

Homestead in Context: Andrew Carnegie and the Decline of the Amalgamated Association of Iron and Steel Workers

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In 1914, Andrew Carnegie invited William Brown Dickson to play a round of golf with him on his private course. Dickson, a former manual laborer and office clerk who went on to become a Carnegie partner and a Vice-President at United States Steel, had expected others to be there. Instead, when he arrived he was surprised to spend the afternoon alone with his former employer. Afterwards, Carnegie revealed the reason behind his invitation. Because his reputation never had recovered from the Homestead lockout of 1892, during which seven workers and three Pinkerton guards died in a gun battle, Carnegie wanted Dickson to write an article that would assist him in putting himself "right with the public." After careful consideration, Dickson wrote Carnegie a long letter detailing why he could not honor the request. But rather than let the matter rest, Dickson tried to convince his former employer to join him in his new cause: labor reform. Included in Dickson's letter were long excerpts from Carnegie's early writings on this subject which showed considerable sympathy for the plight of the working man, especially two articles written for the magazine *Forum* in 1886 (six years before Homestead). While he still considered himself Carnegie's friend, Dickson attributed the brutal conditions of employment that prevailed in the industry in part to Carnegie's retreat from his earlier views. "I have been unable to avoid the conclusion," Dickson wrote, "that your critics will inevitably reply while these opinions were undoubtedly sincerely held by you while you were actively at the head of the Carnegie interests. The later history of the company has been directly opposed to them."¹

In fact, Carnegie's critics have not been that kind. Many have assumed that Carnegie never acted upon or even believed the ideas about labor he described in his writings. For instance, in his exhaustive account of the Homestead conflict Paul Krause suggests that from the mid-1870s onward, "Carnegie had opposed unions at every opportune juncture." Yet even weeks after Homestead erupted in violence, the official newspaper of the Amalgamated Association of Iron and Steel Workers, the major union in the industry, could still write that Carnegie had been "the apostle of conciliation and the friend of labor union[s] during twenty-five years of active business life..."² How can these two radically different assessments of Andrew Carnegie be reconciled?

Contrary to popular opinion, Carnegie neither unequivocally opposed organized labor throughout his career nor was he of two minds on this subject. When unions helped Carnegie make money he bargained with them; when bargaining with unions threatened profitability he ousted them. In other words, Carnegie changed his labor policy in response to changes in the industry. Before the mid-1880s, Carnegie accepted the presence of the union in most of his mills and signed contracts during periods of labor strife because he believed a well-paid dependable workforce gave him an advantage over his competitors. He supported the union because he believed his interests would be best served by cultivating skilled workers, without whom running the mills would have been impossible. In the famous *Forum* essays of 1886, Carnegie elevated these labor practices which had brought him success to the status of moral truths. This made him extraordinarily popular among a class of people who seldom found anything businessmen did commendable. After 1886, competitive pressures and a downturn in the industry led Carnegie to abandon his earlier labor policies. When bargaining with unions no longer paid, he fought to eradicate them from his mills. Nevertheless, Carnegie clung to the belief that he was still a friend of the working man even though events at Homestead made him an easy target for scorn from anyone who had read his essays.

By focusing on a single event, Carnegie's detractors imply that he destroyed trade unionism in the steel industry all by himself. This impression is unfair. Employer opposition and technological change had already weakened the Amalgamated Association considerably when Carnegie forced the union from the last of his mills. In fact, since the technology of steelmaking gradually eliminated the need for the special skills that its members possessed, the union would have faded from view even if the Homestead lockout had never occurred. Yet because most historians judge the strength of the union only on the basis of the Homestead plant, this fact is not commonly recognized. The eight lodges at Homestead were the last stronghold for the union in the entire steel industry, and their presence was directly attributable to Carnegie's earlier policies. Other iron and steel manufacturers had already begun to fight the Amalgamated with the same dedication shown by Carnegie Steel in the years before Homestead.³ Those struggles continued even as events at Homestead were still unfolding. Nonetheless, because of the tragic result of the lockout and the prominence of the plant's owner, the struggles at other mills largely have been forgotten.

This does not mean that Andrew Carnegie should be absolved of responsibility for the Homestead tragedy. At the very least, Carnegie explicitly endorsed the goal of eradicating the union and tacitly endorsed the tactics employed by Henry Clay Frick, including the deployment of Pinkertons which led directly to the famous "Battle of the Barges" that killed ten people. Management's actions were a betrayal coming from a firm whose owner had

offered such seemingly enlightened sentiments in the *Forum* six years earlier. In his definitive biography of Carnegie, Joseph Frazier Wall suggests aspects of Carnegie's personality and background which led him to write these controversial articles; namely his desire to be loved and admired, and the radical egalitarianism to which he was exposed during his Scottish childhood. However, Wall does not connect the ideas in these articles to actual policies.⁴ Other authors, transfixed by the violence of July 6, 1892, never take Carnegie's ideas seriously.

The goal of this article is to examine the economic and ideological issues affecting Andrew Carnegie's labor policy, while comparing it with the labor policies of the rest of the steel industry. By doing this, it will be possible to put the Homestead strike in its proper context, independent of the mythology that now surrounds it.⁵ Post-Homestead critics of Carnegie tend to let the strike color their assessment of his earlier policies, thereby ignoring the many actions which made him a very popular figure in labor circles even while the strike was unfolding. The battle for Homestead in 1892 has attracted attention ever since because of the dramatic confrontation on the banks of the Monongahela. This dispute took on enormous symbolic significance far beyond the realm of steelmaking, but its importance with regard to the fate of trade unionism in this industry has been greatly exaggerated.

The "Friend" of Labor

No employer in any major industry has ever offered as much explanation of his views on society as Andrew Carnegie. During his lifetime, Carnegie wrote numerous books and articles on subjects ranging from foreign policy to a biography of the inventor James Watt. While his words helped make him famous, they have also served as a frequent basis for criticism. This is particularly true with respect to Carnegie's labor policies. "His writings and speeches," argues Leon Wolff, echoing a familiar theme, "were pro-union, liberal, humane, philanthropic, enlightened. The policies of his company were in stark contrast...The cleavage between theory and practice was bewildering." The problem with such conclusions is that they exaggerate the inconsistency between Carnegie's ideas and policies in order to make him look more like a villain. As one English professor familiar with this story suggests, "Part of the drama of including Carnegie in the narrative [of Homestead] is to show [his] hypocrisy."⁶ Missing from the existing literature on the Homestead lockout is any attempt to understand Carnegie's position. Carnegie was a staunch paternalist who loved the accolades that his pro-worker labor policy brought him, but he was also a ruthless competitor. These two priorities dovetailed nicely until the mid-1880s, when changes in the business conditions of the steel industry forced Carnegie to choose one interest over the other.

The 1886 *Forum* articles were the most controversial writings of Andrew Carnegie's long literary career. A number of frequently quoted parts of these articles do indeed show Carnegie to be far more liberal on labor issues than any of his contemporaries. For instance, in "An Employer's View of the Labor Question" he wrote, "My experience has been that trade-unions, upon the whole are beneficial to both labor and capital." More damning considering what would happen at Homestead six years later, in "Results of the Labor Struggle" Carnegie explains, "There is an unwritten law among the best workmen: 'Thou shalt not take thy neighbor's job.' No wise employer will lightly lose his old employees." Such sentiments were extraordinary coming from a man in Carnegie's position, and as Wall points out "to deviate from the norm was asking for trouble." But these statements are not representative of the broader ideas contained in these articles. While James Howard Bridge's complaint that these essays became "a veritable manual of etiquette for strikers"⁷ may be true, these writings would have had to have been interpreted that way by people who never considered them in their entirety. They do show a sympathy for the workingman's plight (not an unexpected quality coming from a philanthropist), but they are also unmistakably the product of a businessman with an eye on his own self-interest. Rather than being radical, Carnegie's ideas were really just a reflection of the labor policies that had already made him a very rich man.

In his classic volume, *Steelworkers in America: The Nonunion Era*, David Brody makes much of Carnegie's singular focus on cutting costs. However, Andrew Carnegie made being labor's friend work to his financial advantage during the 1870s and early 1880s. The chief influence upon him in when creating this policy was Captain William R. Jones, the manager of the Edgar Thomson works at Braddock, Pennsylvania. "Low wages does not always imply cheap labor," Jones wrote Carnegie in 1878. "Good wages and good workmen I know to be cheap labor." Although this meant higher labor costs than his competitors, paying high wages to attract good workers and keep them proved successful enough for Carnegie to maintain this policy for over a decade. While they were practiced, these policies made Andrew Carnegie the best friend labor had in the steel industry, albeit a friend of convenience. For example, Carnegie introduced the eight-hour day at Edgar Thomson in 1879. He did the same at some departments at Homestead after he purchased that plant in 1882. Carnegie did this not because of worker requests, but because Jones convinced him that a fresh crew of men every eight hours would produce better results. In the mid-1880s Carnegie began to experiment with welfare capitalist schemes, like selling coal to its employees at below-market prices.⁸ While never as elaborate as the programs created by U.S. Steel after the turn of the century, the idea of doing anything for one's workers other than pay them a wage was novel at that time. Because these early labor policies were worker-

friendly as well as profitable, they satisfied Carnegie's desire for public accolades as well as his desire to make money.

Another important manifestation of Carnegie's pro-worker labor policy was his support for unions, more specifically the Amalgamated Association of Iron and Steel Workers, the main union in the iron and steel industry after its formation in 1876. "I am a firm friend of the Amalgamated Association," proclaimed Carnegie in 1885, "and no one ever heard of my having trouble with them." Each year, the Amalgamated would create a common wage scale for every sector of the industry and present them to manufacturers who recognized the union. Those firms that did not reach an agreement with the union faced the prospect of strikes. Before the mid-1880s, the scales were worked out with the Pittsburgh manufacturers and those scales were usually accepted by other manufacturers outside the region. Once one firm signed, pressure grew on other firms to sign because they could lose business to competitors which were producing. Employers outside the region often complained bitterly that their Pittsburgh brethren, led by Carnegie, settled with the union too easily. "The Pittsburgh manufacturers have no enviable reputation among the iron manufacturers of other sections of the country," remarked the journal *Iron Age* in 1885, "and if in the face of the weakness of the Amalgamated Association they suffer defeat, they certainly cannot take exception if the respect in which they are held by the iron trade of the country is not increased."⁹

Until 1888, Carnegie was always one of the first manufacturers to sign the Amalgamated Association's scales, even while other firms were closed down by disputes.¹⁰ In the steel sector of the industry, Carnegie Steel was practically the only manufacturing establishment to sign the union scale. Despite the fact that the Amalgamated Association lost 11 of the 13 lockouts or strikes that it participated in between 1881 and 1885, the Carnegie mills still recognized the union. As the president of the Amalgamated Association described the situation in 1884, "Every strike that has thus far taken place in our Bessemer steel mills has gone against us....But one Bessemer works only has success in maintaining its position with any degree of dignity and respect and that is the Edgar Thomson Steel Works at Braddock." Carnegie did this because his firm did not need to cut labor costs to compete. In fact, Carnegie had an interest in keeping the Amalgamated strong because if labor costs were high throughout the industry, his firm could undersell its competitors by exploiting other important advantages.¹¹

The most significant advantage in steelmaking that Carnegie had over his competitors was the technological superiority and enormous production capacity of the Edgar Thomson mill. Finished in 1876, it became the prototype for all subsequent Bessemer steel mills.¹² Carnegie Steel also popularized the technique known as "hard-driving." What this meant was that each furnace would be run at maximum output for as long as it could still produce,

even if this permanently damaged the equipment. The reason for this was that the company believed that the extra profit from running in this manner would more than compensate for replacement costs. Pittsburgh was also an ideal location to run a steel mill. The city was very close to large coal and ore deposits, and its railroad facilities were so well-developed that it was still possible to compete in distant markets despite higher transportation costs. Because of these advantages, the furnaces at Edgar Thomson remained the most productive in the world for many years.¹³ Throughout his business career, Carnegie tried to exploit his advantages so as to undercut competitors. According to a former Vice President, "The advantage of Carnegie management was that even at reduced prices, a profit could still be made, and decreased earnings were regarded as preferable to suspended operations. It was the recognized Carnegie policy — "Take orders and run full."¹⁴ Yet in order to compete, the firm had to have skilled workers willing to run his facilities. Consistently signing the Amalgamated scale ensured that the necessary skilled labor would always be available.

A Friendship in Peril

In 1889, near the Edgar Thomson works in Braddock, in a speech dedicating his first library in America, Carnegie explained to the no-longer-unionized workers there the reasons behind the decision to operate the mill without Amalgamated representation:

You all know that for twenty years, ever since we began manufacturing, we have invariably signed the iron scale, because our competitors generally had to sign it and pay the same wages to labor. If a uniform scale could be enforced in the steel mills of this country, we would gladly pay hundreds of thousands of dollars to secure it. The Amalgamated Association is, unfortunately, no longer able to enforce its decrees even in the Pittsburgh mills to say nothing of the strong competing mills at Harrisburg and Johnstown. Already there are no less than five non-union mills in Pittsburgh, and every mill that resolves to throw over the Amalgamated Association succeeds in doing so without difficulty. These non-union mills, beyond the reach of the Amalgamated Association, have us at their mercy.

This effort by Carnegie to blame the Amalgamated for his labor policies was disingenuous. Certainly Carnegie always had been concerned about high labor costs, but many of his competitors had been running non-union for years when he made this speech. Carnegie's archrival, Cambria Steel, had not had a union in its mills for fifteen years.¹⁵ Four years earlier Carnegie bragged

about being the Amalgamated's friend. Why did he start to backslide from that position in 1889? And why did he wait three more years before delivering the final blow at Homestead?

Developments in the marketplace and in the industry made a change in labor policy the only way Carnegie could maintain his firm's prior level of profitability. Before the mid-1880s, most steel produced in this country went to make steel rails, but profit margins on this key product dropped considerably when the price of steel rails collapsed between 1880 and 1885. Carnegie Steel once had by far the greatest production capacity in the world, but by the late 1880s this was no longer the case. Several mills across the country could match Carnegie's capacity, the most noteworthy being the Duquesne Works of the Allegheny Bessemer Steel Company. When three firms merged to form the Illinois Steel Company in 1889, its production capacity surpassed that of the Carnegie mills. In response, Carnegie spent \$3 million on improvements during these years in an effort to maintain his competitive advantage. The result was a crisis of overproduction. As Carnegie predicted in 1888, "With a capacity to manufacture double the amount of rails required, the steel rail mills of this country have nothing to look forward to for some time but a severe struggle to run part of their works and maintain their organizations."¹⁶

The rail market experienced a downturn in the late 1880s not only because of overproduction at high-capacity mills, but because the nature of the demand for steel was changing. Railroad track mileage was nearing its absolute limit, so other uses for steel were becoming more profitable. In the early 1880s, over 90 percent of rolled steel produced in the United States went to rails. By 1890, that proportion had fallen to 50 percent. The fastest emerging market for steel was structural shapes to build skyscrapers. Carnegie wanted to use the same production strategy that he had always used, but he no longer had the same advantages. "We could get all the business we could do in building beams if we put [the] price down," he wrote in 1889; but in this new market economizing did not necessarily produce higher returns. Structural shapes required high-quality steel, not low-quality steel in large amounts. Faced with these new manufacturing problems, Carnegie's high labor costs became increasingly burdensome.¹⁷

His solution to the problems of a changing industry was the sliding scale. Instead of being locked into a particular wage for a set period of time, under a sliding scale wages would rise and fall with the published price of the product produced at the plant. The idea of a sliding scale did not originate with Andrew Carnegie; it first appeared on the Pittsburgh scene in 1865. Carnegie did, however, champion the idea at a time when it had fallen out of favor. He believed that the enactment of the sliding scale would mean employers and employees were "in the same boat, rejoicing together in their prosperity, and calling into play their fortitude together in adversity...instead of a

feeling of antagonism there will be a feeling of partnership." The automatic readjustment of wages eliminated the need for the yearly renegotiation of the scale. This in turn limited the opportunities for strikes and lockouts which inevitably went with those talks. When Carnegie first endorsed this idea he did so not to improve the lot of workers, but to force them to accept wage cuts. "In depressed times," he wrote, "enormous concessions upon the published card prices have been necessary to effect sales, and in these the workmen have not shared with their employers." Furthermore, because of Carnegie's accelerated system of production, it was theoretically possible for employees to work harder and still receive less money if the massive output they produced drove down prices.¹⁸

Organized labor in the steel industry initially opposed Carnegie's proposal, but the sliding scale was not necessarily anti-union. The Sons of Vulcan, the skilled ironworkers union which championed this idea during the 1860s and early 1870s, believed this practice was the best way to insure that its members would receive a fair return on their labor. By 1889, the Amalgamated Association decided that it should attempt to establish a sliding scale in all the steel mills under its jurisdiction.¹⁹ For Carnegie, however, the sliding scale and the Amalgamated served the same function: both could be used to keep workers on the job because they eliminated the need for negotiations. The sliding scale offered Carnegie the same guarantee of labor that a union contract provided because workers were locked into the sliding scale for a set period of time. Furthermore, this arrangement helped the firm keep its production costs down because wage rates moved up or down with the price of production. Carnegie's willingness to fight for the sliding scale was the first sign that he was backing away from his previous support of organized labor.

Since market changes had their greatest impact on steel rail production, it is no wonder that Carnegie picked the Edgar Thomson mill at Braddock as the first place to put the sliding scale into practice. This mill was originally nonunion, but Carnegie initially recognized the Amalgamated at Edgar Thomson in 1882 to get a jump on his competition during a general strike in the industry. In 1885, Carnegie first complained publicly about labor costs in Braddock. He blamed the Amalgamated for not organizing other Bessemer rail mills, which would have equalized labor costs across the steel sector of the industry. Carnegie did not move against unionized workers in their entirety at Braddock until 1888, by which time the Amalgamated had been replaced in the mill by the Knights of Labor. Even then he did not initially set out to bust the union. In January, all but two of the plant furnaces shut down because of lack of orders. In March, Carnegie offered representatives of the Knights the chance to work with a wage cut under the sliding scale if they accepted the return of the twelve-hour day. Only after they rejected this offer did Carnegie hire replacement workers and Pinkertons to guard them; then he imposed his

terms unilaterally. Even though the Edgar Thomson mill operated nonunion from that point on, the Amalgamated Association did not see this as the start of an antiunion campaign. In fact, the Amalgamated was sympathetic to Carnegie's position, arguing that the eight-hour day put Edgar Thomson at an unreasonable disadvantage as long as other mills still worked their employees twelve hours. Carnegie also did his best to assuage the fears of that union, telling a reporter that "he had not lost faith in organized labor, and felt sure that eventually the Braddock men would see their mistake."²⁰

In 1889, Carnegie Steel refused to sign the union scale at its Homestead plant. The reason for this was that Carnegie's desire for continued profitability had begun to conflict with his previous support for the Amalgamated Association. Carnegie's initial solution was not to drive the union out of the plant, but to lay off workers so the firm's total labor cost would go down. But by the time negotiations started, management's position had hardened. It suggested the same conditions of employment at Homestead already at Braddock; individual agreements with employees (meaning no union) and a sliding scale. In June, a delegation from the Amalgamated Convention toured the Homestead plant at the invitation of its superintendent, Charles Schwab. Although the convention passed a motion thanking the company for "the kindness and luxuries bestowed on the delegates," the workers still refused to accept the company's terms and struck on July 1. Rather than wait it out as Carnegie had recommended in the *Forum*, company chairman William L. Abbott (who was in charge of negotiations while Carnegie was out of the country) hired replacements and tried to bring them into the plant under protection of the local sheriff. On successive days, two different attempts were made to restart the plant, but each time the replacements and the police were turned back by angry crowds. Shortly after the second attempt failed, the firm and the union reached a settlement. Management dismissed the question of individual contracts. In return, Homestead workers agreed to work under the sliding scale for three years rather than the usual one.²¹

Most historians view the 1889 Homestead Strike as a dress rehearsal for the 1892 Homestead lockout, but this comparison is symptomatic of commentators' tendency to read history backwards. All kinds of judgments about the success or failure of both sides in this conflict have been made with an eye to their position when the final showdown came three years later. For instance, James Howard Bridge, who supports the actions of management in 1892, sees the outcome of the 1889 strike as a "defeat" for the company. Krause, trying to present this strike as part of a long line of Andrew Carnegie's abuses against the rights of labor, calls the strike a "successful reconnaissance."²² But in 1889, a final showdown was by no means inevitable.

The 1889 strike settlement was not so much the end of the first battle in a long war, but a return to peaceful coexistence. Even though he may not have

been directly involved in negotiations, the settlement was entirely consistent with Carnegie's pre-strike labor policy. The firm got the workers to accept the sliding scale, just as the Edgar Thomson workers had. The demand for individual contracts was dropped, but Carnegie could not have been too concerned about this since the firm had already dealt with the Amalgamated for as long as it owned the Homestead plant. Furthermore, at least one steel manufacturer later complained because the wages under the sliding scale at the beginning of the contract proved to be substantially lower than the wages paid under the scale signed by the rest of the industry.²³

The long term contract was management's idea.²⁴ The Amalgamated Association's scale at all but one other mill under its jurisdiction ran for one year, from July 1 to June 30. Carnegie wanted a three-year contract in order to avoid the problem of renegotiating the scale each year. This way the firm would have skilled labor when other firms could possibly be shut down in a dispute with the union. Although he was concerned about the precedent of giving in to strikers, Carnegie's reaction to the settlement was generally positive. "I am glad, however, that we will have three years of peace under the sliding scale," Carnegie wrote Abbott. "[Y]our statement about this was to the point — admirable — [the] scale can be made fair where it is not and then we are at peace."²⁵ In short, breaking the union was not Carnegie's top priority in 1889. Management still believed that it was more important not to have production interrupted by a strike than to make the Homestead works union-free. If Carnegie had already decided that the Amalgamated had to go, his firm would never have signed a unique, long-term agreement with the union.

How Strong Was the Amalgamated Association?

Skilled iron workers had substantial influence over their conditions of employment in the mid-nineteenth century because they were indispensable to the production process. Pig iron produced by a blast furnace varied considerably from batch to batch. Trained craftsmen knew exactly how long and at what temperature to work the product in order to achieve the desired uniform consistency. These and many other judgments which the puddler made during the production process required considerable knowledge and experience. Despite frequent efforts to do so, manufacturers could find no substitute for the puddler. Because this process was dependent on the involvement of an individual skilled workmen from beginning to end, the only way for an iron manufacturer to expand production was to build more furnaces and hire more puddlers.²⁶ Skilled workers used their power over the production process to gain benefits like control over their hours of employment and the right to choose their own helpers, but their power never got beyond this sector of the industry. As David Montgomery suggests, "There had never been a Golden Age in which 'the steel industry was controlled by the skilled workers.'"²⁷

Confusing early success with enduring power, many labor historians greatly overestimate the strength of the Amalgamated Association of Iron and Steel Workers in the years immediately preceding the Homestead lockout. Writing in 1918, John R. Commons and Associates call the Amalgamated “the strongest trade union in the entire history of the American labour movement.” Modern scholars offering similar assessments include Katherine Stone, who describes this same organization as “the strongest union of its day.”²⁸ These exaggerations serve to accentuate the perceived impact of the Homestead lockout on the rest of the steel industry, but obscure the truth. Most historians base their assessment of the Amalgamated Association’s power on the strength of the union at Homestead or the strength of the union in the Pittsburgh area. This is highly misleading because before 1892 the union was never as strong in any other mill as it was in Homestead, and never as strong in any other district as it was in Pittsburgh.²⁹ Following this same faulty logic, Sharon Trusilo refers to the period from late 1888 to 1892 as “the years of the [Amalgamated Association’s] greatest prosperity and success,” but even in Pittsburgh changes in the production process and the market were already cutting substantially into the union’s power base.³⁰

In order to assess the Amalgamated Association’s strength throughout the country accurately, it is important to differentiate between the two sectors of the industry. Iron and steel, although closely related, are not the same thing. Both substances begin in a blast furnace, but steel is refined in steps so that most of the carbon is removed. After its invention in 1856, the Bessemer converter became the most efficient way to achieve this objective. Essentially, Henry Bessemer’s innovation was to blow air through unrefined pig iron in order to remove the impurities. The substance produced by this process is more malleable and sets harder than ordinary cast iron. Innovations in design made by the industrial engineer Alexander Holley in the 1860s and 1870s led to the first successful Bessemer mills in America. By 1876, there were thirteen Bessemer mills in the United States, eleven of the built by Holley, including Andrew Carnegie’s pathbreaking Edgar Thomson Works. While a typical iron rail mill could produce only 12,000 tons of product per year, a new Bessemer works could produce 114,000 tons. Therefore, even a small number of plants was enough to affect significant change in the market for iron and steel.³¹

New Bessemer works and production innovations at Edgar Thomson contributed to a huge increase in the amount of steel produced in the United States.³² Total Bessemer rail production in the United States went from 6,451 tons in 1868 to 1,187,770 in 1881. Annual production at the typical Bessemer mill went from 10,000 tons per year in 1868 to 172,000 tons per year in 1880. As production increased, the price of steel rails for railroads dropped from \$120/ton in 1873 to \$42/ton in 1878, thereby creating a market for steel where none had existed before. Even before the Amalgamated Associa-

tion formed in 1876, Bessemer technology already had begun to eliminate jobs for puddlers as steel replaced iron in more and more markets which iron had once dominated. By 1877, the number of Bessemer steel rails produced in this country surpassed that of iron rails for the first time. In 1892, nationwide steel production surpassed that of iron for the first time. "The change from iron to steel has been gradual and therefore hardly realized by the mill owners," wrote one manufacturer this same year; but by that point, it was already obvious to all observers that steel was the future of the industry.³³

The power of the Amalgamated Association was overwhelmingly concentrated in the iron-producing sector, which became increasingly irrelevant as the size of the steel sector grew ever larger. The reason the Amalgamated was stronger in the older sector had to do with the difference between iron and steel producing technology. While iron still had to be puddled by hand, technological innovations in steel mills made it increasingly easy to train immigrants and other less-skilled workers to replace skilled union men. It took one to two years to learn puddling, but a common laborer could become a skilled steelworker in as little as six to eight weeks. As *Iron Age* put it in 1892, "A man need not have spent a life time in a rolling mill to become an expert in the duties for which it calls." Therefore, the Amalgamated had much less leverage in the steel sector of the industry than it did in iron. The union's circumstances in each sector reflected this disparity. While all iron manufacturers still signed a single scale well into the 1890s, the few steel plants which were organized signed individual scales tied to the productive capabilities of particular facilities.³⁴

Because the circumstances that workers faced in the iron and steel sectors of the industry were so different, it is important to consider the strength of the union in each one separately. David Montgomery, in his afterward to a compendium of documents and writings on the Homestead lockout, offers a statement from John Fitch as proof of the Amalgamated Association's strength. In *The Steel Workers*, Fitch writes, the "list of [iron] manufacturers who signed the [union] scale was practically a list of those engaged in the business." But shortly afterwards Fitch notes that the Amalgamated Association was never able to organize even half the steel workers in the Pittsburgh district, the union's strongest. In fact, at its peak in 1891, only 25 percent of steelworkers eligible for Amalgamated membership nationwide were in the union. Even at Homestead, a few months before the strike began less than 400 of the 2,000 workers at the plant eligible to join the union were actually members. Across the industry, the signing of the scale was irrelevant to most steel firms by 1885 because they already ran nonunion. By building new steel mills and keeping the Amalgamated out, steelmakers were able to outflank the skilled workers who had wielded a considerable amount on the shop floor up to that point. Under the new production regime, the skills of Amalgamated members were unnecessary.³⁵

After 1889, the situation of the Amalgamated Association changed dramatically for the worse. The union reached its greatest membership of 24,068 in 1891; but by 1893, that figure had dropped by almost a half to 13,613. Yet these numbers obscure a sharper drop in membership in the iron and steel sector of the industry. Tin plate production (used to make roof shingles and cans) expanded significantly beginning July 1, 1891, the day the McKinley Tariff of 1890 took effect. The new duties on Welsh tin plate were so high that the American Iron and Steel Association eventually concluded, "The McKinley Tariff is entitled to the whole credit for establishing this new industry." The United States produced virtually no tin plate before 1890. In the last six months of 1891, it produced 2,236,743 pounds of this material. In 1892, American tin plate manufacturers produced 42,119,192 pounds. The journal *Iron Trade Review* later placed the number of workers needed to jump start this industry at "several thousand." The skilled labor came from Wales. Welshmen joined the Amalgamated Association in large numbers because of the strong tradition of trade unionism in their home country. Those who were not Welsh were often Amalgamated men displaced from nonunion rolling mills.³⁶ Growth in employment for tin workers compensated for shrinking membership rolls in other sectors of the industry. If tin plate production had not taken off when it did, the decline in the Amalgamated Association's membership would have occurred earlier and been more pronounced than the total membership numbers indicate.

The Amalgamated Association was also shaken by internal discord in the years before Homestead. The union amended its constitution in 1889 to allow unskilled workers into its ranks. Because of this rule, the Amalgamated gained new members without organizing new mills by organizing the mills it already controlled more thoroughly. In fact, enough unskilled workers joined the union that the highly skilled men started to complain that the national union no longer represented their interests. At the same time, the less-skilled members of the Amalgamated resented the way in which the skilled men dominated the local lodges. Because of these tensions, the Pittsburgh journal *American Manufacturer* could describe the union's situation a few weeks before the scale expired in 1892 as follows: "At this moment, [the Amalgamated] is weaker than it has been for years. We do not mean by this to say that its membership is less, but in the present interest of its members, in the organization, in prestige, in accumulated funds, and in esprit du corps it is weaker than at any time since its formation."³⁷

Compounding these problems (or perhaps because of them), the Amalgamated Association suffered a long series of setbacks at mills across the country beginning in the late 1880s.³⁸ But unlike most of the strikes the union had lost in the past, the Amalgamated lost these mills permanently. Under the weight of increased competition, iron and steel manufacturers in all regions of

the country moved to cut back on their labor costs by running nonunion with increasing frequency. In Pittsburgh, the smaller iron-making operations grew increasingly hostile to the union in their midst because they were losing out in competition with nonunion steel firms. By the late 1880s, the results of that mentality began to show. In 1888, three Pittsburgh firms (Spang, Chalfant and Company; Singer, Nimick and Company; and Dilworth, Porter and Company) all rejected the Amalgamated scale and began to operate on a nonunion basis. Just these few nonunion iron mills in the Amalgamated's strongest district was enough to cause the union concern; as evidenced by the *National Labor Tribune's* warning to its readers in 1889, "...[I]t is bad policy to permit nonunionism to exist in small spots. Such spots should be converted to the only right policy as soon as one of them appears, for the tendency of even a small one is to grow larger and in time spread."³⁹ In the years leading up to Homestead, this prediction would prove increasingly prophetic.

The Allegheny Bessemer Steel Company opened a new large-capacity steel mill in Duquesne, near Pittsburgh, in early 1889. The firm wanted to pay below union scale because it was in direct competition with Carnegie Steel, but the employees walked off the job in response to low wages. When 30 strike leaders were permanently discharged, the workers formed an Amalgamated Association lodge. At this point, the company hired replacements and Pinkertons to protect them. The mill was producing rails again by early May. However, the strike did help destroy the financial position of the company. The firm sold out to Carnegie Steel in 1890 to become that concern's second nonunion mill. Also in 1890, the Carbon Iron Company of Pittsburgh, the Braddock Wire Company, the Bellefonte Iron and Nail Company, the Ellis and Lessig Steel and Iron Company of Pottstown, and the Iowa Barb Wire Company of Allentown all rejected the Amalgamated scale and started to operate on a nonunion basis.⁴⁰

In 1891, the Amalgamated Association lost strikes at iron and steel mills across the eastern region. Outside Pennsylvania, the union was defeated at the Elmira Iron and Steel Company of Elmira, New York, and the Riverside Iron Company of New Castle, Delaware. In eastern Pennsylvania, the Amalgamated lost disputes at the Norristown Iron Works, the Lochiel Iron Company of Harrisburg, the Lebanon Iron Company, the Lebanon Rolling Mill, the East Lebanon Iron Company, the Hamburg Rolling Mill Company, the Pottsville Iron and Steel Company, the Gibraltar Iron Works in Bucks County, the Taggart and Howells Rolling Mill in Northumberland, the Pencoyd Iron and Steel Company, and the Catasauqua Rolling Mill. The Pennsylvania Steel Company won a two-week strike by 2,000 workers at Steelton, Pennsylvania and declared its new mill at Sparrow's Point, Maryland an open shop at the same time. This dispute is particularly noteworthy because management there hired Pinkerton guards to protect their mills and several hundred black re-

placement workers to defeat the strikers. Over the next year, these Eastern mills exploited their lower labor costs to penetrate markets in western Pennsylvania that previously had been dominated by Pittsburgh firms. This only increased the pressure on western Pennsylvania manufacturers to jettison the union.⁴¹

Around Pittsburgh in 1891, Moorhead Brothers & Company of Sharpsburg locked out its workers even though a company representative had sat on the conference committee which had negotiated that year's scale. At Duquesne and McKeesport, workers again tried to organize but failed. Even though the Amalgamated Association did manage to organize the Illinois Steel Company in Chicago in 1891, one trade journal nonetheless reported, "It is claimed that this has been the worst year in the history of the organization. The manufacturers also say there will be more trouble for the Amalgamated next year if they do not adopt more equitable schedules and if the mills now making the effort to resume with non-union men are entirely successful."⁴² In 1892, the conflict between management and the union continued to spread.

Because the market was still depressed, both sides expected trouble as the time to renegotiate the scale approached. The price of many different iron and steel products sank to new lows. Among these were steel rails, the price of which dropped even lower than in 1889. Furthermore, the crisis of overproduction that first sent shock waves through the industry in the late 1880s intensified. Even though more pig iron was produced in 1890 than in 1892, the industry's potential production capacity actually grew by three million gross tons over those years. "The iron trade continues in a demoralized condition," reported the Pittsburgh correspondent of the *Engineering and Mining Journal* in March, 1892. "The outlook at present is by no means a favorable one." Despite the poor state of the industry, the Amalgamated Association submitted a wage scale that was essentially the same as the one they had submitted the year before to manufacturers who were in no mood to bargain.⁴³

Virtually every firm in both the iron and steel sectors of the industry found the Amalgamated Association scale unacceptable in 1892. Most companies which had previously signed the scale refused that year. In fact, even before the scale was submitted, manufacturers in almost every sector of the industry and region of the country were proposing deep cuts. In the Mahoning and Shenango valleys of Ohio, the manufacturers demanded a 15 to 60 per cent cut in wages for their unionized employees. Around Pittsburgh, the manufacturers surprised the Amalgamated by presenting its own wage scale before receiving the scale from the union. It included wage cuts that were even deeper than the ones proposed in Ohio. Union shops around Philadelphia also refused to sign the scale. In sectors where the union was still strong, manufacturers tended to settle without a strike. In the sheet mills, the manufacturers and the Amalgamated reached a deal before the scales expired. Even Carnegie

Steel signed a special scale for its two iron plants, Union Mills and Beaver Falls. "We have no especial objection to the Amalgamated Association in these mills," a company official later explained, "for the reason that the product for the main part is merchant iron and steel, in the manufacture of which we compete with similar union mills all over the country." The sectors of the industry in which the union was weakest were those where manufacturers were most likely to fight.⁴⁴

So many firms took on the Amalgamated Association in the summer of 1892 because they perceived the union to be vulnerable. "At the great majority of the iron and steel mills west of the Alleghenies not a fire is burning nor a wheel is turning today," reported the *Bulletin of the American Iron and Steel Association* shortly after the old Amalgamated scale expired on July 1. Most of the manufacturers that fought managed to permanently banish the Amalgamated from their facilities. By August, there were more non-union mills up and running across the country than at any time in the previous twenty years. In September, a substantial list of non-union firms in the iron and steel industry was printed in *Iron Age*. The journal explained its data as follows:

Our tables enumerate non-union rolling mills employing not less than 70,000 men....In addition we have confidential data from 13 mills having a monthly tonnage of 36,150 tons and employing 10,715 men....We have gone over carefully the non-union mills from which no reports have been received, estimating from the equipment and product, and taking into consideration the returns from similar works from which data are available, and find...the total number of men working in non-union works in the United States up to 100,000 men.

A study of the products made by these non-union mills will show they embrace every line of work in the whole range.⁴⁵

However, the struggle between labor and management at one mill had already drawn all the attention away from the conditions of employment at other firms. That fight was at Homestead.

A Friend No More

The downturn in the market for iron and steel was the underlying reason for the Homestead lockout. Testifying before Congress, Henry Clay Frick claimed the firm was losing money on every ton of steel billets, blooms, and slabs produced at Homestead. There is good reason to believe this was true. For instance, the price of steel billets, the commodity which served as the basis of the Homestead sliding scale, dropped in the early 1890s. Since one of the concessions the firm made in 1889 was that the sliding scale would not drop

below \$25 per ton, when this fell below \$25 dollars in the months before the strike Carnegie Steel was losing money on this product too. To make matters worse, an investigation that the company launched which compared into wages paid by all Pittsburgh manufacturers showed that it was paying its labor more to the workers in many departments at Homestead than any of ten other mills surveyed.⁴⁶ This demonstrated that the gamble Carnegie took in 1889 of signing a long term contract did not pay off. While the union was a successful part of his earlier business strategy, that strategy only worked in prosperity.

Over the life of the 1889 contract, market conditions worsened considerably. Furthermore, many of Carnegie Steel's competitors already had removed the Amalgamated Association from their mills. These new circumstances effectively eliminated any advantage that the company might have gained by signing a new contract with the union and running full to make up for that cost. For this reason, in 1892 Carnegie Steel bargained harder than it ever had before. Management and labor were far apart at the beginning of negotiations and they never got together. In March, the Amalgamated Association's made its first offer for a new scale, which included a ten percent wage increase for most departments. While it is impossible to tell exactly when Carnegie and Frick decided that the union had to go, the decision was definitely made long before negotiations between the company and the union broke down in June 1892. On April 4 Carnegie sent Henry Clay Frick, the new President of Carnegie Steel, a draft of a notice to be given to Homestead employees. The key sentences read as follows: "As the vast majority of our employees are Non-Union, the Firm has decided that the minority must give place to the majority. These works therefore, will be necessarily Non-Union after the expiration of the present agreement." Frick, not yet willing to provoke open conflict, never posted the notice. Instead, he offered the union terms he knew it would never accept; then rather than negotiate from that position, Frick waited until the scale expired before making the company's intentions known. "No trade union will ever be recognized at the Homestead steelworks hereafter," the Secretary of Carnegie Steel flatly stated on July 1. "This has been positively decided upon," he continued, "and there is no reason that there should be any secrecy about the matter any longer."⁴⁷

A lot of ink has been spilled over the question of whether Carnegie or Frick was responsible for the violence at Homestead, but available evidence suggests that Carnegie knew what Frick would do. Frick had used strong-arm tactics in a successful nine-year struggle to drive unions from the coal fields that Carnegie Steel had acquired in 1888 so Carnegie was probably counting on Frick to remove the Amalgamated Association in a similar manner. Carnegie wrote Frick on May 4, "One thing we are all sure of: No contest will be entered in that will fail...your reputation will shorten it, so that I really do not believe it will be much of a struggle." Even after the battle on July 6, Carnegie

was supportive of Frick's actions, "All anxiety gone since you stand firm. Never employ one of these rioters. Let grass grow over works. Must not fail now." Months later, Carnegie's private support for Frick still had not waned. "There's another point which troubles me on your account," he wrote, "the danger that the public and hence all our men get the impression that it is *all Frick* [emphasis in original]....Your partners should be as much identified with this struggle as you." Publicly, Carnegie continued to support Frick, declaring his faith in him in his only public speech on the Homestead dispute in January, 1893. But in his private correspondence, Carnegie began to distance himself from the methods used there when the magnitude of the public response to Homestead became clear. For example, Carnegie replied to a September, 1892, letter of sympathy from British Prime Minister William Gladstone as follows: "Our firm offered all it could offer, even generous terms....They went as far as I could have wished but the false step was made in trying to run the works with new men." It is important to stress that these differences between Carnegie and Frick were over methods rather than results. Both were happy to see the union go, but Carnegie began to develop doubts about Frick after his methods provoked a tragedy. This difference of opinion was an important contributing factor to a complete break between the two men which came in 1899.⁴⁸

With the passage of years, Carnegie's explanation of Homestead began to lapse into the realm of fiction. Testifying before Congress in 1911, Carnegie claimed that this was the only time Carnegie Steel had ever employed Pinkertons, and that he had not known about it beforehand, even though the firm had made use of Pinkertons at Braddock in 1888 and had tried to use the militia at Homestead in 1889. While preparing his autobiography, Carnegie had a top executive searching for weeks to find a telegram which he remembered the workers sent him before the strike. It supposedly read, "Kind master, tell us what you wish us to do and we will do it for you." No such telegram was ever found, but Carnegie used the story in his autobiography anyway.⁴⁹ Whether these incidents were deliberate deception or merely self-delusion, they are consistent with a man who did something about which to feel guilty. The liberal nature of Carnegie's early labor policies makes his fall from grace after 1892 that much more tragic. If Carnegie had always been as anti-labor as his modern critics portray him, perhaps he would not have been villified as much as he has from when the lockout began, all the way to the present. Even a century later, workers still remember that Carnegie betrayed their forebearers because nothing hurts so much as a friend turned enemy.

"If 'Business' Seemed to Demand the Sacrifice"

Even when the economy was at its worst, Carnegie Steel remained profitable. In 1889, its net profits were \$3,540,000; in 1890, \$5,350,000; in 1891, \$4,300,000. In 1892, the same year that management complained about

excessive labor costs at Homestead, Carnegie Steel's net profits were \$4,000,000. In 1893, when the entire country plunged into depression and iron and steel firms all across the country failed at record rates, Carnegie Steel still made \$3,000,000 in net profits.⁵⁰ Nevertheless, because Homestead was losing money, Carnegie concurred in the decision to bust the union there in order to help the firm maintain its competitive advantage in a changing market. In doing so, he demonstrated his priorities. "There is no fair doubt that Mr. Carnegie feels well toward the employees of his numerous plants," remarked the *National Labor Tribune* shortly before the Homestead lockout began, "but not so well as to describe it as "philanthropy and charity," for these grand virtues are opposed to present business methods, and he would behead any man, from the Grand Mogul of the general management down to the second assistant messenger boy of the bumper shop if 'business' seemed to demand the sacrifice."⁵¹ Andrew Carnegie once had a labor policy which stood out from his contemporaries, but he abandoned it because business seemed to demand the sacrifice.

Whereas the elimination of the Amalgamated Association at Homestead occurred over a few short months, the elimination of the union from the industry happened more gradually. Changes in technology which undercut the importance of skilled workers to the production process began long before the Homestead lockout. For example, Carnegie first used technological innovations to undercut skilled labor in 1883. Yet recent research suggests that technological change did not eliminate the need for skilled workers, it simply changed the kinds of skills which employees had to use. Jobs which required the craft-type manipulative skills that Amalgamated members possessed became increasingly rare as steel production took off during the 1890s. Ex-puddlers were often in the same position as common labor in the new labor market since both groups had to learn these new skills in order to get the better-paying jobs. Steel manufacturers did not degrade craft workers in order to gain increased control over production, rather technological change rendered old skills largely irrelevant. Most firms built entirely new facilities to produce steel when they entered this sector of the business and kept the Amalgamated Association from ever entering their mills. The union had limited success organizing new steel departments in previously organized Pittsburgh iron mills, but the majority of steel workers were employed elsewhere. Of the eleven Bessemer works in the United States operating in 1896 which had an annual production capacity of at least 300,000 tons, only two had made puddled iron when they were first opened.⁵²

Andrew Carnegie and his competitors built the Bessemer steel industry from the ground up. Their primary objective when introducing new technology was to increase production. The increased efficiency of the Bessemer process (and later the open hearth process) made the potential output of even the

most productive iron mill seem miniscule by comparison. "While the productivity advantages of Bessemer steelmaking were clear to industrialists," writes David Jardini, "the implications of the new technology for labor relations were ambiguous at best and presented a balance of new opportunities checked by increased vulnerabilities." If employers could avoid workers who had learned "bad" habits while employed in unionized iron mills, then so much the better. However, this is not the same as introducing new production technology with the deliberate goal of undermining skilled workers, as some historians suggest.⁵³

The Amalgamated Association did not fight technological improvements even though change undermined its power. As president William Weihe told Congress in 1892, "The Association never objects to improvements and makes allowances in every particular where there are improvements....[W]henver there is an improvement made by which certain men will be done away with, then their jobs will be done away with. There is no objection." In 1889, the Amalgamated had already agreed to an individual scale at Homestead with lower wages than at other mills because of the substantial improvements already made there (namely the introduction of one the first open-hearth furnaces in America in 1886). More changes were made between 1889 and 1892, but only later did Carnegie Steel point to those improvements as justification for lower wages. After 1892, the Amalgamated continued to offer special scales to steel manufacturers throughout the industry in order to maintain its presence in an increasingly hostile environment. For this reason Jones and Laughlin was able to complete its conversion from iron to steel without eliminating the union from its mills.⁵⁴ Because of concessions like these, the presence of the union was never an obstacle to technological modernization and the increased production that accompanied it.

The Amalgamated Association's attitude toward technological change was not uncommon among unions in the late nineteenth century. According to Melvyn Dubofsky, few labor organizations directly opposed management's right to use new machines during this period. Most unions simply sought to contain the pace of change and to preserve jobs in the process. However, the situation in steel was different than that in most other industries. Because the rise of Bessemer steel production completely bypassed the places where skilled workers held sway, Amalgamated members could not even slow down production in order to extract concessions. This left manufacturers throughout the industry free to keep the benefits from new production techniques entirely to themselves. As Robert C. Allen explains, even though steel rail production costs declined 19 percent between 1889 and 1902, prices stayed about the same. With no union to bargain with, "producers absorbed all of the decline in costs...as excess profits." Carnegie Steel, one of the few steel firms to sign the Amalgamated scale at the beginning of this period, felt compelled to

cast the union aside because it wanted lower wages, higher output and longer hours in order to reap the benefits of the new technology and remain the industry's leader. One of Carnegie's partners put it this way (in an often-quoted statement): "The Amalgamated placed a tax on improvements, therefore the Amalgamated had to go." Even though breaking the union was not a prerequisite for technological innovation, steel manufacturers came to believe that this course of action was an economic imperative.⁵⁵

Carnegie put his spin on the events of 1892 while dedicating the new library he gave Homestead in 1898. "The best of all unions," he told the assembled crowd, "is such a happy union as prevails between the firm and its men, the two high contracting parties representing kind friendly capital and self-respecting labor." Yet by that time it was apparent to his workers that the cooperation that Carnegie championed was cooperation on management's terms. The support Andrew Carnegie had showed the Amalgamated Association disappeared when it became apparent that even a conservative union was a financial liability in a largely nonunion industry. The best workman might not take their neighbor's job, but after Homestead Carnegie accepted untrained workmen in order to earn larger profits. Carnegie Steel also created an elaborate internal espionage system which, by thwarting later organizing attempts at Homestead, kept the power equation tilted towards management.⁵⁶ These post-lockout labor policies were the direct antecedents to the draconian excesses of what David Brody calls "the nonunion era."

Carnegie eventually expressed remorse over Homestead, but he never acknowledged his contribution to the policies that led to the tragedy. "No grief of my life approaches that of Homestead," he wrote in 1912. "My rule was never to have a strike, never think of employing new men. Never: — Confer with the old men, and assure them we never would try to do without them." Carnegie's desire for public approval forced him to attempt to reconcile the irreconcilable. One passage in his autobiography shows that Carnegie recognized the problem he faced in these efforts. "I knew myself to be warmly sympathetic to the working-man," he writes, "but throughout the country it was naturally the reverse, owing to the Homestead riot. The Carnegie Works meant to the public Mr. Carnegie's war upon labor's just earnings."⁵⁷ The philosophy that had once helped to create Carnegie's popularity only increased resentment against him after Homestead. The symbolic importance of Carnegie's complicity in crushing the union was recognized by workers, other employers and the nation in general, more than by Carnegie himself. The most important manufacturer in the industry, the former ally and defender of organized labor, now reversed his position in an effort to obtain absolute control over the production process. Even though the fate of unionism in this industry was already sealed, Carnegie's reversal of his earlier policy towards the Amalgamated Association still made the Homestead lockout a major turning point in American labor history.

Notes

- * This article is based on chapter two of Jonathan Rees's 1997 University of Wisconsin-Madison Ph.D. thesis, "Managing the Mills: Labor Policy in the American Steel Industry, 1892-1937."
1. Gerald Eggert, *Steelmasters and Labor Reform, 1886-1923*, Pittsburgh: University of Pittsburgh Press, 1981, pp. 88-90; William Brown Dickson to Andrew Carnegie, April, 1914, William Brown Dickson Papers Box 6, Historical Collections & Labor Archives, Pattee Library, Pennsylvania State University, State College, PA.
 2. Paul Krause, *The Battle for Homestead 1880-1892*, Pittsburgh: University of Pittsburgh Press, 1992, pp. 234-37; *National Labor Tribune*, July 30, 1892.
 3. Carnegie's interests were organized into many different subsidiaries and reorganized often. The most important were Carnegie, Phipps & Co., organized in 1874; Carnegie Brothers & Company, organized in 1881; and the first complete consolidation of Carnegie's holdings, Carnegie Steel Company, organized just days before the Homestead tragedy in 1892. For sake of simplicity, I will refer to the enterprise as the Carnegie Steel Company no matter what period of its history is being discussed.
 4. Joseph Frazier Wall, *Andrew Carnegie*, New York, Oxford University Press, 1970, pp. 522-23.
 5. The classic descriptions of the Homestead lockout include Myron Stowell, "Fort Frick" or the Siege of Homestead, Pittsburgh: Pittsburgh Printing Company, 1893; Arthur G. Burgoyne, *The Homestead Strike of 1892*, Pittsburgh: University of Pittsburgh Press, 1979/first published by Rawsthorne Engraving and Printing Company, 1893; J. Bernard Hogg, "The Homestead Strike of 1892," unpublished Ph.D. Dissertation, University of Chicago, 1943; Leon Wolff, *Lockout*, New York: Harper & Row, 1965. Although I disagree with his interpretation of Andrew Carnegie's pre-1892 labor policy, Paul Krause's book is nonetheless the best treatment of the Homestead lockout yet written.
 6. Wolff, p. 64; David Demarest, Jr., "Homestead Narratives, Past and Present, 1892-1992," 1892 Homestead Strike Centennial Conference, Pittsburgh, PA, July 5-7, 1992, p. 39.
 7. Andrew Carnegie, "An Employer's View of the Labor Question," in the *Andrew Carnegie Reader*, edited by Joseph Frazier Wall, Pittsburgh: University of Pittsburgh Press, 1992, p. 96; Andrew Carnegie, "Results of the Labor Struggle," in *The Andrew Carnegie Reader*, p. 112; Wall, *Andrew Carnegie*, p. 522; James Howard Bridge, *The Inside History of the Carnegie Steel Company: A Romance of Millions*, Pittsburgh: University of Pittsburgh Press, 1991/first published by Aldine Book Company, 1903, p. 193.
 8. David Brody, *Steelworkers in America: The Nonunion Era*, Cambridge, MA: Harvard University Press, 1960, p. 2; William R. Jones to Andrew Carnegie, May 6, 1878, quoted in Wall, p. 345; Wall, pp. 520-22; John Ingham, *Making Iron and Steel*, Columbus: Ohio State University Press, 1991, p. 137; John A. Fitch, *The Steel Workers*, Pittsburgh: University of Pittsburgh Press, 1989/first published by the Russell Sage Foundation 1910, p. 193.
 9. *New York Times*, January 2, 1885; *American Manufacturer* 36, June 5, 1885, p. 10; *Iron Age* quoted in *National Labor Tribune*, June 27, 1885.
 10. Fitch, Appendix II, "The Amalgamated Association," p. 255. Also see Hogg, p. 25, n. 8.
 11. Mary Ellen Freifeld, "The Emergence of the American Working Classes: The Roots of Division, 1865-1885," unpublished Ph.D. Dissertation, New York University, 1980, p. 469; William Weihe quoted in Freifeld, p. 533; Bridge, p. 186.
 12. For more on the technological innovations at Edgar Thomson, see Thomas J. Misa, *A Nation of Steel*, Baltimore: The Johns Hopkins University Press, 1995, pp. 23-28.
 13. Peter Temin, *Iron and Steel in Nineteenth-Century America*, Cambridge, MA: MIT Press, 1964, p. 157; Bridge, pp. 186, 89.
 14. Lawrence C. Phipps quoted in William Brown Dickson, *History of the Carnegie Veteran Association*, Montclair, NJ: Mountain Press, 1938, p. 26. For more on Carnegie's business strategy see Wall, pp. 584, 1084.

In 1887, Carnegie forced the head of his mining interests, Henry Clay Frick, to settle with striking miners because the need to keep his Bessemer mills supplied with iron outweighed the additional costs of obtaining coal. See Kenneth Warren, *Triumphant Capitalism: Henry Clay Frick and the Industrial Transformation of America*, Pittsburgh: University of Pittsburgh Press, 1996, p. 46.

15. Andrew Carnegie, "Dedication of the Carnegie Library at the Edgar Thomson Steel Rail Works, Braddock[sic]," p. 16; Herbert Gutman, "Two Lockouts in Pennsylvania, 1873-1874," in *Work, Culture and Society in Industrializing America*, New York: Vintage Books, 1977, p. 324.

16. Brody, *Steelworkers in America*, p. 3; Victor S. Clark, *History of Manufactures in the United States*, New York: McGraw-Hill, 1929, Vol. 2, p. 237; *Iron Age* 41, May 24, 1888, p. 847.

17. Temin, pp. 222-23; Andrew Carnegie to W.L. Abbott, June 1889, Andrew Carnegie Papers, Vol. 10, Library of Congress, Washington, D.C.; Misa, p. 70.

18. Krause, pp. 94-95, 106; Carnegie, "An Employer's View of the Labor Question," pp. 99-100.

19. Fitch, p. 122.

20. Fitch, pp. 114-18; *Iron Age* 41, April 5, 12 and May 10, 1888; *National Labor Tribune*, April 4, 14, and 28, 1888. The Carnegie quotation is from *American Manufacturer* 42, May 4, 1888.

21. Andrew Carnegie to W.L. Abbott, December 29, 1888; Andrew Carnegie Papers, Vol. 10; Amalgamated Association, *Journal of Proceedings*, 1889, p. 2600; Hogg, pp. 32-37; *Iron Age* 43, May 23, June 27, 1889. The firm originally tried to change the termination date of the contract to winter when striking would be much harder, but gave this up in the final agreement.

22. Bridge, pp. 200-01; Krause, p. 250.

23. *Iron Age* 52, July 20, 1893, p. 111.

24. Carnegie Steel also proposed long term contracts in 1888 at Edgar Thomson and at Homestead in 1892, but the lockouts at both places made the point moot.

25. Robinson, p. 149; United States House of Representatives, "Hearings Before the Com-

mittee on Investigation of United States Steel Corporation," 62nd Congress, 2nd Session, 1911-1912, p. 2524; Andrew Carnegie to W.L. Abbott, August 7, 1889, Andrew Carnegie Papers, Vol. 10.

26. Michael Nuwer, "From Batch to Flow: Production Technology and Work-Force Skills in the Steel Industry, 1880-1920," *Technology and Culture* 29, October 1988, pp. 812-15; Francis G. Couvares, *The Remaking of Pittsburgh: Class and Culture in an Industrializing City, 1879-1914*, Albany: State University of New York Press, 1984, pp. 11, 13; Michael W. Santos, "Laboring on the Periphery: Managers and Workers at the A.M. Byers Company, 1900-1956," *Business History Review* 61, Spring 1987, p. 116. According to Santos, "All attempts to find an alternative to puddling iron failed before 1930."

27. Montgomery is countering an argument made by Katherine Stone. See Montgomery, *The Fall of the House of Labor*, New York: Cambridge University Press, 1987, p. 43; Stone, "The Origins of Job Structures in the Steel Industry," *Review of Radical Political Economics* 6, Summer 1974, pp. 61-97.

28. John R. Commons and Associates, *History of Labour in the United States*, Vol. II, New York: Macmillan, 1918, pp. 495-96; Stone, p. 64. It is worth noting that Katherine Stone's influential article is based on the idea that modern job structures were created when the worker-controlled labor system of the nineteenth century was overthrown. Yet virtually all of her evidence of worker influence in the early steel industry comes from the Homestead plant.

29. As A.F. Huston, Vice-President of the Lukens Steel Company told the *Boston Herald* in July 1892, "Iron and steel labor in Pittsburgh and vicinity commands higher wages than in any place east of it. The reason for this is that the Amalgamated Association is stronger in the western part of Pennsylvania than anywhere else (quoted in Horace B. Davis, *Labor and Steel*, New York: International Publishers, 1933, p. 229)."

30. Sharon Trusilo, "The Amalgamated Association of Iron and Steel Workers," in "*The River Ran Red.*" *Homestead 1892*, David P. Demarest, Jr., ed. Pittsburgh: The University

of Pittsburgh Press, 1992, p. 17.

31. Misa, pp. 5-15, 22.

32. The most notable innovation was the Jones Mixer, invented by Carnegie Steel manager William R. Jones. The Jones facilitated the direct flow of pig iron from the blast furnace to the Bessemer converter, thereby eliminating the need for extra steps in between. For details, see Misa, pp. 26-28.

33. American Iron and Steel Association, *Annual Statistical Report*, 1885, pp. 26-27; Clark, Vol. 2, p. 265; John W. Bennett, "Iron Workers in Words Run Johnstown: The Union Era 1865-1895," Unpublished Ph.D. thesis, University of Pittsburgh, 1977, pp. 3-4; *National Labor Tribune*, March 5, 1892.

34. H.E. Hoagland, "Trade Unionism in the Iron Industry: A Decadent Organization," *Quarterly Journal of Economics* 31, August 1917, pp. 681-82; Nuwer, p. 830; Stone, p. 75; *Iron Age* 50, September 9, 1892, p. 581; United States House of Representatives, Committee on the Judiciary, Report #2447, "Investigation of Homestead Troubles," 52nd Congress, 2nd Session, 1892-93, p. 72.

The term unskilled labor can be highly misleading in reference to the iron and steel industries. Jobs that were commonly called unskilled often required considerable manual dexterity and/or training. Therefore, I have chosen to speak only of "less-skilled" and "highly-skilled" workers rather than use the term "semi-skilled," which denies the talents of workers lower down on the job ladder.

35. David Montgomery; "Afterword," in *The River Ran Red*, p. 224; brackets in quotation are Montgomery's; Fitch, pp. 87, 89; Krause, p. 289; Edward Bemis, "The Homestead Strike," *Journal of Political Economy* 2, June 1894, p. 372; *American Manufacturer* 36, June 5, 1885, pp. 10-11; Couvares, p. 85.

36. Robinson, p. 21; American Iron and Steel Association, *Annual Statistical Report*, 1892, pp. 19, 54; *Iron Trade Review*, August 29, 1901, p. 32; D.E. Dunbar, *The Tin-Plate Industry: A Comparative Study of Its Growth in the United States and in Wales*, Boston: Houghton Mifflin Company, 1915, p. 53; Brody, *Steelworkers in America*, p. 60. To reflect its growth in this sector of the industry, the Amalgamated Association of Iron and Steel Workers became

the Amalgamated Association of Iron, Steel and Tin Workers in 1898.

37. On tensions inside the Amalgamated Association see Bennett, pp. 56-57; and Steven Cohen, "Reconciling Industrial Conflict and Democracy: The "Pittsburgh Survey" and the Growth of Social Research in the United States," unpublished Ph.D. dissertation, Columbia University, 1981, pp. 86-88; *American Manufacturer* 50, June 10, 1892, p. 1035.

38. Paul Krause, in Appendix L of *The Battle for Homestead* [pp. 404-05], offers a chart titled "Selected Disputes in Greater Pittsburgh, Metallmaking Industries, 1867-1892." He cautions readers, "The table is by no means exhaustive; in virtually every year, there were important confrontations in the mills of Pittsburgh." Nevertheless, his failure to consider conflicts at smaller Pittsburgh mills or any mill outside of Pittsburgh is symptomatic of his narrow focus.

39. Amalgamated Association, *Journal of Proceedings*, 1889, pp. 2640-41, 2644-47; *National Labor Tribune*, June 15, 1889.

40. Irwin Marcus, "The Duquesne Lockout of 1889: Prelude to Homestead in 1892," 1892 Homestead Strike Centennial Conference, Pittsburgh, PA, July 5-7, 1992, pp. 2-9; Amalgamated Association, *Journal of Proceedings*, 1890, pp. 2958-59; Amalgamated Association, *Journal of Proceedings*, 1891, pp. 3362, 3364, 3382-85; Amalgamated Association, *Journal of Proceedings*, 1892, p. 3859.

41. Amalgamated Association, *Journal of Proceedings*, 1892, pp. 3860, 3863; 3912; *Engineering and Mining Journal* 52, August 1, 1891, p. 129; Mark Reutter, *Sparrow's Point*, New York: Summit Books, 1988, pp. 46-47; John Bodnar, *Immigration and Industrialization*, Pittsburgh: University of Pittsburgh Press, 1977, pp. 41-42; *Iron Age* 49, May 5, 1892, p. 874.

42. Amalgamated Association, *Journal of Proceedings*, 1892, pp. 3887-89; *Engineering and Mining Journal* 52, July 4, 1891, p. 13; Fitch, p. 118; James Holt, "Trade Unionism in the British and U.S. Steel Industries, 1880-1914: A Comparative Study," *Labor History* 18, Winter 1977, p. 14; *Bulletin of the American Iron and Steel Association* 25, August 26, 1891, p. 251.

43. Hogg [pp. 39-47] offers an entire chapter's worth of evidence on the worsening condition of the iron and steel industry between 1889 and 1892; *Engineering and Mining Journal* 53, March 5, 1892; *Iron Age* 49, June 16, 1892, p. 1182.
44. *National Labor Tribune*, June 11, 1892; Hogg p. 63; *Pittsburgh Post*, July 15, 1892 excerpted in *The River Ran Red*, p. 143. Both of these Carnegie mills came out in sympathy with the men at Homestead, and like Homestead were restarted with nonunion labor.
45. *Bulletin of the American Iron and Steel Association* 26, July 6, 1892, p. 196; *Iron Trade Review* 25, June 23, 1892, p. 5; *Iron Age* 50, September 29, 1892, p. 582.
46. Homestead Investigation, p. 163; Hogg, p. 50; Krause, p. 291.
47. Homestead Investigation, p. 22; Bridge, pp. 204-05; Joseph Frazier Wall, "Andrew Carnegies."
- Responsibility for the Tragedy at Homestead," 1892 Homestead Strike Centennial Conference, Pittsburgh, PA, July 5-7, 1992, p. 71; F.T.F. Lovejoy quoted in Krause, p. 287.
48. Eugene Levy, "The Coke Region," in *The River Ran Red*, p. 9; George Harvey, *Henry Clay Frick: The Man*, New York: Charles Scribner's Sons, 1928, pp. 166, 171; Andrew Carnegie to William Gladstone, September 24, 1892, Andrew Carnegie Papers, Vol. 17; Wall, *Andrew Carnegie*, p. 577; John N. Ingham, "Introduction," in Bridge, p. xx. For more on the break between Carnegie and Frick, see Warren, pp. 240-68 and Wall, *Andrew Carnegie*, pp. 714-64.
49. Stanley Committee Hearings, p. 2528; Wall, *Andrew Carnegie*, pp. 575-76.
50. Bridge, p. 295. \$3,000,000 in 1893 was the lowest net profit earned by Carnegie Steel during the entire decade. By 1899, net profits were up to \$21,000,000.
51. *Labor Troubles at Homestead*, p. 27; *National Labor Tribune*, April 16, 1892.
52. Ingham, *Making Iron and Steel*, pp. 129-130; Misa, pp. 28-29; David Jardini, "From Iron to Steel: The Recasting of the Jones and Laughlins Workforce between 1885 and 1896," *Technology and Culture* 36, April 1995, p. 278, n. 13.
53. Jardini, p. 301, Misa, p. 29. For other perspectives on why steel manufacturers introduced new technology, see Brody, *Steelworkers in America*, pp. 44-45; David Montgomery, *The Fall of the House of Labor*, New York: Cambridge University Press, 1987, p. 29; Krause, *The Battle for Homestead*, pp. 234-35.
54. *Labor Troubles at Homestead*, pp. 29, 74; Robinson, p. 126; Jardini, p. 294, n. 31.
55. Melvyn Dubofsky, "Technological Change and Workers Movements, 1870-1970," in *Technology, the Economy and Society*, Joel Colton and Stuart Bruchey, eds. New York: Columbia University Press, 1987, p. 173; Robert C. Allen, "Accounting for Price Changes: American Steel Rails, 1879-1910," *Journal of Political Economy* 89, June 1981, p. 523; Carnegie Partner quoted in Brody, p. 54; Misa, pp. 269-70.
56. Carnegie quoted in *The Bulletin of the American Iron and Steel Association* 32, November 20, 1898, p. 177. For more on Andrew Carnegie's spy system see Paul Krause, "On David Brody and *Steelworkers in America: The Nonunion Era*," *Labor History* 34, Fall 1993, pp. 493-95.
57. Carnegie to Samuel Gompers, November 1, 1912, quoted in Philip Taft, *The A.F. of L. in the Time of Gompers*, New York: Harper and Brothers, 1957, p. 135; Andrew Carnegie, *Autobiography of Andrew Carnegie*, fifth printing, Boston: Houghton Mifflin Company, 1948, p. 225.