:4* (January 1, 1986), pp. 261-276; Wrigley, *Energy and the English Industrial Revolution* (2010); Stefania Barca, "Energy, Property, and the Industrial Revolution Narrative," *Ecological Economics,* 70:7 (2010), pp. 1309-1315.

[298] Kenneth Pomeranz, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000).

[299] Jonsson, "Industrial Revolution in the Anthropocene," *JMH 84:3* (2012), p. 694.

[300] G.D. Holmes, "History of Forestry and Forest Management," *Philosophical Transactions of the Royal Society of London.* (1975), pp. 69-80.

[301] Quoted in Jonsson (2012), p. 694.

[302] For a contrasting example of a historical narrative that draws ecological questions into an analysis of social dynamics of slavery and colonization in the Americas, see: Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, Mass: Harvard University Press, 2013).

[303]Marx, *Capital* (1990 [1976]), pp. 793-4.

[304] Marx, *Capital* (1990 [1976]), p. 931.

[305] Marx, *Capital* (1990 [1976]), p. 925.

[306] Fred Moten, "Resistance of the Object: Aunt Hester's Scream," *In the Break: The Aesthetics of the Black Radical Tradition* (Minneapolis: University of Minnesota Press, 2003), pp. 1-24.

[307] Marx, *Capital* (1990 [1976]), pp. 163-4.

[308] See, for example: Diana Coole and Samantha Frost, *New Materialisms: Ontology, Agency, and Politics* (Durham: Duke University Press, 2010); Jane Bennett, *Vibrant Matter*: *A Political Ecology of Things* (Durham: Duke University Press, 2010).

[309] Marx, *Capital* (1990 [1976]), pp. 89-90. Emphasis added.

[310] David McNally, *Monsters of the Market: Zombies, Vampires, and Global Capitalism* (Leiden: Brill, 2011).

[311] Silvia Federici, *Caliban and the Witch: Women, the Body and Primitive Accumulation* (New York: Autonomedia, 2004).

[312] Jordan/a Rosenberg, "Monstrously Unpositable: Primitive Accumulation and the Aesthetic Arc of Capital," *J19: The Journal of Nineteenth-Century Americanists*, 3:1 (Spring 2015), p. 201.

[313] Rosenberg, "Monstrously Unpositable" (2015), p. 199.

[314] Marx, *Capital* (1990 [1976]), p. 797.

[315] Karl Marx, "The Chapter on Capital; Notebook VII, End of Feb, March. End of May - Beginning of June 1858," *Grundrisse,* trans. Martin Nicolaus (London: Penguin, 1993 [1973]), p. 699.

[316] Karl Marx, "Fixed Capital and the Development of the Productive Forces of Society: Notebook VI, February 1856, continued," *Grundrisse* (1993 [1973]), p. 694.

[317] Rafael Cardoso Denis, "An Industrial Vision: The Promotion of Technical Drawing in Mid-Victorian Britain," *The Great Exhibition of 1851: New Interdisciplinary Essays*, ed. Louise Purbrick (Manchester: Manchester University Press, 2001), pp. 53-78; Louise Purbrick, "Ideologically Technical: Illustration, Automation and Spinning Cotton around the Middle of the Nineteenth Century," *Journal of Design History*, 11:4 (1998), pp. 275-293;

[318] Karl Marx, *Grundrisse* (1993 [1973, 1939]), p. 712. For a reading of Marx's references to "free time" and to the "general intellect" as enumerations of potentialities that are simultaneously opened up, and blocked, by the real subsumption of labor to capital, see: Moishe Postone, *Time, Labor, and Social Domination* (1993), pp. 336-349. For a more positive reading of the potential under capitalism for a broad-based participation in the "general intellect," see: Antonio Negri, *Marx Beyond Marx: Lessons on the Grundrisse*, (New York: Autonomedia, 1992); Antonio Negri, *Time for Revolution* (London and New York: Continuum, 2005); Hardt and Negri, *Empire* (Cambridge, Mass: Harvard University Press, 2001). However, Negri's account of the general intellect presumes that only workers employed in relatively "post-industrial" or "immaterial" labor processes are able to effectively engage with such socialized knowledge.

[319] Snezana Lawrence, "History of Descriptive Geometry in England," *Proceedings of the First*

International Congress on Construction History, ed. S. Huerta et al. (Madrid, 20th-24th January 2003).
[320] For an account of this "flattening" of technical representation in depictions of textile machinery, see: Louise Purbrick, "Ideologically Technical: Illustration, Automation and Spinning Cotton around the Middle of the Nineteenth Century," *Journal of Design History*, 11:4 (1998), pp. 275-293.
[321] Cf. James Elkins, *The Domain of Images* (Ithaca: Cornell, 1999).
[322] Louise Purbrick, "Ideologically Technical: Illustration, Automation and Spinning Cotton around the Middle of the Nineteenth Century," *Journal of Design History*, 11:4 (1998), pp. 275-293.
[323] Crary, *Techniques of the Observer* (1992), p. 125.
[324] Crary, *Techniques of the Observer* (1992), p. 132.
[325] Marx, *Capital* (1990 [1976]), p. 164.
[326] Clark, *The Struggle for the Breeches* (1997); Barbara Taylor, *Eve and the New Jerusalem* (Cambridge, Mass: Harvard University Press, 1993 [1984]).
[327] *Yorkshire Spiritualist Telegraph, Vol 1* (1855), p. 4.
[328] *Yorkshire Spiritualist Telegraph, Vol 1* (1855), p. 4, 16. See also: Logie Barrow, "Socialism in Eternity: The Ideology of Plebian Spiritualists, 1853-1913," *History Workshop, 9* (Spring, 1980), pp. 37-69.
[329] For the response, within British working class movements, to the June days of 1848, see Engels, *Condition of the Working Class in England*, "Preface to the English Edition" (Moscow: Institute of Marxism-Leninism, 1969 [1887, 1845]. "The French Revolution of 1848 saved the English middle-class. The Socialistic pronunciamentos of the victorious French workmen frightened the small middle-class of England and disorganised the narrower, but more matter-of-fact movement of the English working-class. At the very moment when Chartism was bound to assert itself in its full strength, it collapsed internally before even it collapsed externally on the 10th of April, 1848. The action of the working-class was thrust into the background. The capitalist class triumphed along the whole line."
[330] Sara Ahmed, *Queer Phenomenology: Orientations, Objects, Others* (Durham: Duke University Press, 2006), pp. 25-65, 164-8.
[331] James Cronin, "Strikes and Power in Britain, 1870-1920," *Strikes, Wars, and Revolutions in an International Perspective: Strikes Waves in the Late Nineteenth and Early Twentieth Centuries*, eds. Haimson and Tilly (Cambridge: Cambridge University Press, 2002), pp. 93-4.
[332] Cronin, "Strikes and Power in Britain" (2002), p. 97.
[333] John Foster, *Class Struggle and the Industrial Revolution: Early industrial capitalism in three English towns* (London: Weidenfeld and Nicolson, 1974).
[334] See, for example: G.D.H. Cole and R. Page Arnot, *Trade Unionism on the Railways: Its History and Problems* (Westminster: Fabian Research Department and Allen and Unwin, 1917). "Nothing in the trade union world is more remarkable than the change which has come over the railwaymen's organizations during the last few years. Beginning only when Unions in many other industries were already growing strong, and remaining thereafter for many years weak, timid and conservative, the railway Unions were, until quite recently, regarded as stagnant. In their 'History of Trade Unionism,' Mr. and Mrs. Webb described both the Amalgamated Society of Railway Servants and the Associated Society of Locomotive Engineers and Firemen as Unions of the 'Friendly Society' type. The 'all grades' movement of 1906-7 was the beginning of the revival of the A.S.R.S." (11). See also: Alastair J. Reid, *United We Stand: A History of Britain's Trade* Unions (London: Penguin, 2005).
[335] Marx, *Capital* (1990 [1976]), p. 363.
[336] Charles Bassett-Vincent, *An Authentic History of Railway Trade Unionism* (Derby, 1963 [1902]), pp. 16-7.
[337] P.W. Kingsford, *Victorian Railwaymen: The Emergence and Growth of Railway Labour, 1830-1870* (London: Cass, 1970), pp. 64-5.
[338] R. J. Irving argues that speedup was an effect of competitive pressures, especially in the first years of the 1870s, when rail managers sought to compete for passengers by offering faster and more frequent trains. R.J. Irving, "The Profitability and Performance of British Railways, 1870-1914," *The Economic History Review, New Series*, 31:1 (Feb., 1978), p. 53.
[339] Jack Simmons, *The Express Train and Other Railway Studies* (Nairn: David St. John Thomas, 1994), p. 221. I haven't yet been able to locate comparable statistics for total employment levels over this period. Kingsford includes a table that spans 1856 to 1876, which indicates that the number of employees multiplied by 2.55 over this span, which composes roughly 2/3 of the period Simmons presents. This would

at least seem to suggest a slower rate of growth for employees than total train trips, making for a more intensive pace of work. Along similar lines, Kingsford shows that the number of passengers conveyed per servant increased from 1,283 in 1860 to 1,660 in 1873, indicating in another register the apparent speedup over the late 1860s and early 1870s. Kingsford, *Victorian Railwaymen* (1970), pp. 47, 63.
[340] Simmons, *The Express Train* (1994), pp. 215, 247.
[341] H. Raynar Wilson, *Railway Accidents, Legislation and Statistics 1825-1924* (London: Raynar Wilson Company, 1925), pp. 26-7; P.W. Kingsford, *Victorian Railwaymen* (1970), p. 47.
[342] As Wilson notes, continuous brake technology and block signaling systems were not legally mandated until 1889, in the immediate aftermath of the Armagh disaster of 12 June, 1889. Wilson, *Railway Accidents* (1925), pp. 27-8.
[343] Wilson, *Railway Accidents* (1925), p. 28.
[344] *Railway Service Gazette*, No. 50 (Saturday, January 11, 1873), p. 7
[345] *Railway Service Gazette*, No. 1. (Saturday, February 3, 1872).
[346] R. J. Irving, "The Profitability and Performance of British Railways, 1870-1914," *The Economic History Review* (1978), pp. 46-66.
[347] Irving, "The Profitability and Performance of British Railways, 1870-1914," *The Economic History Review* (1978), p. 52.
[348] Philip Bagwell, *The Railwaymen: The History of the National Union of Railwaymen* (London: George Allen & Unwin Ltd., 1963), p. 66.
[349] Catherine Hall, Keith McClelland and Jane Rendall, *Defining the Victorian Nation: Class, Race, Gender and the British Reform Act of 1867* (Cambridge: Cambridge University Press, 2000).
[350] See, for example, Eric Hobsbawm, *Industry and Empire: The Making of Modern English Society, Vol. II 1750 to the Present Day* (New York: Pantheon Books, 1968), pp. 101-5; Keith McClelland, "Rational and Respectable Men: Gender, the Working Class, and Citizenship in Britain, 1850-1867," *Gender and Class in Modern Europe*, ed. Laura Frader and Sonya Rose (Ithaca and London: Cornell University Press, 1996), pp. 280-293. For an account of the "ascendancy" of "liberal constitutionalism" across Europe at this moment, see Geoff Eley, *Forging Democracy: The History of the Left in Europe, 1850-2000* (Oxford: Oxford University Press, 2002), pp. 38-9.
[351] Bagwell, *The Railwaymen* (1963), p. 67.
[352] Bassett-Vincent, *An Authentic History of Railway Trade Unionism* (1963 [1902]), pp. 32-50. Bagwell, *Railwaymen* (1963), p. 55.
[353] Bagwell, *Railwaymen* (1963), pp. 57-8.
[354] Bagwell, *Railwaymen* (1963), p. 61.
[355] Edwin Phillips, Editor of the 'Railway Service Gazette', Full Report of the First General Delegate Meeting of the Amalgamated Society of Railway Servants, together with a Concise History of the Union from its Commencement (London: ASRS Society Office, 1872); Bagel, Railwaymen (1963), pp. 61-2.
[356] *Railway Service Gazette*, No. 49 (Saturday, January 4, 1873), p. 6.
[357] Bagwell, *Railwaymen* (1963), p. 66.
[358] *Railway Service Gazette*, No. 28 (Saturday, August 10, 1872), pp. 13-4.
[359] *Railway Service Gazette*, No. 28 (Saturday, August 10, 1872), p. 2.
[360] *Railway Service Gazette*, No. 27 (Saturday, August 3, 1872.), p. 13.
[361] On promises for sympathy action from London car men, see: "Railway Servants." Times [London, England] 22 July 1872: 12. The Times Digital Archive. Web. 18 Aug. 2015.
[362] See, for example: "The Strike And Lock-Out." Times [London, England] 26 July 1872: 12. The Times Digital Archive. Web. 18 Aug. 2015.
[363] *Railway Service Gazette*, No. 27 (Saturday, August 3, 1872), p. 1.
[364] *Railway Service Gazette*, No. 27 (Saturday, August 3, 1872), p. 2.
[365] *Railway Service Gazette*, No. 28 (Saturday, August 10, 1872), p. 2.
[366] *Railway Service Gazette*, No. 28 (Saturday, August 10, 1872), pp. 1-2.
[367] This orientation against strikes and toward "moral suasion and public appeals" would come under criticism from within the union, beginning at least in 1879, with the publication by Fred Evans of a pamphlet arguing for the establishment of a strike fund. Fred Evans, ASRS, *The Future Policy of the Society in Regard to Disputes, Wages and Hours on Railways* (London: February 20, 1879).
[368] See, for example: *Railway Service Gazette*, No. 311 (Friday 11 January, 1878), p. 1. "The question of

employing ladies in the railway service has been frequently discussed. Many arguments have been advanced in favour of this employment. No doubt the natural amiability of women eminently fits them for such work as ticket-selling. There is no impediment, that we know of, either in the physical or mental side of the female which unfits them for many departments of railway service – so long as they will remain in it. But there's the rub. It is found in America, where female 'operators' are much employed, that, as a rule, when a woman becomes expert in her profession, her good qualities are appreciated by some one who successfully lays siege to her heart, and so the railway service is soon abandoned for the marriage state."

[369] *Railway Service Gazette* (October 5, 1872), p. 13.

[370] *Railway Service Gazette*, No. 49 (Saturday 4 January, 1873), p. 2. This appropriation of the discourse of political economy finds echoes in later unionist support, from afar, of Chinese exclusion acts on the Pacific coast of the US, suggesting a racially exclusionary conception of transnational labor politics.

[371] Evidence that this opposition to the emigration fund extended beyond Manchester unionists appears in the 11 January, 1873 edition of the *Railway Service Gazette*, in a letter from Edward Huntingdon, the Newcastle Branch Secretary of the ASRS, who writes: "Sir, -- I consider that the Emigration and other agencies occupy the time of the Executive Council more than is either desirable or warranted by the rules of the society…" *RSG*, No. 50 (11 January, 1873), p. 9.

[372] *RSG*, No. 51 (Saturday 18 January, 1873), p. 3.

[373] See, for example: Robert Hume, *Death by Chance: The Abergele Train Disaster, 1868* (Llanrwst, Wales: Gwasg Carreg Gwalch, 2004); Rev. Charles White, *The Great Railway Disaster, at Abergele, in Wales.* A Sermon, Preached in Cornwall Road Chapel, Notting Hill, London, on Sunday Evening, September 6th, 1868 (London: Heywood & Co, 1868).

[374] John Thomas, *The Tay Bridge Disaster: New Light on the 1879 Tragedy* (Newton Abbot: David & Charles, 1972).

[375] Roger Cooter, "The Moment of the Accident: Culture, Militarism and Modernity in Late-Victorian Britain," *Accidents in History: Injuries, Fatalities and Social Relations*, eds. Roger Cooter and Bill Luckin (Amsterdam and New York: Rodopi, 1997), pp. 107-157.

[376] Edwin Phillips, Editor of the 'Railway Service Gazette', *Full Report of the First General Delegate Meeting of the Amalgamated Society of Railway Servants, together with a Concise History of the Union from its Commencement* (London: ASRS Society Office, 1872), pp. 40-1.

[377] See, for example, Phillips, *Full Report* (1872), pp. 33. A story that perhaps gives some indication as to why rank and file workers supported the establishment of a "widows fund" was conveyed to the RSG by an anonymous letter-writer in 1873: "Sir, -- A platelayer, after working from seven a.m. to five p.m., on the Tottenham and Hampstead Midland was ordered to go by his ganger, and watch a bank that was slipping from seven p.m. to five a.m, the next morning (Sunday). It appears, from the suppressed evidence which must have been tendered, that he was picking up some coal, etc., to make a fire, having the wood ready. A goods train coming by, he did not hear a light Great Eastern engine going to Tottenham, and this engine killed him. – No fault of the driver, be it remembered. The deceased left four children (one a cripple), and a widow, his pay being about lb1 per week – consequently, nearly starved. Now, Mr. Editor, and all railway men, notice this. The poor man's mates, out of their starving pay, subscribed to the best of their means for the widow, gave the money to their gangers, whereupon an Inspector of Permanent Way *ordered* the money to be brought to him. Can the general manager, or the railway man's friend, Mr. Bass, M.P., tell us what right he had to demand the money? The gangers gave it him for fear of getting discharged! Myself and others have given our mites to pay for the funeral, and to afford a little cheer to the widow. In the name of the deceased, let all his mates demand that every farthing be handed to the widow." From a Midland Season-Ticket Holder, RSG, No. 51 (Saturday, January 18, 1873), p. 5.

[378] Some of the more suggestive traces of such counter-pressure appear in descriptions of funeral processions held for workers killed on the railways, as for instance, in this 1878 passage from the *Railway Service Gazette*: "Mr. Cordwell (Manchester) writes that on Sunday, Jan. 20th, he attended the funeral sermon preached on behalf of the late Mr. Wilson, of Ardwick branch. Some two hundred men joined in procession from their club house, 'Midland Hotel,' preceded by Longsight band, to the house of deceased, and afterwards to the church, where an excellent discourse was delivered from Job xiv. 14. A collection was afterwards made for the widow. After accompanying the widow to her residence, the men dispersed, and the band went again to the club house." *RSG*, No. 313 (Jan. 25, 1878), p. 10.

[379] Eric Hopkins, *Childhood Transformed: Working-Class Children in Nineteenth-Century England* (Man

chester: Manchester University Press, 1994).
[380] Bassett-Vincent, *Authentic History of Railway Trade Unionism* (1963 [1902]), p. 61.
[381] Bassett-Vincent, *Authentic History* (1963 [1902]), p. 64.
[382] "The Derby Orphanage: Its History," *Railway Review* (April 27, 1888).
[383] Quoted in: "The Derby Orphanage: Its History," *Railway Review* (April 27, 1888).
[384] "The Derby Orphanage: Its History," *Railway Review* (April 27, 1888).
[385] *The General Secretary's Report to the Annual General Meeting at Cardiff* (October 5th, 1880), p. 14.
[386] See, for example, the report from the Manchester branch: *RSG*, No. 316 (Feb. 15, 1878), pp. 4-5. A resolution passed by the Clapham Junction branch in 1878 also conveys some indication of unionists' frustrations with the selection processes used by the Derby committee: "The secretary called attention to a resolution passed at the last meeting of the metropolitan sub-committee, recommending that the children of subscribers should be admitted without election when there are not more of such candidates than there are vacancies to be filled up, and that the children of non-subscribers should not be submitted for election until the children of subscribers had been provided for; and a resolution was passed unanimously approving of this principle." RSG (July 19, 1878), p. 4. On Manchester unionists' arguments for the inadequacy of the orphanage in addressing the crisis of reproduction faced by railway widows, see: *RSG*, No. 311 (January 11, 1878); *RSG*, No. 397 (September 5, 1879), p. 1.
[387] General Secretary Fred Evans, ASRS, *The Duty of the Society to the Orphans of Members* (February, 1879), p. 2. First read at the Executive Committee on April 2, 1878.
[388] *RSG*, No. 397 (September 5, 1879), p. 1.
[389] ASRS, *Annual General Meeting* (October 5, 1880), pp. 5-6.
[390] ASRS, *Executive Committee Meeting* (May 4th, 1881).
[391] ASRS, *Agenda of Annual General Meeting* (1880), pp. 17-18.
[392] ASRS, *Minutes of the Meeting of the Executive Committee,… with a copy of the General Office Financial Statements* (July 21, 1880), p. 4.
[393] ASRS, *Minutes of the Meeting of the Executive Committee,… with a copy of the General Office Financial Statements* (February 16, 1881), p. 5.
[394] ASRS, *Minutes of the Executive Committee Meeting* (May 1887), p. 4.
[395] ASRS, *Minutes of the Executive Committee Meeting* (Feb 1887), p. 5.
[396] ASRS, *Minutes of the Executive Committee Meeting* (May 1887), p. 4.
[397] ASRS, *Orphan Fund Report, 1889* (London, 1890), p. 4.
[398] ASRS, *The General Secretary's Report to the Annual General Meeting at Cardiff* (October 5th, 1880).
[399] ASRS, *General Secretary's Report to the Annual Meeting at Manchester* (Tuesday, October 4th, 1881).
[400] Bronstein, *Caught in the Machinery* (2007).
[401] *RSG*, No. 386 (1879), p. 5.
[402] *RSG*, No. 385 (1879), p. 5.
[403] *RSG*, No. 385 (1879), p. 5.
[404] *RSG*, No. 385 (1879), p. 5.
[405] *RSG*, No. 385 (1879), p. 5. In a moment, we will see how questions of polemical language are thematized in "Kitty's Sketches."
[406] *RSG*, No. 390 (1879), p. 5.
[407] *RSG*, No. 385 (1879), p. 5.
[408] *RSG*, No. 385 (1879), p. 5.
[409] *RSG* (August 16, 1878), p. 3.
[410] *RSG*, No. 286 (1879), p. 5.
[411] Benjamin, "Theses on the Philosophy of History," *Illuminations* (1968), p. 256.
[412] *RSG*, No. 385 (1879), p. 5.
[413] Seccombe, *Weathering the Storm* (1995).
[414] *RSG*, No. 335 (June 28, 1878), p. 1.
[415] *RSG*, No. 387 (1879), p. 5.
[416] *RSG*, No. 387 (1879), p. 5.
[417] *RSG*, No. 388 (1879), p. 5.
[418] *RSG*, No. 388 (1879), p. 5.
[419] *RSG*, No. 385 (1879), p. 5.

[420] Jo Guldi, *Roads to Power: Britain Invents the Infrastructure State* (Cambridge, Mass. and London: Harvard University Press, 2012), pp. 1-25.
[421] For a discussion of an earlier variant of this association of the body's circulatory system and the economy, see: Richard Sennett, *Flesh and Stone: The Body and the City in Western Civilization* (New York: Norton, 1996).
[422] Phillips, *Full Report of the First General Delegate Meeting of the Amalgamated Society of Railway Servants* (1872); Cooter, "The Moment of the Accident: Culture, Militarism and Modernity in Late-Victorian Britain," *Accidents in History* (1997), pp. 107-157; Bagwell, *The Railwaymen* (1963); Bartrip, and Burman, *The Wounded Soldiers of Industry* (1983); Bassett-Vincent, *An Authentic History of Railway Trade Unionism* (1963 [1902]); Bronstein, *Caught in the Machinery* (2007).
[423] *Railway Service Gazette*, No. 27 (Saturday, August 3, 1872), p. 2.
[424] Ben Tillett, *History of the London Transport Workers' Strike, 1911* (London: National Transport Workers' Federation, 1912); John Edwards, *Remembrance of a Riot: The Story of the Llanelli Railway Strike Riots of 1911* (Swansea: Graham Harcourt, 1988); Ralph Darlington, *Syndicalism and the Transition to Communism: An International Comparative Analysis* (Farnham: Ashgate, 2013); Hugh Armstrong Clegg, Alan Fox, A.F. Thompson, *A History of British Trade Unions Since 1889: 1911-1933* (Oxford, Oxford University Press, 1987); Bob Holton, *British Syndicalism, 1900-1914* (London: Pluto Press, 1976).
[425] Tillett, *History of the London Transport Workers' Strike, 1911* (1912), p. viii.
[426] Karl Marx, "The Eighteenth Brumaire of Louis Bonaparte," *The Marx-Engels Reader*, Robert Tucker, ed. (New York and London: Norton, 1978), p. 597.
[427] Mitchell, *Carbon Democracy* (2011), p. 21. In the subsequent account of such agency, Mitchell makes clear that the linearity of rail lines traversed and powered by coal made the entire coal-based transit infrastructure vulnerable to workers' disruption and sabotage.
[428] Mitchell, *Carbon Democracy* (2011), p. 21, n. 20: "Staying just with England, E.P. Thompson's classic *The Making of the English Working Class*… is evidence enough" that "the detour [into discussions of collective consciousness] would be misleading, for it would imply that there was some shortage in earlier periods or other places of people demanding a less precarious life."
[429] See, for example: Stedman Jones, *Languages of Class* (1983); James Vernon, *Re-Reading the Constitution: New Narratives in the Political Historical of England's Long Nineteenth Century* (Cambridge: Cambridge University Press, 1996).
[430] Beverly Silver, *Forces of Labor: Workers' Movements and Globalization Since 1870* (Cambridge: Cambridge University Press, 2003). Frances Piven and Richard Cloward, "Power Repertoires and Globalization," *Politics and Society*, 23:3 (September, 2000), pp. 413-30; Jay Mazur, "Labor's New Internationalism," *Foreign Affairs* (January/February, 2000), pp. 79-93; Aaron Benanav and Joshua Clover, "Can Dialectics Break BRICs," *South Atlantic Quarterly*, 113:4 (Fall 2014), pp. 743-759; Charles Tilly, "Globalization Threatens Labor's Rights," *International Labor and Working-Class History*, 47 (1995), pp. 1-23.
[431] Erik Olin Wright, "Working-Class Power, Capitalist-Class Interests, and Class Compromise," *American Journal of Sociology*, 105:4 (January, 2000), pp. 957-1002.
[432] Silver, *Forces of Labor* (2003), p. 15.
[433] Mitchell, *Carbon Democracy* (2011), p. 23.
[434] Silver, *Forces of Labor* (2003).
[435] Mitchell, *Carbon Democracy* (2011), p. 23, 27.
[436] Edwards, *Remembrance of a Riot* (1988), pp. 83-93.
[437] Edwards, *Remembrance of a Riot* (1988), pp. 41-2. For a description of picketers' tactics in holding off police attempts to break the picket, see: pp. 49-50.
[438] Edwards, *Remembrance of a Riot* (1988), pp. 62-3.
[439] Rail workers' reliance on mass pickets in 1911 is consistent with Geoff Eley's argument in *Forging Democracy* for the importance of municipal associations and solidarities in the history of early twentieth century European labor and socialist organizing. Eley, *Forging Democracy* (2002). For some sense of the variety of picket and sabotage efforts undertaken during the 1911 strike and of railway workers' reliance on extra-industry associations, see: Holton, *British Syndicalism 1900-1914* (1976), pp. 89-110.
[440] An illustration of the latter can be found in Keir Hardie's polemics against the Liberal Party: "The Liberals have made noises about Welsh nationalism, but has one of them been heard to say a word of pity

or sympathy for the ageing mother and father who are weeping their hearts out in a lonely home in Llanelly for a young Welsh lad shot through the heart? No, none of them…" Edwards, *Remembrance of a Riot* (1988), p. 148.

[441] Edwards, *Remembrance of a Riot* (1988), p. 148. The official spelling of the town's name changed in 1966 from Llanelly to Llanelli. There is a different, smaller town in South Wales that is currently named Llanelly.

[442] See, for example, Charlie Post, "We're All Precarious Now," *Jacobin* (April, 2015); Aaron Benanav, "Precarity Rising," *Viewpoint Magazine* (June, 2015); Bhaskar Sunkara, "Precarious Thought," *Jacobin* (January, 2012); Aaron Benanav and Joshua Clover, "Can Dialectics Break BRICs," *South Atlantic Quarterly*, 113:4 (Fall 2014), pp. 743-759; Doug Henwood, "Workers Aren't Disappearing," *Jacobin* (July, 2015); Jasper Bernes, "Logistics, Counterlogistics, and the Communist Prospect," *Endnotes 3* (September, 2013). Also particularly relevant to these discussions is Robert Brenner's work on shifts in post-war automobile manufacturing industries: Robert Brenner, *The Economics of Global Turbulence* (London and New York: Verso, 2006). Charlie Post's contribution to this debate offers the most unequivocal argument for a return to the organization of strategically-situated workplaces, while Benanav, Clover, and Bernes argue most directly for a non-workerist approach to social antagonism. Sunkara's intervention in these debates is in some ways most similar to the positions I've articulated here, as he suggests that: "[T]here is still is the real problem of organizing precariously employed members of the *working class*. At their best, that class' institutions have never stopped at the shop floor. This is an important trait to remember at a time when the re-casualization of labor makes it harder to imagine how many can challenge their employers. Old forms will have to be adapted to the new environment. The pre-Fordist nineteenth century city central, the alliance between the employed and unemployed, and most often forgotten, the importance of a workers' party, still the best vehicle for forcing *universal concessions* from the state and eventually transforming it along with the way we labor, may not seem especially lyrical, but sometimes new crises have to be confronted with old vocabulary." Aside from a skepticism on my part about the promise of the Party form, Sunkara's argument for returning to the "city central" and "alliance between the employed and unemployed" is potentially consonant with my interest in rethinking the history of the mass picket for the present. Though I would frame the matter differently than he does, insofar as it seems to me that the history of the mass picket speaks as well to the problem of workers' realization of power in strategic industries.

[443] Jasper Bernes, "Logistics, Counterlogistics, and the Communist Prospect," *Endnotes 3* (September, 2013).

[444] Katy Fox-Hodess, "(Re-)Locating the Local and National in the Global: Multiscalar Political Alignment in Transnational European Dockworker Union Campaigns" (Unpublished)

[445] Deborah Cowen, *The Deadly Life of Logistics: Mapping Violence in Global Trade* (Minneapolis and London: University of Minnesota Press, 2014). See also: Stephen Graham, *Cities Under Siege: The New Military Urbanism* (London and New York: Verso, 2010).

[446] See, for example: Anonymous, "The Logic of Gender: On the Separation of Spheres and the Process of Abjection," *Endnotes 3* (September, 2013); Francesca Bettio and A. Verashchagina, "Crisis and recovery in Europe: the labour market impact on men and women," presentation to Conference on Women, Gender Equality and Economic Crisis (Panteion University, Athens, December 2011); European Women's Lobby, "The Price of Austerity – The Impact on Women's Rights and Gender Equality in Europe" (www.womenlobby.org).

[447] See, for example: Silvia Federici, *Revolution at Point Zero: Housework, Reproduction, and Feminist Struggle* (Oakland: PM Press, 2012); Amanda Armstrong, "Debt and the Student Strike: Antagonisms in the Sphere of Social Reproduction," *Reclamations Journal* (June, 2012).

[448] See especially: Schivelbusch, *The Railway Journey* (1986 [1977]).

[449] Fredric Jameson, "Cognitive Mapping," Marxism and the Interpretation of Culture, Nelson and Grossberg, eds. (University of Illinois Press, 1990), pp. 347-60; Jed Etsy and Colleen Lye, "Peripheral Realisms Now," *Modern Language Quarterly*, 73:3 (September 2012); Jasper Bernes, "Logistics, Counterlogistics, and the Communist Prospect," *Endnotes 3* (September, 2013).

Bibliography

Amalgamated Society of Railway Servants, "Executive Committee Meeting" (London: ASRS, May 4, 1881). From Warwick Modern Records Centre.
___, "Minutes of the Meeting of the Executive Committee,… with a copy of the General Office Financial Statements" (London: ASRS, July 21, 1880). From Warwick Modern Records Centre.
___, "The General Secretary's Report to the Annual General Meeting at Cardiff" (London: ASRS, October 5, 1880). From Warwick Modern Records Centre.
___, "Annual General Meeting" (London: ASRS, October 5, 1880). From Warwick Modern Records Centre.
___, "Minutes of the Meeting of the Executive Committee,… with a copy of the General Office Financial Statements" (London: ASRS, February 16, 1881). From Warwick Modern Records Centre.
___, "General Secretary's Report to the Annual Meeting at Manchester" (London: ASRS, October 4, 1881). From Warwick Modern Records Centre.
___, "Minutes of the Executive Committee Meeting" (London: ASRS, February, 1887). From Warwick Modern Records Centre.
___, "Minutes of the Executive Committee Meeting" (London: ASRS, May, 1887). From Warwick Modern Records Centre.
___, "Orphan Fund Report, 1889" (London: ASRS, 1890). From Warwick Modern Records Centre.
Encyclopaedia Britannica, 11:2:1:1, "Animal Heat," by Various (New York, 1910-1911).
The English Illustrated Magazine, 9, "W.H. Smith and Son," (Macmillan and Company, 1892), p. 806.
The Family Economist, 4, "House-Keeping Accounts" (London: Groombridge and Sons, 1851), pp. 3-5.
___, 4, "Household Furniture," (1851), pp. 61-2, 102-3.
The Lancet, "The Influence of Railway Travelling on public health" (London: Hardwick, 1862).
Railway Review, "The Derby Orphanage: Its History" (April 27, 1888). From British Library.
Railway Service Gazette, 1 - 397 (February 3, 1872 - September 5, 1879). From British Library.
Society for the Relief of Distressed Widows, "Sixth Annual Report" (London: Henry Baylis, 1830).
Times, "Railway Servants" (London, 22 July, 1872). From The Times Digital Archive. Web. 18 Aug. 2015.
____, "The Strike And Lock-Out." (London, 26 July, 1872). From The Times Digital Archive. Web. 18 Aug. 2015.
The Working Man's Friend and Family Instructor, 1:12 (December 20, 1851).
___, 3:57, "A Gossip about Clocks" (October 30, 1852), pp. 71-4.
Yorkshire Spiritualist Telegraph, 1 (1855).

Adorno, Theodor and Ernst Bloch, "Something's Missing: A Discussion between Ernst Bloch and Theodor W. Adorno on the Contradictions of Utopian Longing," in *The Utopian Function of Art and Literature*, trans. Jack Zipes and Frank Mecklenburg (Boston: MIT Press, 1989), pp. 1-17.
Ahmed, Sara, *Queer Phenomenology: Orientations, Objects, Others* (Durham: Duke University Press, 2006).
Anderson, Patricia J., "'Factory Girl, Apprentice and Clerk': The Readership of Mass-Market Magazines, 1830-60," *Victorian Periodicals Review*, 25:2 (Summer, 1992), pp. 64-72.
Anonymous, "The Holding Pattern: The Ongoing Crisis and the Class Struggles of 2011-2013," *Endnotes 3* (September 2013).
Anonymous, "The Logic of Gender: On the Separation of Spheres and the Process of Abjection," *Endnotes 3* (September, 2013).
Anonymous, "Moral and Physical Evils in Connection with Railway Works," *Manchester Guardian* (March 7, 1846).
Anonymous, *The Principal Causes of Railway Accidents, with Proposed Remedies, by a Railway Servant of Fifteen Years Experience* (Edinburgh: Maclaren and Macniven, 1873).
Anonymous, *The Ghost of John Bull: or, The Devils Railroad, a Marvellously Strange Narrative* (London: James Pattie, 1838).
Anonymous, *The Nurse and the Nursery, by A Physician* (Hope and Co, 1854).
Anonymous (A Signalman), *A Voice from the Signal-Box: or, Railway Accidents and their Causes* (London: Longmans, Green, and Co., 1874).
Armstrong, Amanda, "Debt and the Student Strike: Antagonisms in the Sphere of Social Reproduction," *Reclamations Journal* (June, 2012).
Armstrong, Nancy, *Desire and Domestic Fiction: A Political History of the Novel* (Oxford: Oxford University Press, 1989).
Arrighi, Giovanni, *Adam Smith in Beijing* (London and New York: Verso, 2007).
Athanasiou, Athena and Judith Butler, *Dispossession: The Performative in the Political* (Cambridge: Polity, 2013).
Axton, William, *Circle of Fire: Dickens' Vision and Style and the Victorian Popular Theater* (Lexington: University of Kentucky Press, 1966).
Bagwell, Philip, *The Railwaymen: The History of the National Union of Railwaymen* (London: George Allen & Unwin Ltd., 1963).
Balibar, Etienne, *Masses, Classes, Ideas: Studies on Politics and Philosophy Before and After Marx* (London: Routledge, 1994).
Bailey, P., "'Will the Real Bill Banks Please Stand Up?' Towards a Role Analysis of Mid-Victorian Working-Class Respectability," *Journal of Social History*, 12:3 (1979), pp. 336-353.
Baptist, Edward, *The Half Has Never Benn Told: Slavery and the Making of American Capitalism* (New York: Basic Books, 2014).
Barca, Stefania, "Energy, Property, and the Industrial Revolution Narrative," *Ecological Economics*, 70:7 (2010), pp. 1309-1315.
Barnes, J. H., surgeon to the workhouse hospital, *Notes on Surgical Nursing: being a*

short course of lectures delivered at the training school for nurses in connection with the Liverpool workhouse (London: Churchill, 1874 [first ed. 1865]).
Barrett, Michele, *Women's Oppression Today: The Marxist/Feminist Encounter* (London and New York: Verso, 1980).
Barrow, Logie, "Socialism in Eternity: The Ideology of Plebian Spiritualists, 1853-1913," *History Workshop*, 9 (Spring, 1980).
Bartrip, P.W.J., and S.B. Burman, *The Wounded Soldiers of Industry: Industrial Compensation Policy, 1833-1897* (Oxford: Clarendon Press, 1983).
Barwell, Richard, *Guide in the Sick Room* (London: Churchill and Sons, 1864).
Bassett-Vincent, Charles, *An Authentic History of Railway Trade Unionism* (Derby, 1963 [1902]).
Beckert, Sven, *Empire of Cotton: A New History of Global Capitalism* (London: Allen Lane, 2014).
Belich, James, *Replenishing the Earth: The Settler Revolution and the Rise of the Anglo-World, 1783-1939* (Oxford: Oxford University Press, 2011).
Bell, Joseph, *Notes on Surgery for Nurses* (Edinburgh: Oliver and Boyd, 1887).
Benanav, Aaron, "Precarity Rising," *Viewpoint Magazine* (June, 2015).
Benjamin, Walter, *Illuminations* (New York: Schocken, 1968).
Bennett, Jane, *Vibrant Matter*: *A Political Ecology of Things* (Durham: Duke University Press, 2010).
Berg, Maxine, "From Globalization to Global History," *History Workshop Journal*, 64 (Autumn 2007).
Bernes, Jasper, "Logistics, Counterlogistics, and the Communist Prospect," *Endnotes 3* (September, 2013).
Berridge, Virginia Stewart, *Popular Journalism and Working Class Attitudes 1854-1886: A Study of Reynold's Newspaper, Lloyd's Weekly Newspaper and the Weekly Times* (Dissertation: University of London, Birkbeck College, 1976).
Bettio, Francesca and A. Verashchagina, "Crisis and recovery in Europe: the labour market impact on men and women," presentation to Conference on Women, Gender Equality and Economic Crisis (Panteion University, Athens, December 2011).
Brantlinger, Patrick, *The Reading Lesson: The Threat of Mass Literacy in Nineteenth Century British Fiction* (Bloomington, Indiana: Indiana University Press, 1998).
Brenner, Robert, *The Economics of Global Turbulence* (London and New York: Verso, 2006).
Bronstein, Jamie, *Caught in the Machinery: Workplace Accidents and Injured Workers in Nineteenth-Century Britain* (Redwood City: Stanford University Press, 2007).
Brown, Nicola and Carolyn Burdett, eds., *The Victorian Supernatural* (Cambridge: Cambridge University Press, 2004).
Bunker, Stephen and Paul Ciccantell, *Globalization and the Race for Resources* (Baltimore: Johns Hopkins University Press, 2005).
Butler, Josephine, ed., *Woman's Work and Woman's Culture: A Series of Essays* (London: Macmillan, 1869).
Butler, Judith, *Precarious Life: The Powers of Mourning and Violence* (London and New York: Verso, 2004).
___, *Frames of War: When is Life Grievable?* (London and New York: Verso, 2009).
Camps, William, *Railway Accidents or Collisions: their effects, immediate and remote,*

upon the brain and spinal cord, and other portions of the nervous system, as determined by recognizable symptoms (London: Lewis, 1866).
Canning, Kathleen, *Gender History in Practice: Historical Perspectives on Bodies, Class, and Citizenship* (Ithaca and London: Cornell University Press, 2006).
Caplan, Eric, "Trains, Brains and Sprains: Railway Spine and the Origins of Psychoneuroses," *Bulletin of the History of Medicine,* 69:3 (Fall 1995), pp. 387-419.
Caraway, Teri, *Assembling Women: The Feminization of Global Manufacturing* (Ithaca: Cornell University Press, 2007).
Cassell, John, ed., *The Literature of Working Men* (London: J. Cassell, 1851).
Carter, John, *On the Influence of Education and Training in Preventing Diseases of the Nervous System* (London: John Churchill, 1855).
Cawthon, Elisabeth, "New Life for the Deodand: Coroners' Inquests and Occupational Deaths in England, 1830-46," *The American Journal of Legal History*, 33:2 (Apr., 1989), pp. 137-147.
___, *Job Accidents and the Law in England's Early Railway Age* (Lewiston: Edwin Mellen Press, 1997).
Chapple, J.A.V., *Elizabeth Gaskell: A Portrait in Letters* (Manchester: Manchester University Press, 1980
Chapple, J.A.V., and Arthur Pollard, *The Letters of Mrs. Gaskell* (Cambridge, Mass: Harvard University Press, 1967).
Chase, Malcolm, "Out of Radicalism: The Mid-Victorian Freehold Land Movement," *The English Historical Review*, 106:419 (Apr., 1991), pp. 319-345.
Clark, Anna, *The Struggle for the Breeches: Gender and the Making of the British Working Class* (Berkeley and Los Angeles: University of California Press, 1997).
Clegg, Hugh Armstrong, Alan Fox, A.F. Thompson, *A History of British Trade Unions Since 1889: 1911-1933* (Oxford, Oxford University Press, 1987).
Clover, Joshua and Aaron Benanav, "Can Dialectics Break BRICs," *South Atlantic Quarterly*, 113:4 (Fall 2014), pp. 743-759.
Cole, G.D.H., and R. Page Arnot, *Trade Unionism on the Railways: Its History and Problems* (Westminster: Fabian Research Department and Allen and Unwin, 1917).
Collin, Dorothy W., "The Composition and Publication of Elizabeth Gaskell's *Cranford*," *BJRUL,* 69 (1986).
Comay, Rebecca, *Mourning Sickness: Hegel and the French Revolution* (Redwood City: Stanford University Press, 2010).
Coole, Diana and Samantha Frost, *New Materialisms: Ontology, Agency, and Politics* (Durham: Duke University Press, 2010).
Cooper, Carolyn C., "The Portsmouth System of Manufacture," *Technology and Culture*, 25:2 (Apr., 1984), pp. 182-225.
Cooper, Frederick, Thomas Holt, and Rebecca Scott, *Beyond Slavery: Explorations of Race, Labor, and Citizenship in Postemancipation Societies* (Chapel Hill: UNC Press, 2000).
Cooter, Roger, "The Moment of the Accident: Culture, Militarism and Modernity in Late-Victorian Britain," *Accidents in History: Injuries, Fatalities and Social Relations*, eds. Roger Cooter and Bill Luckin (Amsterdam and New York:

Rodopi, 1997), pp. 107-157.
Cordery, Simon, "Mutualism, Friendly Societies, and the Genesis of Railway Trade Unions," *Labour History Review*, 67:3 (December 2002).
___, *British Friendly Societies, 1750-1914* (London: Palgrave, 2003).
Cowan, Ruth Schwartz, *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave* (New York: Basic Books, 1983).
Cowen, Deborah, *The Deadly Life of Logistics: Mapping Violence in Global Trade* (Minneapolis and London: University of Minnesota Press, 2014).
Cox, F. Hayter, *The Oldest Accident Office in the World: being the story of the Railway Passengers Assurance Company, 1849-1949* (1949).
Crary, Jonathan, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Boston: MIT Press, 1992).
___, *Suspensions of Perception* (Boston: MIT Press, 2000).
Cronin, James, "Strikes and Power in Britain, 1870-1920," *Strikes, Wars, and Revolutions in an International Perspective: Strikes Waves in the Late Nineteenth and Early Twentieth Centuries*, eds. Haimson and Tilly (Cambridge: Cambridge University Press, 2002).
Crossick, Geoffrey, *An Artisan Elite in Victorian Britain: Kentish London, 1840-1880* (London: Croom Helm, 1978).
Dalla Costa, Mariarosa, "Women and the Subversion of the Community," *The Power of Women and the Subversion of the Community* (Bristol: Falling Wall Press, 1973).
Darlington, Ralph, *Syndicalism and the Transition to Communism: An International Com parative Analysis* (Farnham: Ashgate, 2013).
Davidoff, Leonore, and Catherine Hall, *Family Fortunes: Men and Women of the English Middle Class 1780-1850* (Chicago: University of Chicago Press, 1987).
Davidoff, Doolittle, and Holden, *The Family Story: Blood, Contract and Intimacy* (London and New York: Longman, 1999).
Davies, George, "Tears," *The Literature of Working Men*, ed. John Cassell (London: J. Cassell, 1851).
Davis, Angela, *Women, Race & Class* (New York: Vintage, 1983 [1981]).
Demirhan, Basak, *Food for Sympathy: Illness, Nursing, and Affect in Victorian Literature and Culture* (Unpublished Thesis, Rice University: Houston, TX, 2010).
Denis, Rafael Cardoso, "An Industrial Vision: The Promotion of Technical Drawing in Mid-Victorian Britain," *The Great Exhibition of 1851: New Interdisciplinary Essays*, ed. Louise Purbrick (Manchester: Manchester University Press, 2001), pp. 53-78.
Derrida, Jacques, *Specters of Marx*, trans. Peggy Camuf (New York and London: Routledge, 1994).
Dickens, Charles, *The Pickwick Papers* (New York: Hurd and Houghton, 1868).
___, *Dombey and Son* (Oxford: Clarendon Press, 1974).
___, *Mugby Junction: the extra Christmas number of All the year round, conducted by Charles Dickens… for Christmas 1866* (December 10, 1866).
___, *Christmas Stories* (London, 1914).
Dinsdale, W.A., *History of Accident Insurance in Great Britain* (London: Stone and Cox, 1954).
Doane, Mary Ann, *The Emergence of Cinematic Time: Modernity, Contingency, the*

Archive (Cambridge, Mass: Harvard University Press, 2002).
Drinka, George, *The Birth of Neurosis: Myth, Malady and the Victorians* (New York: Simon and Shuster, 1984).
Dunbar-Ortiz, Roxanne, *An Indigenous Peoples' History of the United States* (Boston: Beacon Press, 2014).
Dworkin, Dennis, *Class Struggles* (Harlow: Pearson/Longman, 2007).
Edwards, John, *Remembrance of a Riot: The Story of the Llanelli Railway Strike Riots of 1911* (Swansea: Graham Harcourt, 1988).
Eley, Geoff, *Forging Democracy: The History of the Left in Europe, 1850-2000* (Oxford: Oxford University Press, 2002).
___, "Historicizing the Global, Politicizing Capital Giving the Present a Name," *History Workshop Journal*, 63 (Spring 2007), pp. 154-188.
Eley, Geoff and Keith Nield, *The Future of Class in History: What's Left of the Social?* (Ann Arbor: University of Michigan Press, 2007).
Eliot, George, *Middlemarch* (London: Penguin, 1994).
Elkins, James, *The Domain of Images* (Ithaca: Cornell University Press, 1999).
Engels, Friedrich, *The Condition of the Working Class in England* (London: Penguin, 1987 [1892]).
Erichsen, John, *On Railway and Other Injuries of the Nervous System* (London: Walton and Maberly, 1866).
___, *On Surgical Evidence in Courts of Law with Suggestions for its Improvement* (London: Longmans, Green, 1878).
Etsy, Jed and Colleen Lye, "Peripheral Realisms Now," *Modern Language Quarterly*, 73:3 (September 2012).
European Women's Lobby, "The Price of Austerity – The Impact on Women's Rights and Gender Equality in Europe" (www.womenlobby.org).
Evans, Fred, *The Future Policy of the Society in Regard to Disputes, Wages and Hours on Railways* (London: ASRS, February 20, 1879).
___, *The Duty of the Society to the Orphans of Members* (London: ASRS, February, 1879).
Federici, Silvia, *Caliban and the Witch: Women, the Body and Primitive Accumulation* (New York: Autonomedia, 2004).
___, *Revolution at Point Zero* (Oakland: Common Notions, PM Press, 2001).
Finn, Margot, *The Character of Credit: Personal Debt in English Culture, 1740-1914* (Cambridge: Cambridge University Press, 2003).
Fischer, Sibylle, *Modernity Disavowed: Haiti and the Cultures of Slavery in the Age of Revolution* (Durham: Duke University Press, 2004).
Fletcher, James Ogden, Medical Officer to the Manchester, Sheffield, and Lincolnshire, and Great Northern Railways, *Railways in their Medical Aspects* (London: Cornish, 1867).
Fortunati, Leopoldina, *The Arcane of Reproduction: Housework, Prostitution, Labor and Capital* (New York: Autonomedia, 1995 [1981]).
Foster, John, *Class Struggle and the Industrial Revolution: Early Industrial Capitalism in Three English Towns* (London: Weidenfeld and Nicolson, 1974).
Fox-Hodess, Katy, "(Re-)Locating the Local and National in the Global: Multiscalar Political Alignment in Transnational European Dockworker Union Campaigns"

(Unpublished).
Freud, Sigmund, *The Interpretation of Dreams* (Mineola, NY: Dover, 2015 [1913]).
Fyfe, Aileen, *Steam Powered Knowledge: William Chambers and the Business of Publishing, 1820-1860* (Chicago: University of Chicago Press, 2012).
Galison, Peter, *Einstein's Clocks and Poincare's Maps: Empires of Time* (New York: Norton, 2003).
Gallagher, Catherine, *The Industrial Reformation of English Fiction: Social Discourse and Narrative Form 1832-1867* (Chicago: University of Chicago Press, 1985).
Gardener, J.C.O., "The Education of the Working Classes," *The Working Man's Friend and Family Instructor*, 1:1 (London: John Cassell, 1850), pp. 2-6.
Gaskell, Elizabeth, *Mary Barton: authoritative text, contexts, criticism*, ed. Thomas Recchio (New York: Norton, 2008).
___, *Cranford* (London: Penguin Classics, 2005).
Gilmore, Ruth Wilson, *Golden Gulag* (Berkeley and Los Angeles: University of California Press, 2007).
Gonzalez, Maya, "The Gendered Circuit: Reading the Arcane of Reproduction," *Viewpoint Magazine* (September 28, 2013).
Graham, Stephen, *Cities Under Siege: The New Military Urbanism* (London and New York: Verso, 2010).
Gray, Robert, *The Factory Question and Industrial England* (Cambridge: Cambridge University Press, 1996).
Guldi, Jo, *Roads to Power: Britain Invents the Infrastructure State* (Cambridge, Mass. and London: Harvard University Press, 2012).
Hall, Catherine, Keith McClelland and Jane Rendall, *Defining the Victorian Nation: Class, Race, Gender and the British Reform Act of 1867* (Cambridge: Cambridge University Press, 2000).
Hall, John Charles, M.D., Fellow of the Royal College of Physicians, Edinburgh; Fellow of the Royal College of Surgeons, England; Senior Physician to the Sheffield Public Hospital; Lecture on Medicine at the Sheffield Medical School; Physician to the Midland Railway Company; author of 'Medical Evidence in Railway Accidents', *Railway Pathology: Case of Harris versus The Midland Railway Company* (London: Richards, 1875).
Hall, Stuart, and Martin Jacques, *New Times: The Changing Face of Politics in the 1990s* (London and New York: Verso, 1989).
Hardt, Michael and Antonio Negri, *Empire* (Cambridge, Mass: Harvard University Press, 2001).
Harrington, Ralph, "The Railway Accident: Trains, Trauma, and Technological Crisis in Nineteenth-Century Britain," *Traumatic Pasts*, eds., Micale and Lerner (Cambridge: Cambridge University Press, 2001).
Hartman, Saidiya, *Scenes of Subjection: Terror, Slavery, and Self-Making in Nineteenth-Century America* (Oxford: Oxford University Press, 1997).
Haviland, Alfred, *Hurried to Death: especially addressed to railway travellers* (London: Renshaw, 1868).
___, *The Geographical Distribution of Disease in Great Britain* (London: Sonnenschein, 1892).

Hawkins, Sue, *Nursing and Women's Labour in the Nineteenth Century: The Quest for Independence* (London and New York: Routledge, 2010).
Henwood, Doug, "Workers Aren't Disappearing," *Jacobin* (July, 2015).
Herbert, Christopher, "Converging Worlds in Pickwick Papers," *Nineteenth-Century Fiction*, 27:1 (Jun., 1972), pp. 1-20.
Hixson, Walter L., *American Settler Colonialism: A History* (London: Palgrave, 2013).
Hobsbawm, Eric, *Worlds of Labour: Further Studies in the History of Labour* (London: Weidenfeld and Nicolson, 1984).
___, *Industry and Empire* (New York: The New Press, 1999 [1968]).
Holmes, G.D., "History of Forestry and Forest Management," P*hilosophical Transactions of the Royal Society of London. Series B, Biological Sciences*, 271:911 (Jul. 10, 1975), pp. 69-80.
Holt, Thomas, *The Problem of Freedom: Race, Labor, and Politics in Jamaica and Britain, 1832–1938* (Baltimore: Johns Hopkins University Press, 1992).
Holton, Bob, *British Syndicalism, 1900-1914* (London: Pluto Press, 1976).
Howlett, Peter, "The Internal Labour Dynamics of the Great Eastern Railway Company, 1870-1913," *Economic History Review*, LVII:2 (2004), pp. 396-422.
Huett, Lorna, "Among the Unknown Public: 'Household Words', 'All the Year Round' and the Mass-Market Weekly Periodical in the Mid-Nineteenth Century," V*ictorian Periodicals Review*, 38:1 (Spring, 2005), pp. 61-82.
Hume, Robert, *Death by Chance: The Abergele Train Disaster, 1868* (Llanrwst, Wales: Gwasg Carreg Gwalch, 2004).
Irving, R.J., "The Profitability and Performance of British Railways, 1870-1914," *The Economic History Review*, New Series, 31:1 (Feb., 1978).
Ismay, Penelope, "Between Providence and Risk: Odd Fellows, Benevolence and the Social Limits of Actuarial Science, 1820s-1880s," *Past and Present*, 226 (Feb. 2015).
James, Louis, *Fiction for the Working Man 1830-1850* (London and Oxford: Oxford University Press, 1963).
Jameson, Fredric, *The Political Unconscious: Narrative as a Socially Symbolic Act* (Ithaca: Cornell University Press, 1981).
___, Jameson, Fredric, "Cognitive Mapping," *Marxism and the Interpretation of Culture*, Nelson and Grossberg, eds. (University of Illinois Press, 1990), pp. 347-60.
___, *Postmodernism, or, the Cultural Logic of Late Capitalism* (Durham: Duke University Press, 1991).
___, *The Ideologies of Theory* (London and New York: Verso, 2008).
___, *Valences of the Dialectic* (London and New York: Verso, 2009).
___, "Aesthetics of Singularity," *New Left Review*, 92 (March-April 2015).
Jane, Ann, ed., *The Mothers' Friend*, 1 (London: Ward, Lock & Co., 1860).
Jenks, Leland, *The Migration of British Capital to 1875* (New York and London: Alfred Knopf, 1927).
Johnson, Walter, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, Mass: Harvard University Press, 2013).
Johnston, Wyatt G., MD, Assistant Professor of Public Health and Lecturer on Medico-Legal Pathology, McGill University, Bacteriologist to the Board of Health of the Province of Quebec, *Recent Work Bearing Upon the Pathology and Morbid*

Anatomy of Shock (Reprinted from The Railway Surgeon, Jan. 24 1899).
Jones, Thomas Wharton, FRS, *Failure of sight from railway and other injuries of the spine and head, its nature and treatment* (London: James Walton, 1869).
Jonsson, F. Albritton, "The Industrial Revolution in the Anthropocene," *The Journal of Modern History*, 84:3 (September 2012).
Joyce, Patrick, *Work, Society and Politics: The culture of the factory in later Victorian England* (New Brunswick, New Jersey: Rutgers University Press, 1980).
___, *Visions of the People: Industrial England and the Question of Class, C. 1848-1914* (Cambridge: Cambridge University Press, 1991).
Keane, Elton, "The Signalman's Boy," *Shaw's Penny Series*, 21 (London: John F. Shaw & Co., 1893).
Kingsford, Peter, *Victorian Railwaymen: The Emergence and Growth of Railway Labour, 1830-1870* (London: Frank Cass, 1970).
Kirk, Neville, *The Growth of Working Class Reformism in Mid-Victorian England* (Urbana and Chicago: University of Illinois Press, 1985).
Kirkham, Pat, "The London Furniture Trade 1700-1870," *Furniture History*, 24 (1988).
Kirkman, Marshall M., *Railway Service: Trains and Stations. Describing the Manner of Operating Trains, and the Duties of Train and Station Officials* (New York: The Railroad Gazette, 1878).
Kostal, R.W., *Law and English Railway Capitalism, 1825-1875* (Oxford: Clarendon Press, 1997).
Laclau, Ernesto*, On Populist Reason* (London and New York: Verso, 2005).
___, "Why Constructing a People is the Main Task of Radical Politics," *Critical Inquiry,* 32:4 (2006), pp. 646-680.
Lambert, H.C., *The Life of Roger Langdon: Told by himself, with additions by his daughter Ellen* (London: Elliot Stock, 1909).
Lawrence, Snezana, "History of Descriptive Geometry in England," *Proceedings of the First International Congress on Construction History*, ed. S. Huerta et al. (Madrid, 20-24 January, 2003).
Lea, J.T., *The Great Western Railway Enginemen and Firemen's Mutual Assurance Sick and Superannuation Society, 1865-1965* (Swindon: Swindon Signcraft, 1965).
Leahcimrac, J., *John Ingram; or, railway life behind the curtain* (Glasgow: Holmes, 1889).
Ledger, Sally, "From Queen Caroline to Lady Dedlock: Dickens and the Popular Radical Imagination," *Victorian Literature and Culture*, 32:2 (2004), pp. 575-600.
Lees, Florence, *Handbook for Hospital Sisters* (Isbister, 1874)
Lenin, Vladimir, *Imperialism, the Highest Stage of Capitalism* (London: Penguin, 2010 [1917]).
Lens, Sidney, *The Labor Wars: From the Molly Maguires to the Sit-Downs* (Chicago: Haymarket Books, 2008 [1973]).
Lesjak, Carolyn, "Reading Dialectically," *Criticism*, 55:2 (2013).
Lewis, Henry, *A Guide Book through the Royal Dockyard and Naval Establishments* (Portsmouth, 1854).
Liddell, Henry George, Robert Scott, James Morris Whiton, *A lexicon abridged from Liddell & Scott's Greek English lexicon* (New York: Harper and Brothers, 1891).
Linebaugh, Peter, *The London Hanged* (London: Harmondsworth, 1991).

Lukacs, Georg, *The Historical Novel* (Lincoln: University of Nebraska Press, 1983).
Lupton Christina, "Theorizing Surfaces and Depths: Gaskell's 'Cranford'," *Criticism*, 50:2 (Spring 2008), pp. 235-254.
MacKenzie, Donald, "Marx and the Machine," *Technology and Culture*, 25:3 (Jul., 1984), pp. 473-502.
Macvicar, John, *The Motions of the Heart, The Circulation of the Blood, etc, viewed morphologically* (Edinburgh: Reprinted from the Edinburgh Medical Journal, March 1871).
Marcus, Sharon, *Between Women: Friendship, Desire and Marriage in Victorian England* (Princeton: Princeton University Press, 2007).
Marx, Karl, "Revolution in China and in Europe," *New York Daily Tribune* (June 14, 1853).
___, "The Eighteenth Brumaire of Louis Bonaparte," *The Marx-Engels Reader*, Robert Tucker, ed. (New York and London: Norton, 1978), p. 597.
___, *Grundrisse*, trans. Martin Nicolaus (London: Penguin, 1973).
___, Economic Works of Karl Marx, 1861-1864, *Marx Engels Collected Works*, 34, trans. Ben Fowkes (New York: International Publishers, 1975).
___, *Capital, vol. 1*, trans. Ben Fowkes (London: Penguin, 1990 [1867]).
___, *Capital, vol. 3*, trans. David Fernbach (London: Penguin, 1993 [1894]).
Matus, Jill, *Shock, Memory and the Unconscious in Victorian Fiction* (Cambridge: Cambridge University Press, 2009).
Mazur, Jay, "Labor's New Internationalism," *Foreign Affairs* (January/February, 2000), pp. 79-93.
McKenna, Frank, *The Railway Workers, 1840-1970* (London: Faber and Faber, 1980).
McNally, David, *Monsters of the Market: Zombies, Vampires, and Global Capitalism* (Leiden: Brill, 2011).
Melamed, Jodi, *Represent and Destroy: Rationalizing Violence in the New Racial Capitalism* (Minneapolis: University of Minnesota Press, 2011).
Miliband, Ralph, "The New Revisionism in Britain," *NLR* I/150 (March-April, 1985).
Miller, D.A., *Jane Austen, or the Secret of Style* (Princeton: Princeton University Press, 2003).
Mirzoeff, Nicholas, "On Visuality," *journal of visual culture*, 5:1 (2006), pp. 53-79.
Mitchell, Timothy, *Carbon Democracy: Political Power in the Age of Oil* (London and New York: Verso, 2011).
Morris, Edwin, M.D. FRCS, Surgeon to the Spalding Dispensary and Union Infirmary; author of 'a practical treatise on neuralgia', *A Practical Treatise on Shock After Surgical Operations and Injuries: With Especial Reference to Shock Caused by Railway Accidents* (London: Hardwicke, 1867).
Moten, Fred, *In the Break: The Aesthetics of the Black Radical Tradition* (Minneapolis: University of Minnesota Press, 2003).
Mulvihill, James, "Economies of Living in Mrs. Gaskell's Cranford," *Nineteenth-Century Literature*, 50:3 (Dec., 1995), pp. 337-356.
Negri, Antonio, *Marx Beyond Marx: Lessons on the Grundrisse* (New York: Autonomedia, 1992).
___, *Time for Revolution* (London and New York: Continuum, 2005).
Neilson, Brett and Ned Rossiter, "Precarity as a Political Concept, or, Fordism as

Exception," *Theory, Culture & Society*, 25:7-8 (December 2008), pp. 51-72.
Nightingale, Florence, *Notes on Nursing* (New York: Appleton and Company, 1860).
Northrup, David, *Indentured Labor in the Age of Imperialism, 1834–1922* (Cambridge: Cambridge University Press, 1995).
Nowell-Smith, Simon, *The House of Cassell, 1848-1958* (London: Cassell and Company, 1958).
Ogle, Vanessa, *The Global Transformation of Time 1870 - 1950* (Cambridge, Mass: Harvard University Press, 2015).
Owen, Alex, *The Place of Enchantment: British Occultism and the Culture of the Modern* (Chicago: University of Chicago Press, 2004).
___, *The Darkened Room: Women, Power, and Spiritualism in Late Victorian England* (Chicago: University of Chicago Press, 1989).
Phillips, Edwin, Editor of the 'Railway Service Gazette', *Full Report of the First General Delegate Meeting of the Amalgamated Society of Railway Servants, together with a Concise History of the Union from its Commencement* (London: ASRS Society Office, 1872).
Pike, Richard, ed., *Railway Adventures and Anecdotes: Extending over more than Fifty Years* (London: Hamilton, Adams and Co., 1884).
Piven, Frances and Richard Cloward, "Power Repertoires and Globalization," *Politics and Society*, 23:3 (September, 2000), pp. 413-30.
Plimley, Francis, "Letters to Working Men, No. 2, The Benefits of Life Insurance," *The Working Man's Friend and Family Instructor*, 3 (London: Cassell, 1853), pp. 42-3.
Pomeranz, Kenneth, *The Great Divergence: China, Europe, and the Making of the Modern World Economy* (Princeton: Princeton University Press, 2000).
Pope, Norris, "Dickens's 'The Signalman' and Information Problems in the Railway Age," *Technology and Culture*, 42:3 (July 2001), pp. 436-461.
Postone, Moishe, *Time, Labor, and Social Domination: A reinterpretation of Marx's critical theory* (Cambridge: Cambridge University Press, 1993).
Poovey, Mary, *Uneven Developments: The Ideological Work of Gender in Mid-Victorian England* (Chicago: University of Chicago Press, 1988).
___, *Making a Social Body: British Cultural Formation, 1830-1864* (Chicago: University of Chicago Press, 1995).
Post, Charlie, "We're All Precarious Now," *Jacobin* (April, 2015).
Purbrick, Louise, "Ideologically Technical: Illustration, Automation and Spinning Cotton around the Middle of the Nineteenth Century," *Journal of Design History*, 11:4 (1998), pp. 275-293.
Rafferty, Anne Marie, *The Politics of Nursing Knowledge* (London and New York: Routledge, 1996).
Ranciere, Jacques, *Proletarian Nights: The Workers' Dream in Nineteenth-Century France* (London and New York: Verso, 2014 [1981]).
Rathbone, Hannah Mary, *So Much the Diary of Lady Willoughby* (London: Longman, Brown, Green & Longmans, 1846).
Rediker, Marcus, *The Slave Ship: A Human History* (London: Penguin, 2007).
Reid, Alastair J., *United We Stand: A History of Britain's Trade* Unions (London: Penguin, 2005).

Rendall, Jane, "Recovering Lost Political Cultures: British Feminisms, 1860-1900," *Women's Emancipation Movements in the Nineteenth Century: A European Perspective*, ed. Sylvia Paletschek (Stanford: Stanford University Press, 2005), pp. 33-52.
Riley, Denise, *Am I that Name? Feminism and the Category of Women in History* (Minneapolis: University of Minnesota Press, 1988).
___, *Time Lived, Without its Flow* (London: Capsule Editions, 2012).
Ritchie, Robert, Civil Engineer, *Railways; their Rise, Progress, and Construction: with remarks on Railway Accidents, and Proposals for their Prevention* (London: Longman Brown, Green, and Longmans, 1846).
Rose, Sonya, *Limited Livelihoods: Gender and Class in Nineteenth-Century England* (Berkeley and Los Angeles: University of California Press, 1992).
Rose, Sonya, and Laura Frader, eds., *Gender and Class in Modern Europe* (Ithaca: Cornell University Press, 1996).
Rosenberg, Jordan/a, "Monstrously Unpositable: Primitive Accumulation and the Aesthetic Arc of Capital," *J19: The Journal of Nineteenth-Century Americanists*, 3:1 (Spring 2015).
Samuel, Raphael, "Workshop of the World: Steam Power and Hand Technology in Mid-Victorian Britain," *History Workshop*, 3 (Spring, 1977), pp. 6-72.
Schivelbusch, Wolfgang, *The Railway Journey: The Industrialization of Time and Space in the 19th Century* (Berkeley and Los Angeles: University of California Press, 1986 [1977]).
Schor, Hilary M., *Scheherezade in the Marketplace: Elizabeth Gaskell and the Victorian Novel* (New York and Oxford: Oxford University Press, 1992).
Scott, Joan Wallach, *Gender and the Politics of History* (New York: Columbia University Press, 1988).
Scott, Joan W. and Louise A. Tilly, "Women's Work and the Family in Nineteenth-Century Europe," *Comparative Studies in Society and History*, 17:1 (Jan., 1975), pp. 36-64.
Seccombe, Wally, "Patriarchy Stabilized: The Construction of the Male Breadwinner Wage Norm in Nineteenth Century Britain," *Social History*, 11:1 (January, 1986), pp. 53-76.
___, *Weathering the Storm: Working-Class Families from the Industrial Revolution to the Fertility Decline* (London and New York: Verso, 1993).
Sedgwick, Eve, *Epistemology of the Closet* (Chicago: University of Chicago Press, 1990).
Sennett, Richard, *Flesh and Stone: The Body and the City in Western Civilization* (New York: Norton, 1996).
Sewell, William, "How Classes Are Made: Critical Reflections on E. P. Thompson's Theory of Working-class Formation," in *E. P. Thompson: Critical Perspectives*, eds. Harvey J. Kaye and Keith McClelland (Cambridge: Cambridge University Press, 1990).
Siddons, Henry, *Practical Illustrations of Rhetorical Gesture and Action* (London, 1822).
Silver, Beverly, *Forces of Labor: Workers' Movements and Globalization Since 1870* (Cambridge: Cambridge University Press, 2003).
Simmons, Jack, *The Express Train and Other Railway Studies* (Nairn: David St. John

Thomas, 1994).
Smith, Charles Manby, *Working-Man's Way in the World: Being the Autobiography of a Journeyman Printer* (New York: Redfield, 1854).
Smith, Matthew Wilson, "Victorian Railway Accident and the Melodramatic Imagination," *Modern Drama*, 55:4 (Winter 2012).
Solnit, Rebecca, *River of Shadows: Edward Muybridge and the Technological Wild West* (New York: Viking, 2003).
Stedman Jones, Gareth, *Languages of Class: Studies in English Working Class History, 1832-1982* (Cambridge: Cambridge University Press, 1983).
Steedman, Carolyn, *Childhood, Culture and Class in Britain: Margaret McMillan, 1860-1931* (New Brunswick: Rutgers University Press, 1990).
___, *Past Tenses: Essays on Writing, Autobiography and History* (London: Rivers Oram Press, 1992).
___, *Strange Dislocations: Childhood and the Idea of Human Interiority* (Cambridge, Mass: Harvard University Press, 1998).
___, *Master and Servant: Love and Labour in the English Industrial Age* (Cambridge: Cambridge University Press, 2007).
___, "A Boiling Copper and Some Arsenic: Servants, Childcare, and Class Consciousness in Late Eighteenth-Century England," *Critical Inquiry*, 34:1 (Autumn, 2007), pp. 37-77.
___, *Labours Lost: Domestic Service and the Making of Modern England* (Cambridge: Cambridge University Press, 2009).
Steinberg, T.L., "An Ecological Perspective on the Origins of Industrialization," *Environmental Review*, 10:4 (January 1, 1986), pp. 261-276.
Strange, Julie-Marie, *Fatherhood and the British Working Class, 1865-1914* (Cambridge: Cambridge University Press, 2015).
Sunkara, Bhaskar, "Precarious Thought," *Jacobin* (January, 2012).
Taylor, Barbara, *Eve and the New Jerusalem* (Cambridge, Mass: Harvard University Press, 1993 [1984]).
Thomas, John, *The Tay Bridge Disaster: New Light on the 1879 Tragedy* (Newton Abbot: David & Charles, 1972).
Thompson, E.P., *The Making of the English Working Class* (New York: Vintage, 1966 [1963]).
___, "Time, Work Discipline, and Industrial Capitalism," *Past and Present*, 38 (Dec., 1967), pp. 56-97.
Tillett, Ben, *History of the London Transport Workers' Strike, 1911* (London: National Transport Workers' Federation, 1912).
Tilly, Charles, "Globalization Threatens Labor's Rights," *International Labor and Working-Class History*, 47 (1995), pp. 1-23.
Tomes, Nancy, "A 'Torrent of Abuse': Crimes of Violence between Working-Class Men and Women in London, 1840-1875," *Journal of Social History*, 11:3 (Spring, 1978), pp. 328-345.
Tredgold, *The Principles and Practice and Explanation of Locomotive Engines in Operation on the Several Lines of Railway… : with descriptive text… : completing Division A., and forming the first volume of the new edition of Tredgold on the steam engine* (London, 1850. The Making of the Modern World.

Web 2 Aug. 2011).
Trimble, Michael R., *Post-traumatic Neuroses: from Railway Spine to Whiplash* (Chichester: John Wiley, 1981).
Twining, Louisa, *Nurses for the Sick: With a Letter to Young Women* (London, 1863).
Veitch, Zepherina, Late Head Surgical Sister of King's College Hospital*, Handbook for Nurses for the Sick* (Churchill and Sons, 1870).
Vernon, James, *Politics and the People: A Study in English Political Culture, C. 1815-1867* (Cambridge: Cambridge University Press, 1993).
___, ed., *Re-Reading the Constitution: New Narratives in the Political Historical of England's Long Nineteenth Century* (Cambridge: Cambridge University Press, 1996).
___, "Historians and the Victorian Studies Question: Response," *Victorian Studies,* 47:2 (2005), pp. 273-4.
___, *Distant Strangers: How Britain Became Modern* (Berkeley and Los Angeles: University of California Press, 2014).
Vicinus, Martha, *The Industrial Muse: A Study of Nineteenth Century British Working-Class Literature* (New York: Harper and Row Publishers, 1974).
Vincent, David, *Bread, Knowledge and Freedom: A Study of Nineteenth-Century Working Class Autobiography* (London: Europa, 1981).
Vogel, Lise, *Marxism and the Oppression of Women: Toward a Unitary Theory* (New Brunswick: Rutgers University Press, 1989 [1983]).
Waugh, Edwin, et al., *Lancashire Dialect Poems, Sketches and Stories* (Manchester: Abel Heywood and Son, 1915).
White, Rev. Charles, *The Great Railway Disaster, at Abergele, in Wales*. *A Sermon, Preached in Cornwall Road Chapel, Notting Hill, London, on Sunday Evening, September 6th, 1868* (London: Heywood & Co, 1868).
Whitlock, Gillian, *The Intimate Empire: Reading Women's Autobiography* (London: Cassell, 2000).
Williams, Rosalind, *Notes on the Underground: An Essay on Technology, Society, and the Imagination* (Cambridge, Mass: MIT Press, 2008).
Wilson, H. Raynar, *Railway Accidents, Legislation and Statistics, 1825-1924* (London: Raynar Wilson Company, 1925).
Woloch, Alex, *The One vs. the Many: Minor Characters and the Space of the Protagonist in the Novel* (Princeton: Princeton University Press, 2003).
Wood, Ellen, *Oswald Cray* (London: Macmillan & Co., 1901 [1864]).
Wright, Erik Olin, "Working-Class Power, Capitalist-Class Interests, and Class Compromise," *American Journal of Sociology*, 105:4 (January, 2000), pp. 957-1002.
Wrigley, E.A., *Energy and the English Industrial Revolution* (Cambridge: Cambridge University Press, 2010).
Zimmerman, Andrew, "The Ideology of the Machine and the Spirit of the Factory: Remarx on Babbage and Ure," *Cultural Critique*, 37 (Autumn, 1997), pp. 5-29.