Chapter One

The Secret of Industrialization in Pittsburgh

> "Here as nowhere else in America, the growth and development of the capitalistic system of mass production has prepared the way by precept and example . . . for the rapid and stalwart growth of the revolutionary proletariat. There is but one thing lacking, viz.: leaders."
>
> Albert Parsons, 1886.[1]

OVERVIEW

Pittsburgh is well known as a labor town. The founding conventions of what would become the American Federation of Labor (1881) and the Congress of Industrial Organizations (1938) were held in the Steel City.[2] Yet in the 1920s, the labor movement in Pittsburgh and throughout the nation was weak and isolated from the commanding heights of the economy: coal, steel, electrical machinery, and railroads. However, beginning in the mid-1930s, unions began to organize factory workers, and by the late 1940s, most of heavy industry's workforce belonged to a labor organization. Strikes by coal, steel, or railroad workers threatened to bring the national economy to a standstill, and workers won gradual improvements to their rates of pay and working conditions. The last major strikes by Pittsburgh's industrial workers occurred in the 1980s and failed to affect the national economy. They ended in defeat. In the 1990s, less than 14 percent of American workers belonged to a union, less than half of comparable levels of organization in the 1950s. Today, trade unionists think twice before going out on strike, and successful national strikes (such as the 1997 struggle at UPS) are rare events.

Nonetheless, the city's history of labor militance apparently continues to trouble corporate, media, and university elites who all regularly cite the specter of big labor as one of the chief causes for sluggish regional investment in the 1980s and 1990s.[3] Yet employers, not unions, shape the terms of the region's labor markets and most of the centers of Pittsburgh's post-industrial economy—health care, higher education, services, and corporate research—are nearly 100 percent non-union. As a result, rates of income inequality, once amongst the lowest in the Commonwealth, are now among the highest. Whether measured by access to jobs, housing, or heath care, Pittsburgh's racial inequality is also amongst the worst in the country. Job losses have been so severe and sustained that Pittsburgh boasts the largest geriatric population of any big city outside of Florida. Labor lacks the organizational strength or political understanding to reverse the levels of economic and racial polarization that have become as bad as conditions before the CIO was founded.[4]

Labor scholars, leaders, and members all agree that since the late 1970s, unions and workers have confronted tough times and that substantial legal, economic, and cultural barriers confront current organizing efforts. It is my contention that to begin to understand the decline of labor and its embattled and intimidated nature in the present, we have to investigate the real forces behind its rise in the 1930s. In this decade, industrial unions arose on a mass scale never seen before or since. It was a heady time when millions of workers joined strikes, organized unions, and altered the political priorities of the country towards the needs and aspirations of workers. At the center of those changes was the CIO, and to understand its influence on America and Pittsburgh, one must understand the answers to a series of questions. How did the CIO organize in the workplace? How did it carry out its political aims? How well did it overcome, or seek to overcome, various forms of racial, ethnic, and gender discrimination in the workplace? What kinds of responses did the CIO engender from big business? From government? In short, how did the CIO contest for power, how much did it win, and how well did it consolidate it?

The dominant account of the unionization of U.S. Steel in 1937 offers an excellent vantage point for understanding how the CIO changed the relationship between Western Pennsylvania's working and owning classes. This was one of the most important incidents in the history of modern labor, and consequently many of the facts of the story are well known to labor historians. The first ingredient in the unionization of steel was the resurgence of the United Mine Workers of America (UMWA) in the mid-1930s. The UMWA organized the coal industry on an industrial basis, that is all workers regardless of occupation, race, or ethnicity were eligible for membership. In 1933–34, miners, including tens of thousands around Pittsburgh, took advantage of New Deal legislation that afforded organizing workers protection from company retaliation. Union membership mushroomed. One major employer of miners refused to bargain: steel companies. As long as steel companies supplied their mills with non-union coal, the fate of the UMWA was precarious. So mineworkers' leader John L. Lewis went on the offensive by launching the CIO and a host of industrial unions in steel, auto, meatpacking, and other areas. The Steel Workers Organizing Committee (the SWOC) hired numerous communist organizers, who were especially important in signing up large numbers of immigrant, black, and Mexican workers around Pittsburgh. Meanwhile, in the winter of 1936–37 CIO auto workers engaged in a brilliant sit-down strike that resulted in victory against General Motors by February of 1937. The head of U.S. Steel, Myron Taylor, was a so-called enlightened capitalist who recognized the inevitability of unionization and sought out a pleasantly surprised Lewis to hammer out a deal. By early March, the two arrived at the basic framework. Steelworkers received five dollars a day for eight hours of work with some provision for seniority, vacations and union representation. The company signed a nationwide agreement with the SWOC, an agreement so unexpected and momentous that one SWOC top official later called it a "miracle."[5]

There are many reasons why this account of the founding of the SWOC has become the most popular narrative. It is dramatic, heroic, and mostly true. But there are a number of questions that the story does not answer. First and foremost, why didn't U.S. Steel call the SWOC's bluff? U.S. Steel had a long history as one of the most aggressively anti-union companies in America, and other large steel firms successfully resisted the union for several more years. Big steel had recently defeated an organizing drive by the AFL's Amalgamated Association of Iron, Steel and Tin Workers (the Amalgamated), and before that it had bested the Steel and Metal Workers Industrial Union, an organization connected to the Communist Party. "The Corporation" had huge reserves of money, an army of spies, and stacks of machine guns and tear gas in their mills. Of course, so had General Motors. But General Motors only agreed to recognize the union in those workplaces where the CIO could prove it had the majority of workers' support. By contrast, the SWOC gained a national contract despite its relatively weak shop-floor organization. In Pittsburgh, most of the workers who had joined the union paid no dues and were too scared to support the union openly. According to Philip Murray, the union's chief organizer, steelworkers were "shot through with fear."[6] Whether or not the steelworkers could have won a strike (and subsequent events suggest that a strike might have gone either way) U.S. Steel did not have to agree to a *national* contract. Important questions about why the SWOC triumphed remain unanswered by the dominant narrative.

The secret to U.S. Steel's "generosity" resulted from a profound shift in the political priorities of both the Pennsylvania and the federal governments. Indeed, I contend that a key factor behind U.S. Steel's recognition of the SWOC was military contracts. For decades, U.S. Steel had supplied enormous amounts of war materiel to the federal government and "the Corporation" benefited mightily from it. U.S. Steel's place in the military-industrial complex began in the 1880s when Andrew Carnegie (who later sold his company to U.S. Steel) sold armor plate to the U.S. Navy. Carnegie enjoyed extremely close relations with key naval officers who inspected his product and informed him of government policies and potential contracts.[7] With only two suppliers—later three—the Secretary of the Navy found that "their policy is to make the government pay much beyond a fair profit." One shipbuilder confessed that "if I could get the profit on armor plate, I would build a war ship at cost."[8] Andrew Carnegie's armor profits enabled him to pay cash for the Mesabi Iron Range, then the richest source of iron ore in the world. During World War I the price of armor plate skyrocketed to seven times its pre-war price before the government convinced the companies to accept 258 percent of the prewar price. Skyrocketing wartime prices allowed U.S. Steel in 1917 to garner a $600-million profit on a total investment of just $1,600 million. Close ties to the Commonwealth of Pennsylvania's monolithic Republican party machine, which lost only three statewide elections between the 1870s and 1934, protected steelmakers' lucrative public market from numerous attempts by Populist and Progressive legislators to build a government armor mill. U.S. Senator Boise Penrose (R-PA) admitted that public ownership would prevent "the money of the taxpayer [from pouring] out like water in a lavish and improvident way." But Penrose fought the government mill until his death in 1921 because the taxpayers' money poured into the pockets of his constituents. Only in 1921 was the government armory finally completed. For a brief time it operated efficiently and was quietly dismantled.[9] Little armor was rolled in the 1920s, and most of it by private firms.

In 1937, the Corporation's military contracts made it vulnerable to political pressure. The SWOC drive coincided with an enormous U.S. and British naval construction program on the eve of what promised to be a major European war. Furthermore, an investigating committee headed by Senator Gerald P. Nye (R-ND) looked into the close and profitable relationship between government officials and large military contractors. The outrage of progressive Congressmen was a familiar, if unwelcome, aspect of supplying armor to the navy. Yet the controversy refused to die, and labor reform legislation (notably the 1935 National Labor Relations Act) signaled the willingness of Congress to act. Furthermore, steel firms refused to abandon the forty-eight-hour week, thereby flouting the 1936 Walsh-Healy Act which required government contractors to employ workers for no more than forty hours a week. The Labor Department forced the navy to enforce a ban on granting contracts to corporate lawbreakers. Throughout the winter of 1936–37, construction on several ships ground to a halt for lack of twelve thousand tons of armor plate. In late February, members of the Cabinet mused that it might be necessary to restart the government's Charleston, West Virginia, armor plant. Rather than lose military orders, steel companies negotiated to bring their labor practices in line with federal policy. And the government only accepted new bids on naval contracts after the ink was dry on the contract between U.S. Steel and the SWOC.[10]

Thus, U.S. Steel's March 2, 1937, agreement on wages and hours was a concession to the government as much as to the SWOC.[11] Unsurprisingly, the union contract specified little more than the new minimum standards for government contractors of a forty-hour week and a five dollar day for workers. (Perhaps as a quid pro quo, the government later leased its armor mill in Charleston to U.S. Steel). The intervention of the federal government into industrial relations points to the importance of politics and the state to the rise of modern unionism. Whatever inducements were offered at the secret meetings between politicians, businessmen, and union officials should not obscure the fact that for the first time in decades, workers had a seat at the table of power politics.

CIO unions were unabashedly political and left a profound legacy for us in federal law and programs. The CIO and its predecessors pressured government to increase workers' social wage through reforms such as public relief (beginning with the 1933 Federal Emergency Relief Act), unemployment insurance and social security (the 1935 Social Security Act), public housing (1937 National Housing Act), and the minimum wage and the forty-hour week (the 1938 Fair Labor Standards Act). These policies essentially allowed workers to win, through the political process, some of what they lost through market forces. Such programs marked a profound change in the relationship between American citizens and government. One aspect of that shift was that state government was frequently eclipsed as an arbitrator of relations between business and labor.[12] Equally important, workers gained their "industrial citizenship," and government responded—at least to a degree—to their interests.[13]

The fact that steel unionism (and one might argue the New Deal more generally) flowed from the barrel of the gun remains an important irony because for the previous seventy years, the secret of Pittsburgh's industrialization was the legal repression of labor. Government's extensive and often brutal policing of labor, often joined by capital, profoundly shaped the industrialization of the Pittsburgh region. Beginning in the 1850s, government consistently privileged capital and beggared labor. The state undermined workers' ability to organize or to shape labor markets. The state facilitated the control of a few industrialists over an ever-larger portion of the region's resources, markets, and labor power. Pittsburgh's industrialization—its transition from competitive capitalism in the middle of the nineteenth century to monopoly capitalism by 1900, and the subsequent dominance of a few large firms over the region—was thus a political process as much as an economic one. For this reason, this chapter examines the efforts of business and workers to shape the development of the political and manufacturing process between the middle of the nineteenth century and 1937. Because of the political and police hegemony of big business, the road to steelworkers' victory in 1937 was a long one. To understand SWOC's victory (and its limitations) one must assess how its predecessors grappled with questions of political and workplace organization in the face of an extremely heterogeneous working class and an extremely powerful and ruthless owning class and government.

THE ECLIPSE OF COMPETITIVE CAPITALISM

In the decades after 1800, Pittsburgh developed into a manufacturing region that supplied the rapidly growing western portions of the United States.

Until the 1850s, the region's abundant forests provided the fuel (generally in the form of charcoal) for the manufacture of iron and other energy-intensive industries such as railroads and glass making. The Ohio River provided industrial entrepreneurs with a ready route to supply the farmers, slaveowners, and merchants who colonized the vast river valleys of the Middle West and South. Manifest Destiny, in the form of the country's "Indian wars," conflicts with Britain, and the Mexican adventure of 1846–48, required vast amounts of weapons, uniforms, and other goods. Each war simultaneously expanded the American market and stimulated manufacturing in Pittsburgh. After the 1830s, industrialization accelerated when workers began to mine the region's rich seams of coal. By 1840, the Pittsburgh region shipped approximately 25,000 tons of coal down river a year. By 1860, nearly one-sixth of Allegheny County's 20,000 workers were coal miners, and the region sold well over 1 million tons of coal. Prodigious amounts of coal melted iron in blast and puddling furnaces and powered the growing number of rolling mills. As the 1860 *Manufacturing Census* observed, "the growth of Pittsburgh, which had coal at its very doors, is very much due to this cause."[14]

While Pittsburgh's rapid growth increased the size of its industries and the wealth of its industrialists, manufacturers lacked monopoly power over markets. No group of firms or banks dominated the production or prices of raw materials, labor, or manufactured goods. In coal, the legal and financial barriers to entry were so low that overproduction remained a chronic problem. Numerous transportation companies vied to haul goods on the rivers. The supply of capital remained scattered among numerous small banks, although two or three had already emerged whose capitalization was several times that of the average bank.

This is not to say that industrialists lacked power. The iron industry was relatively concentrated, and one-third of the mills sold two-thirds of Pittsburgh's metal.[15] Large companies such as Jones and Laughlin (J&L) formed when Benjamin Jones and James Laughlin merged their companies because "they decided they could make more money being partners than by being competitors."[16] The sheer size of a few firms and the "fear of the employers blacklist" allowed them to dominate workers and thereby labor markets. As one unionist later recalled, even skilled workers "had become accustomed, through years of hard practice, to accept the fiat of employers."[17] But even the largest iron makers bought their raw materials and sold their finished products in a relatively free marketplace.[18] Pittsburgh stood on the threshold of a new round of economic growth that would simultaneously increase the scale of industry and concentrate its ownership into fewer hands.

Two entities that propelled Pittsburgh towards monopoly capitalism at mid-century were the Commonwealth of Pennsylvania and the Pennsylvania Railroad. The state legislature exercised enormous economic power in part because of its right to grant or deny corporate charters. The corporate form, which limited the liability of managers and investors, greatly facilitated the accumulation of capital so necessary for large-scale industrial firms. But to prevent the formation of powerful monopolies, the state restricted corporations to specific sets of economic activity for a limited number of years. As early as the 1830s, in order to encourage industrialization, the Commonwealth began to ease its restrictions on corporations in capital-intensive areas such as railroads and iron.[19] Nonetheless, the legislature still individually wrote each charter, and the Pennsylvania Railroad became adept at manipulating the chartering process to enrich itself and confound its competitors. One notable instance of skullduggery occurred in 1847 when the Pennsylvania blocked the Baltimore and Ohio from completing its line through the state into Pittsburgh by convincing the state legislature to grant the Pennsylvania Railroad exclusive rights to statewide traffic.[20] Over the next several years, the Pennsylvania and other railroad firms convinced many municipalities and the state itself to finance connections to the main line. Ostensibly to ensure its competitive position vis-à-vis other cities, between 1849 and 1854, Pittsburgh purchased $1.8 million dollars worth of railroad stock. Most companies went bankrupt, and within a few years the city's investments were sold for a mere $7,000. The completion of the Pennsylvania's system merely changed the form and rationale of public subsidies. In 1857, the Commonwealth sold its statewide canal system and other rights of way to the Pennsylvania Railroad at a substantial discount. Such practices were so common that later that year voters amended the state constitution to ban the practice of publicly financing private companies.[21]

In the 1860s, the impetus of railroad expansion and wartime spending accelerated Pittsburgh's industrialization. The government with its "navy, vast workshops and other establishments during the late rebellion" absorbed the output of Pittsburgh's foundries, rolling mills, railroads, and coal mines. Pennsylvania supplied over half of the iron and 80 percent of the coal for the Union; war contracts rendered these trades "unusually prosperous."

Ten percent of all iron was rolled in Allegheny County alone. During the war, the average price of a ton of bar-iron increased by 50 percent, and the employment of capital and labor in the iron and steel industries in Allegheny County quadrupled during the 1860s. The value of its products increased sevenfold.[22] The hectic growth of railroads consumed about half of the metal and almost one-quarter of the coal produced in the Pittsburgh district.[23] The coking coal fields south of Pittsburgh fueled 80 percent of the country's iron furnaces, and one survey estimated that they were worth one thousand times more than all gold mined in California.[24] As a center of coal mining, iron making, and railroad manufacture, Pittsburgh supplied the building blocks of industrial expansion to the country. To its owners flowed a king's ransom.

Industrialization was accompanied by an expansion of the political influence of big business. During wartime the passage of special legislation dwarfed all other concerns. For instance, in April 1861, the legislature dropped the tonnage tax on the Pennsylvania Railroad, saving the corporation $700,000 in back taxes alone. Between 1866 and 1873, 95 percent of the laws passed by the legislature were special acts.[25] One railroad magnate boasted to a colleague that "I have taken money there [to Harrisburg] myself to corrupt the legislature."[26] Not surprisingly, "public" laws also served the interests of big business. In 1866, the Commonwealth permitted industrial corporations to employ uniformed and armed police, ostensibly to protect their property. In hundreds of coal camps and unincorporated mill towns, thousands of "Coal and Iron Police" possessed the monopoly of legal, if not completely legitimate, coercive power.[27] The *National Labor Tribune* labeled "the great Commonwealth of Pennsylvania . . . the catspaw of these combinations" which granted companies the power to "intimidate the work people and rule them with an iron rod."[28] By 1873, corporate influence over the legislature had become so pervasive that voters convened a Constitutional Convention that attempted to place meaningful distinctions between the legislature and the state's corporations. For instance, the General Assembly was forbidden to abrogate its powers of taxation over corporations. Under the new popular guidelines, railroads would function as "public highways" and common carriers.[29] The new laws barely interrupted the emerging public-private consensus between politicians and corporations.

Even as the Commonwealth did its utmost to smooth the path for corporate growth and profits, it impeded workers from combining to advance their interests. Courts and lawmakers considered unions de facto conspiracies whose chief aim was to monopolize labor markets. In 1815, some of Pittsburgh's first unionists were convicted of conspiracy for attempting to enforce a common wage scale with their employers.[30] Unlike businesses, unions were not allowed to incorporate, and their members and officers had few protections against personal liability for the actions of members of their organization. By 1842, the state courts grudgingly began to accept trade unions as legitimate organizations, although not until 1869 did the legislature pass a law that established the legal basis for unions. Yet the Commonwealth's labor law punished unionists who "hindered" those who sought work during strikes. Public pressure resulted in an 1872 law that limited sanctions to so-called violent hindering, but many miners and other unionists served up to four months in jail for encouraging workers not to cross picket lines. In one infamous case, mineworkers from Westmoreland County were severely fined for "hindering" strikebreakers with a brass band.[31] One trade unionist bitterly summed up labor's legal history: "the law and the judges are against workingmen. Whatever workingmen do to protect their wages is 'unreasonable and oppressive.'"[32] The right to organize, so freely provided to industrialists by the Commonwealth, was largely denied to workers.

The political influence and enormous size of railroads enabled them to transform the laws not just of Pennsylvania but of the marketplace itself. By the early 1870s, the Pennsylvania had grown larger than all other railroads in the Commonwealth combined; the line employed 200,000 men, making it the country's largest private employer.[33] Its capital requirements and ability to borrow exceeded that of the state whose name it assumed. Until the 1890s, there was no effective regulation other than corporate policy to determine the "market" price for shipping. No law barred railroads from establishing rate pools that raised the cost of shipping several times that of lines with effective competition. Strong firms sometimes joined forces with railroads. In the case of Standard Oil, which refined much of the crude oil produced in Western Pennsylvania, John D. Rockefeller convinced the railroads to pay Standard Oil a rebate from the shipping costs of other oil companies. Railroads thus accelerated the trend towards the centralization of oil refining and helped to ensure that its center would be Cleveland rather than Pittsburgh.[34] A well-known joke was that when the Pennsylvania Railroad had no further business, the state legislature could adjourn.

In 1877, Pennsylvania passed a law that made strikes against railroad companies all but illegal. Within weeks, a massive railroad strike convulsed the state and nation.[35] The immediate cause of the Great Strike of 1877 was a 10 percent wage cut, but it also represented a direct, if disorganized, protest of railroads' economic and political control. Pennsylvania was a strike center, and many members of Pittsburgh's working class enthusiastically joined the fray. One radicalized ironworker said that "I won't call employers despots, I won't call them tyrants, but the term 'capitalist' is sort of synonymous and will do as well." The local militia, itself recruited largely from Pittsburgh's working class, refused to discipline the strikers.[36] The Governor brought in regiments from Philadelphia, but after shooting at least twenty workers, including three children, the Guard was driven out of town by armed workers. According to an owner of an iron mill, "matters grew from bad to worse and the crowd swelled into proportions beyond all control made up of the worst element around the city."[37] A Pittsburgh newspaper observed that "there is no disguising the matter. The people of this city sympathize with the strikers. They are incensed beyond measure with the cold, corrupt legislation which has fostered the colder and more corrupt organization known as the Pennsylvania Railroad."[38] Before federal and state troops restored order and broke the strike, over one hundred died throughout the nation, half of them in Pennsylvania.[39]

The Great Strike stimulated strikes by ironworkers. The private secretary of one of the owners of J&L observed that the dramatic events of July "had a bad effect on the laboring classes" at the firm's American Iron Works. "After holding an excitable meeting, they have all (some 350 men) marched out of the mill saying they must have 25 cents per day added to their wages."[40] In part because the mill was well guarded and the military and vigilantes patrolled the streets the strikers failed in their "attempt to have the firemen and foundry hands join them." They "did not succeed, *used no force*." Laborers did, however, have the support of the puddlers, who had just forced Benjamin Jones, one of J&L's owners, to accept a one-year contract on June 12.[41] At mass meetings of strikers, such as that of the "unterrified," "speeches were made advising the holding out of the men."[42] Production at the mill slowed considerably. On August 13, Jones observed that the strikers were "still out. Foundry and machine shop worked all last week. Rest of the mill all out."[43] Managers failed to restart the mill, and the hands decided to return to work en masse. "The firm has made no concessions but will of its own accord" raise "some of the eighty cent men to $1 per day . . . Great rejoicing, so the strike is ended and we are all glad of it."[44]

Even after the riots were repressed and the strikes settled, the aftershocks of the Great Strike reverberated through the body politic. The Pennsylvania legislature attempted to compensate the Pennsylvania Railroad for property destroyed during the riot, but a bribery scandal prevented the passage of the $4 million bill. Instead, the courts forced Allegheny County to pay over $1.5 million in damages to the railroad on the basis that local government had not kept the peace. The refusal of the company to negotiate with its workers was ignored as a possible cause of the upheaval.[45]

In the wake of 1877, politicians colluded with railroad barons and other big businessmen as the latter sought to safeguard their interests by making the National Guard more effective for strike duty. Numerous units, particularly those from working-class districts, were disbanded. Professionals and businessmen now comprised nearly all of the Guard's officers. Oliver S. Hershman, editor and publisher of the *Pittsburgh Press*, was typical of the new bourgeois colonels whose activism in the Republican Party complemented his other civic duties. Hershman once owned the *Pittsburgh Evening Telegraph*, which the official historian of the Guard found was of "a conservative character that made it a great power for good in the community."[46] (By contrast, union men considered it to be "owned body, soul and breeches by the railway interests generally, and the Pennsylvania Railroad Company particularly."[47]) The legislature greatly expanded military expenditures to supply the state militia with better equipment and to compensate its members for time spent on duty. For its part, the Pennsylvania Railroad, in addition to its contributions of tents and other supplies, relayed a standing offer to transport the entire Guard to any point in the state within twenty-four hours.[48] Until the formation of the State Police in 1905, the National Guard was deployed dozens of times to police major industrial disputes.[49] One historian has characterized the changes in the social composition of the militia as the process whereby "the captains of industry became captains of the army."[50] Although the wealthiest industrialists preferred to call upon rather than participate in the Guard, the observation was essentially correct.

To contemporary observers, and some historians, the Great Strike was the American equivalent of the Paris Commune. This comparison overstates the political advance made by American workers, who unlike their Parisian counterparts had not seized state power nor run the factories independently of their owners. In Paris, thousands (and not dozens) of workers died at the hands of their government. In Paris and elsewhere in Europe, the specter of socialism, often in the corporeal form of Socialist Parties and radical unions, threatened to transform the economic organization of society. While the railroad strike reflected the widespread resentment to the economic and political power of industrial corporations, in Pittsburgh and throughout the United States, the chief challenge to the free market arose not from a radicalized working class (most unions decried the violence in 1877 as counterproductive) but from the ranks of businessmen who increasingly mimicked the Pennsylvania Railroad by monopolizing other sectors of the economy.[51]

THE RISE OF ANDREW CARNEGIE

Andrew Carnegie epitomized the ruthless spirit and organizational skills of those entrepreneurs whose very success under competitive capitalism provided them with the means to destroy it. Carnegie came to America an impoverished Scottish immigrant, and his meteoric rise to business titan was and is the stuff of legend. His skills as a telegraph operator brought him to the attention of Thomas Scott of the Pennsylvania Railroad. He quickly became a member of the "inner circle" of the Pennsylvania, arguably the world's largest, best run, and most politically influential corporation. By 1859, at the tender age of twenty-four, Carnegie became the superintendent for the Pittsburgh district of the Pennsylvania. His skill in selling railroad bonds, even in the midst of severe depressions, made him especially valuable to Scott. Backed by the capital, connections, and good name of Scott and other managers of the Pennsylvania, Carnegie made a number of shrewd investments in oil, telegraphs, railroad car, and railroad bridge companies that made him one of the wealthiest men in Pittsburgh by the time he was thirty-three. Carnegie became an iron maker when he purchased the Keystone Bridge Company, which manufactured iron railroad bridges. In his later career as an iron master, his intimate relationships with and understanding of railroads, ability to raise large amounts of capital, and killer instinct would eventually make him the richest man in the world.[52]

The impact of railroads on the iron and steel industries was profound. Railroads demanded prodigious amounts of iron rails for new track and especially to replace worn rails. Carnegie convinced railroads that rails made from the new Bessemer steel process were superior to iron rails. By the 1880s, railroads consumed almost 90 percent of Bessemer steel. In 1875, Carnegie named his first steel mill in Braddock, Pennsylvania, after the then-President of the Pennsylvania Railroad, J. Edgar Thomson. Flattery and low prices won him a long-term contract with the railroad. Railroads were also the chief means of supplying mills with raw materials and shipping steel to markets. And while the relative importance of railroads to steel makers halved over the next two decades, in terms of tonnage consumed, railroads remained a crucial market.

But the very importance of railroads made them an "economic narrows." To lessen his tribute to these latter-day corsairs, Carnegie situated his mill near the lines of both the Pennsylvania and the Baltimore and Ohio.[53] But in the face of rampant price-fixing, Carnegie struggled relentlessly in the coming years to reduce his shipping prices. In 1884, he attempted to break the Pennsylvania's stranglehold over his mills by allying himself with the Vanderbilt interests who sought to build a new route through Pennsylvania. But the Pennsylvania bought out the Vanderbilts, and the rates rose again. Carnegie attempted to defeat the Pennsylvania in its home ground of the state legislature. He failed. After years of wrangling, Carnegie won a secret rate rebate on steel shipped by his competitors. He also created his own railroad, the Union Railway. The railroad paid for itself simply by eliminating the charges paid to the Pennsylvania and B&O to move goods inside Carnegie's mills. With only 100 miles of track, it shipped more freight than the Union Pacific, Northern Pacific and the Missouri Pacific combined. Yet Carnegie felt the Pennsylvania was charging him more than other firms to ship coke and iron ore, and in 1899 he laid plans to extend the Union to Lake Erie and ally himself with Jay Gould to have untrammeled access to the Minnesota ore field.[54] Carnegie's tactics interfered with the machinations of other railroad and steel barons, notably J.P. Morgan. In 1901, Morgan paid Carnegie $492 million for his steel company, removing Carnegie from the railroad business. It was an astronomical sum. As we will see, it was worth every penny.

Despite Carnegie's antipathy to the railroads, they were his industrial mentors. What Carnegie learned from the railroads helped make his mills marvels of efficiency. Until the 1870s, melting iron and rolling it were done in different workshops. Carnegie reorganized the Edgar Thomson Works (ET) so that all aspects of iron making occurred in one complex. An internal system of railroads connected its workshops and minimized delays. The result was one of the world's first "integrated" steel mills; ET could produce as many rails "in a day as had been produced in all of Pittsburgh in a year in the 1830s." Opened in the midst of a depression, the ET nonetheless turned a profit. In 1889, fourteen years after it opened, ET produced 25 times more steel than it had in 1875 and at half the cost per ton. Carnegie methodically reduced production costs through the judicious use of proven technology, low wages, and incentives for his managerial staff. In order to increase their incentive to watch costs, junior partners were paid with company shares rather than in money, and by the 1890s, even a one-sixth of 1 percent share was worth $450,000. Carnegie incorporated the Pennsylvania Railroad's advanced system of accounting and tracked production costs in every department in his firm. His maxim was to "watch the costs and the profits will take care of themselves."[55]

Such efficiency placed relentless pressure on Carnegie's competitors. One biographer observed that Carnegie's tactics were to reach "out one hand to grasp the market," while "he constantly hammered at costs with the other."[56] In 1883, Carnegie bought the Homestead Works, an integrated steel mill downriver from Edgar Thomson. Homestead was originally a rail mill, but Carnegie recognized that the railroad boom could not last indefinitely and remade Homestead into a structural mill that supplied the building trade with beams and plate and the federal government with armor plate.[57] In 1886 Carnegie joined forces with Henry Clay Frick, thereby gaining control over half of the country's supply of coking coal. Carnegie's efficient mills, his alliance with Frick, and his access to the capital and prestige of the Pennsylvania Railroad made him a feared adversary.[58] He would enter pricing pools with other steel makers only to abandon them during depressions when he would relentlessly force prices further down. When marginal firms ran short of cash, Carnegie would buy their mills at a deep discount. By 1894, he had cornered one-quarter of the steel market. In the mid-1880s, competitors of Carnegie's built a highly modern mill in Duquesne, practically abutting both the Homestead and ET Works. Carnegie blocked this firm from joining the rail pool that supplied the Pennsylvania Railroad and other concerns, thereby depriving the mill of its natural market. On the edge of bankruptcy, the owners sold out, and the mill paid for itself six times over in the next five years.[59] In the 1890s, Frick prevailed upon Carnegie to buy half of the fantastically rich iron ore fields of the Mesabi Range in Minnesota. Carnegie leased the other half of the Mesabi range from John D. Rockefeller, and to prevent him from building a mill in Cleveland, Carnegie agreed to ship all his ore on Rockefeller's railroads.[60]

Carnegie dominated the market, largely on his own terms, and the results were profits that would have impressed Croesus.

Carnegie's enormous profits never dulled his desire for more. In 1888, his profits were $2 million; two years later his firm netted $5.4 million. Even in the midst of a depression, as in 1894, Carnegie's company made $4 million on a capitalization of just $25 million. The Spanish-American war of 1898 boosted profits to $11.5 million and in 1900, the firm earned an astounding $40 million.[61] Yet Carnegie often treated his partners little better than his competitors. Those he considered unproductive or untrustworthy—or who simply rebelled against his avarice or his overbearing personality—were pushed out through the use of an "iron clad" agreement that forced partners to sell their shares to Carnegie for their book rather than their market value.[62] Even Frick, whose coke and talents had done so much to develop the firm, was eventually driven out. In 1899, Carnegie sought to buy all its coking coal from Frick's company for $1.35 a ton while the market price was $3.50 a ton. Frick won a lawsuit against Carnegie, and the settlement brought Frick six times more than offered by the stock's book value. The lawsuit also exposed the enormous profits that accrued to Carnegie behind the walls of a tariff designed to protect "fledgling" industries. Critics cried for the elimination of tariffs, but to no avail. Indeed, as early as 1876, Carnegie privately noted that "even if the tariff were off entirely, you couldn't send steel rails west of us."[63] Carnegie was simply ahead of the times as the Brookings Institute later found that "from about 1896 [until 1928] . . . the industry was independent of the tariff."[64] As his comment about the tariff suggests, Carnegie became a self-made man in part through the generosity of the public purse.

The chief way that steel's political capital reassumed its financial form was through the alchemy of armor contracts. In the late 1880s, Congress approved funding for a deep-water navy. Pennsylvania's Congressional delegation prevailed upon the navy to "buy American" from private companies. Carnegie Steel and Bethlehem Steel, both located in Pennsylvania, submitted identical bids of $600 a ton. With profit margins exceeding 60 percent, Carnegie privately confessed that "there is a good deal [of money] in the armor-making plants working in perfect unison." Later, he confessed to his managers qua lobbyists that he "must have that armor plate." Carnegie was caught selling armor plate to the Czar for a third of what he charged the U.S. Navy, and Congress capped prices at $350 a ton. But both Carnegie and Bethlehem refused to sell armor for less than $400 a ton, and prices soon crept back to $450. Even after a third competitor entered the field, profits remained at least $150-$200 a ton.[65] The navy's demand for armor plate steadily rose, from five thousand tons a year in the 1880s to six to seven times that in the early 1910s. A similar process in England caused Winston Churchill to remark that "the Admiralty had demanded six ships; the economists offered four; and we finally compromised on eight."[66]

The profits from military contracts facilitated the survival and expansion of Carnegie Steel and its successors. The profits from armor plate provided the $3 million in cash for Carnegie's purchase of Mesabi iron ore lands in 1896–97. Military contracts also saved Carnegie from his reckless habits. At the Homestead Works, the iron master had encouraged supervisors to run the mill flat out twice a year to set an almost impossibly high rate for "tonnage men." The result was chaos as completed orders disappeared under piles of "efficiently" produced steel, and other orders went unfinished. But, as one supervisor noted, the government "bought practically all the duplicate plates at high prices, thus cleaning up the whole mess." The government also footed the bill for the mill's subsequent modernizations.[67]

In the decades after the Civil War, industrialists like Carnegie transformed Pittsburgh into the undisputed center of American steel production. Companies such as Jones and Laughlin, National Tube, American Bridge, and Crucible took advantage of the region's coal fields, transportation network, and tough anti-union climate and crowded the Steel City's narrow flood plains with a nearly unbroken chain of mills and foundries.[68] A host of smaller firms supplied specialty markets, but they were eclipsed by the emerging monopoly corporations who divided up the market amongst themselves.[69] The sooty ash and acrid fumes of steel produced the unmistakably sweet smell of money. In 1899, Carnegie wrote to a friend that he was "ashamed to tell you the profits these days."[70] The precondition for Carnegie's "shameful" state of mind was the organization of the market on his terms, a process that necessitated disorganizing the industrial workforce. As one trade unionist observed, "consolidation, centralization of wealth is all the rage, and a very bad rage it is . . . to meet it is a simple problem in theory: Workmen must concentrate more closely in union."[71] Why such a simple theory remained so difficult in practice is the subject of the next section.

THE ORGANIZATIONS OF IRON AND STEELWORKERS

From the 1860s through the 1890s, ironworkers built some of the strongest craft unions in America. Largely denied legal protections, workers found that their skill formed the basis for their strength. Certain jobs such as puddling (refining high-quality iron) or rolling were crucial to any iron or steel mill and took years to learn. Puddlers formed the Sons of Vulcan in 1858, but employers' blacklists destroyed the organization of these "aristocrats of labor."[72] Puddlers rebuilt their organization in the 1860s, when "the war of rebellion finally evolved the opportunity." Even during the war boom, trade unionists "organized in secret" and then forced employers to improve wages. Ultimately wages rose or fell on a "sliding scale" that was indexed according to the market price of iron.[73] By 1873, three thousand five hundred puddlers had joined the Sons of Vulcan.[74] Other skilled craftsmen, such as iron rollers, formed separate organizations.[75] The sliding scale accounted for market fluctuations in iron prices but took wages out of competition, thereby stabilizing the lives of ironworkers (who made up 20 percent of Allegheny County's wage laborers) and the playing field for employers.[76]

Once unionized, skilled ironworkers enjoyed relative autonomy. The men who had mastered the secrets of iron making demanded and received a large measure of respect. One indication of this was that in the iron industry, the pay of rollers, heaters, and melters sometimes exceeded the pay of managers.[77] Skilled workers' tastes dominated the social and cultural landscape in what Francis Couvares described as a "craftsmen's empire."[78] Until the 1880s, skilled ironworkers resembled subcontractors who were paid so much per ton of metal that they produced. Furthermore, these craft workers had the power to hire and fire members of their crew. Their union regulated wages, working conditions, and access to the craft.[79]

During the depression of 1873, however, iron prices fell below the bottom levels of the scale, and employers slashed wages and attempted to destroy the union. The Sons of Vulcan was nearly destroyed during the bitter lockout of 1874–75. The Pittsburgh Bolt Company bought new equipment that was run by non-union puddlers from Virginia who received less than the sliding scale. The unionized rollers continued to honor their separate contract, a common occurrence at the time. Even after the rollers were convinced to join the strike, the non-union puddlers, "black in both color and principle," continued to work. According to one white trade unionist, "the firm [is] very anxious to get only one 'nigger' killed so they can call it a riot and call in the militia, and arrest a few puddlers, to demoralize the rest." Several private police protected the strikebreakers, and the union skirted disaster. But strike support flowed into Pittsburgh, production lagged, and the puddlers soon forced companies to return to the sliding scale. The puddlers lost their national sliding scale, but maintained regional ones in a "dearly bought victory of labor over avarice." Yet the problems of new technology, limited solidarity, and the use of police to break strikes continued to bedevil unionists in the iron industry.[80]

Unionists responded by building broader organizations. In 1876, puddlers, rollers, and other crafts joined together in the Amalgamated Association of Iron and Steel Workers. The Amalgamated created greater possibilities for inter-craft solidarity, especially in Pittsburgh, its stronghold. In 1878, J&L refused to sign a contract with the "boilers" or puddlers because B.F. Jones "thinks owing to the great depression in business (particularly iron) that the 'sliding scale' should be a little lower." Jones was "surprised by a committee, or rather all the heaters coming to the office this afternoon and refusing to work longer than tomorrow unless the 'boilers' agreement' was signed." The next year, a joint committee of boilers, heaters, and rolling mill hands sought to convince Jones to extend the contract for another year. He locked them out and refused arbitration. But within a week, the manufacturers decided "under existing conditions it is inexpedient to further resist the unjust demands of the boilers."[81]

Yet solidarity had its limits. Not until 1881 did the Amalgamated allow blacks to join Jim Crow lodges. Not until 1889 could lodges (or locals of the Amalgamated) admit common laborers. Their inclusion tempered but did not dissolve the tension between craft workers and their subordinates. Finally, craft rivalries plagued the Amalgamated.[82] Although the Amalgamated evolved towards greater solidarity, it only partially overcame the hierarchies of the workplace.

An even broader form of union arose in the 1870s: the Knights of Labor. The Knights sought to organize all workers into one union regardless of occupation, sex, or race.[83] In 1875–76, coal miners and laborers joined the Knights in impressive numbers. One worker observed "such was the excitement in the Pittsburgh district . . . that a man must have been dull indeed not to know that some kind of secret organization was being organized, and very rapidly too."[84] At many iron mills, unskilled workers joined the Knights. Cooperation with the Amalgamated was somewhat strained. The Knights had a more inclusive organization and favored creating worker-owned cooperatives to replace private factories. They also advocated shortening the workday to eight hours. Not only was the Amalgamated more politically conservative, but skilled workers opposed giving unskilled workers an equal voice in the union. Furthermore, because Amalgamated members were paid on the number of tons they produced in a day (the tonnage system), they did not seek a workday shorter than ten hours or the time it took to make five "heats" of iron.[85] Although one of the largest assemblies in the country, Pittsburgh's Knights failed to match the organizational power of their employers. Although thousands of coal miners and steelworkers joined striking railroad workers in 1877, even ardent solidarity faltered in the face of bayonets. The Knights' boldest gamble, and largest failure, came later that year when they sought to organize workers into a new party.[86]

The increasing diversity of the workforce also challenged unions. Despite the constant mechanization of iron and steel making, the number of iron and steelworkers increased dramatically, and employers increasingly sought workers from a wider variety of backgrounds. One of Carnegie's managers explained that the most tractable workforce was a "judiciously mixed" group of "Germans and Irish, Swedes and what I denominate 'Buckwheats' (young American country boys)."[87] But the increasingly heterogeneous workforce favored by employers threatened the social cohesion of the Amalgamated where native-born and Northern European rollers and puddlers had built up a union tradition based on their technical skills and a cultural solidarity based on white manliness.[88] From the perspective of many unionists, native-born common laborers possessed neither the requisite technical skill nor the proper social identity to join the craft unions. As more immigrants were hired from Southern and particularly Eastern Europe, the social distance between skilled and unskilled widened still further. The President of the Amalgamated saw cultural differences as a direct threat to union scales, arguing that Slavic workers did not know "the difference between light work and heavy work or between good wages and bad wages . . . these people can live where I think decent men would die; they can live on almost any kind of food, food that other men would not touch, and in houses that other men would not live in at all."[89] Yet despite the ethnic chauvinism of many in the Amalgamated, craft workers in Homestead developed a culture of solidarity so strong that immigrant workers joined their picket lines and barricades in 1892.[90]