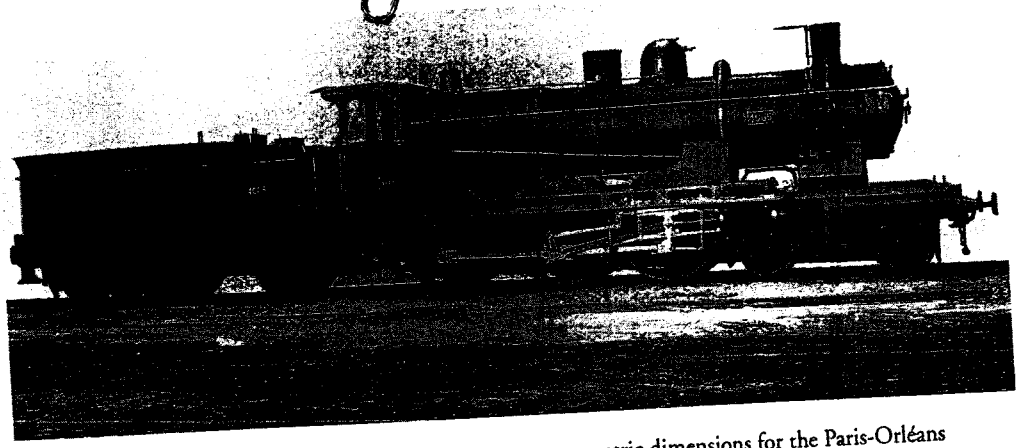
FILE NAME: Baldwin (BALD)

DATE: 0000

DOC#: BALD063

DOCUMENT DESCRIPTION: Book Excerpt - The Baldwin Locomotive Works - Triumph & Eclipse



Baldwin made twenty of these 4-6-0 types to metric dimensions for the Paris-Orléans Railway in 1907. It was the firm's first experience applying metric standards throughout an order. The job proved less difficult than it first appeared, however, since machinists generally worked to gauges and templates rather than blueprints. RAILROAD MUSEUM OF PENNSYLVANIA (PMHC)

So Baldwin ordered metric standards, made up new gauges and templates to the print dimensions, and built the twenty engines to metric dimensions throughout.[31]

As these examples suggest, Baldwin's essential strength lay in its ability to marshal a skilled, labor-intensive workforce to build custom products rapidly, on demand, and at competitive prices. Baldwin's challenge came in meeting its markets; directing them was impossible. Therefore the partners believed that preemptive managerial control, then rising in the mass-producing industries, was an empty promise in their industry. Given this decision, it made sense to rely on the company's producer traditions, which stressed individual effort, initiative, and responsibility. But this raised a new problem. These traditions were relatively easy to foster in Baldwin's limited managerial ranks, but would conceptions of individual effort and reward continue to motivate a workforce that after 1900 generally exceeded ten thousand men?

THE COMPANY AND ITS WORKERS

During the nineteenth century Baldwin's basic policy in employee relations had been to treat workers as individuals in a partnership sharing the firm's purpose of building locomotives. The firm expected men to work to their capacity; in return they received good wages. Those demonstrating untapped abilities were promoted up through the innumerable gradations of skill required to build engines. Given the volatility of the locomotive market, layoffs were common, but when demand again picked up, old hands received preferential treatment in hiring, and they flocked back to their jobs. These basic tenets defined the

company's producer culture. For forty years it had secured peace between labor and management.

After 1897 Baldwin faced the difficult problem of promoting individual initiative in a workforce that had swollen to mammoth proportions almost overnight. Growing from 3,200 men to 18,500 between 1897 and 1907, the force quickly came to be dominated by newcomers unused to the company's traditions. Most of these new men were outright machine tenders and laborers, for the fivefold increase in employment over the decade had accelerated Baldwin's forty-year trend of employing industrial operatives. Because Philadelphia's reservoir of skilled workers was inadequate to provide for the company's expanding needs, Baldwin had to subdivide tasks rigorously so that new men needed only a narrow competency.[32] Some evidence of this transformation of work is evident in the company's own definition of *skilled labor*. In 1903 a Baldwin officer wrote, "A skilled workman is . . . one who is familiar with the use of a tool, a machine, or a process."[33] Compared with the graduates of Baldwin's 1860s apprentice program, an employee competent to operate a single machine tool hardly qualified as a skilled worker. But the company's loose definition of skill accorded with general trends in American industry, trends so pervasive that some craft unions would grudgingly accept such operatives as members.

Though Baldwin needed these new men, their vast numbers threatened to overwhelm the company's producer culture. Their highly specialized skills were also incompatible with the firm's tradition of internal promotions; many of these new men were simply machine tenders, exchanging their time for a wage. The company made no secret of the fact that if workers began to band together seeking better wages, they would be instantly dismissed.[34] But in addition to this threat, the partners sought some positive means to revitalize the labor-management partnership of earlier years, so in 1901 they inaugurated a new apprenticeship program.

Baldwin's old apprenticeship program had died in the late 1860s, a casualty of workers' specialization under piecework. The company began the new program in part to counter the narrowing of skill that piecework had fostered. Baldwin's new system of worker training was an example of the "new apprenticeship" movement in American industry that dated to the late 1890s.[35] Like traditional apprenticeships, these programs aimed to train young men broadly in their chosen craft. The novel aspect was an additional component of classroom education, generally in vocational subjects. Unlike Baldwin, most machinery builders had never discontinued apprenticeships during the Gilded Age, so in this sector "renewed apprenticeship" would be a more accurate description.

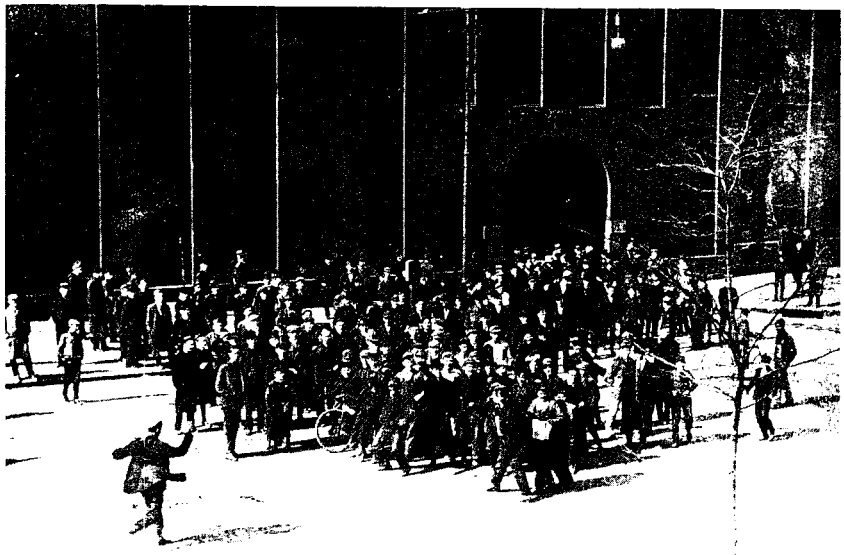
Baldwin's superintending partner, Samuel Vauclain, developed the program, and he commented frequently on its goals and benefits. Chiefly he argued that

by instilling in these boys the "traditions of a plant," the company created a cadre of workers who would "form the backbone . . . for the development of a good, loyal body of men." Vauclain also saw the program as an antidote to the "'race suicide' of the trades," which had occurred as industrial employers killed off craft skills by piecework and specialization.[36] Broadly trained program graduates would become leading workmen, contractors, and foremen. In renewing apprenticeship Vauclain sought to provide in the impersonal, teeming factory the same chance for individual recognition and advancement that he and his fellow partners had enjoyed in the nineteenth century.[37]

To accomplish this variety of purposes Baldwin created a three-tiered apprenticeship program.[38] First-class graduates would become top mechanics, tool room hands, and layout men. Contractors and subforemen came largely from the second class, while the third class was on a trajectory leading to foremanships or the executive ranks. A superintendent of apprentices, Nathaniel W. Sample, oversaw the program. He had indentured as a machinist at Baldwin in 1859, so the new program had a direct tie to its predecessor. Foremen and contractors in each shop were responsible for the boys' training, and the apprentices rotated through different departments to acquire broad experience. First-class machinist boys started out on planers, passed through nine intermediate types of machinist's work, and ended up on the demanding task of setting locomotive valve gears in the erecting shop.[39] After the six o'clock whistle blew, first- and second-class apprentices had to attend night classes in a variety of technical subjects at one of Philadelphia's many vocational schools. Such classwork in algebra, geometry, and mechanical drawing was a key part of the "new apprenticeship," which sought to impart theoretical competency in addition to manual skills.

Diaries kept by a drafting room apprentice, Vernon Gotwals, from 1906 to 1911 describe one young man's training.[40] Gotwals began at simple jobs but was quickly brought along. Working under the tutelage of senior men, the young apprentice was soon turning out quite demanding drawings such as designs for new boilers and erecting plans for complex Mallet designs. The pay was meager and his workday often stretched to ten P.M. on the nights he did not attend electrical-engineering or physics classes at Drexel Institute. Despite the low pay and long hours, he loved his job, often spending his lunch hour in the erecting shop watching as skilled erectors rendered his plans in steel.

The evidence suggests that Gotwals's experience was typical and that apprenticeships were in high demand. From the company's viewpoint the program proved an incomplete success, however. After seven years Vauclain reported that the training system "has been highly beneficial to us. We do not now need to consider going outside to hire skilled men."[41] While true enough, it also appears that most apprenticeship graduates soon left the company's employment. For



The occasion is unknown, but sometime after 1902 a photographer found these Baldwin apprentices congregating in front of the massive plant on Broad Street. LIBRARY OF CONGRESS

1901 to 1910, 1,300 boys entered the program, but in 1910 only 250 apprentice graduates were working at Baldwin.[42] This poor retention suggests that the program largely became a pipeline to the managerial ranks rather than a system of worker training.[43] Graduates not tapped for management positions evidently obtained better-paying or less specialized jobs outside locomotive building.

Although the program fell short of Vauclain's stated purpose of creating a large cadre of loyal workers, it did provide noteworthy benefits. During their terms the apprentices provided an inexpensive pool of increasingly skilled labor.[44] No doubt great numbers of boys were the sons of Baldwin workers, and these fathers must have appreciated the training given their sons. The new training system also represented a modest effort by Baldwin's partners to bridge the gap with their workers that had widened with the company's overall growth and division of labor. Finally, the program provided good public relations.

The Baldwin company received frequent press coverage in the early years of the twentieth century, and the apprentice program contributed to the attention. For forty years editors in search of good copy had been drawn to this firm, a giant of American industry making a mysteriously powerful product that symbolized man's technological triumph over nature. Circa 1900 Baldwin's officers began to contribute to the coverage, writing so many articles as to suggest a purposeful public relations campaign.[45] Although the general public seldom purchased locomotives, there was a widespread Progressive-era concern with "the labor question." The partners took pride in their company's forty-year

heritage of labor peace, in contrast to the strife so common during the Gilded Age. As Progressives turned to the mediation of such conflict, Baldwin seemed to have some answers.[46]

In 1902 the National Civic Federation sponsored an "industrial conference" to examine opportunities for a rapprochement between American labor and capital, and at that meeting Baldwin was cited for its tranquil labor relations. To examine this success a reporter, E. A. Bingham, visited the firm, writing up his findings in an article called "The Labor Situation at the Baldwin Works."[47] Bingham repeatedly cited examples of Baldwin's producer-culture traditions. He led by describing the firm's status as "an old-fashioned partnership [in which] from the front office to the ash heaps the old idea of partnership and reward and promotion is realized in a fashion that makes the works unique." Even a new apprentice "knows that if he is faithful and bright . . . he may be a partner someday." Ordinary workers were motivated by the chance for promotion and by the piece-rate pay system, since "no limit is put upon a man's skill. . . . The more he earns for himself, the more he makes for his employers."

Bingham's article did not describe actual conditions at Baldwin in 1903 so much as summarize the old nineteenth-century ideology that management sought to perpetuate. But the company's expansion after 1897 had rendered much of its culture anachronistic even as an ideology, let alone as a statement of actual conditions. By 1903 trusts and corporations, not "old-fashioned partnerships," ruled American business. Since 80 percent of apprentices left Baldwin's employment, evidently few believed that their own careers could parallel the rise of partners like William Austin or Samuel Vauclain. These owners may have thought that "no limit is put upon a man's skill," but eight out of ten apprentices evidently decided that Baldwin had little to offer them.

The Baldwin partners clung to this culture, despite its increasing irrelevance, because it had sustained and justified their own careers while serving their company well for a half century. During the Gilded Age Baldwin backed up its individualist rhetoric with high pay and wage increases. As the industry leader it could afford such policies, which simultaneously blunted workers' desires for union representation while securing competitive advantages for the firm. After the late 1890s the partners still clung to the old ideology, but they had to abandon the wage policies that gave force to the rhetoric. Philadelphia was nationally known as an open-shop city hostile to unionism, which gave the Baldwin partners more latitude in their internal policies. But the firm's overall growth also increased the likelihood that at least some workers would eventually challenge management.

CLIMAX AND CHANGE, 1906–1909

In 1906 the Baldwin company employed 17,400 men, and it made 2,666 locomotives and other products worth over $46 million.[48] It was a banner year, thanks to the financial strength of American railroading. Business was so good that a congestion of parts and workers crowded the factory, despite the expansions of only four years earlier. With no further remedy available in center-city Philadelphia, the partners finally decided to strike out for the suburbs. In May 1906 they purchased a 185-acre site at Eddystone, just south of the city. By year's end, foundry operations had been moved down to Eddystone, where a thousand Baldwin workers toiled.[49] The Pennsylvania Railroad and the Baltimore and Ohio traversed the site, which also fronted on the Delaware River. With plenty of land available for growth, it was the ideal location for an entirely modern locomotive plant capable of meeting the demands of the future.

Eddystone was Baldwin's response to the evident financial strength of its U.S. railroad customers. But by 1906 the great consolidation systems that dominated American finance and commerce had become targets of public hostility, largely because of that domination. President Theodore Roosevelt, the Congress, and much of the country saw these powerful corporations as exploitative monopolies, requiring close regulatory oversight for the national good. Their chosen instrument was the Hepburn Act, a law enacted in June 1906, which removed ultimate review of railway rates from the Supreme Court and gave that power to the Interstate Commerce Commission. The commissioners would wield their power vigorously.[50] At first, however, there was little outward evidence of any fundamental change in either railroading's financial health or Baldwin's flush order books. While 1906 saw record output for the firm, 1907 promised even more business. Then October saw a sharp fall in the value of shares traded on the New York Stock Exchange. The bears' stampede set off the Panic of 1907 and a subsequent depression. The economy had been overheated for months, but financial analysts "attributed the Wall Street slump to unfriendly legislation, particularly the Hepburn Act."[51]

The 1907 Panic, often called "the bankers' panic," did not have the devastating effect on the general economy that followed the 1893 stock market sell-off. For example, thanks to deep price cuts U.S. Steel ran at 75 percent of capacity in 1908, and a year later its mills faced a backlog of orders.[52] But in the neighborhoods around Baldwin's Bush Hill factory, the panic was a disaster. As 1908 opened, pay cuts and layoffs swept the plant that only five months earlier had employed twenty thousand men working two shifts. Even as it slashed the workforce, Baldwin took contracts at prices below cost, trying to keep some portion of the organization alive.[53] By July the force totaled forty-six hundred

men on a twenty-five-hour workweek. During 1908 only [illegible] rolled out of the erecting shop, the lowest sales year since [illegible] were sobered by the low volume of business but expected sales [illegible] time. Instead the next two years brought a number of [illegible]

On March 23, 1909, one of Baldwin's six partners, William P. Henszey, died. Hired originally by Matthias Baldwin, Henszey had been a member of the partnership since 1870. He held a 20 percent interest in the firm, worth $6 million. His will contained the usual terms forbidding his executors [illegible] for payment of his ownership interest, but Henszey's death came at a [illegible] time in Baldwin's finances.[54] The firm had borrowed heavily to finance its expansions in the boom just past, and business was then in a slump. Large financial demands loomed in that two partners, George Burnham and [illegible] Converse, were ninety-three and sixty-nine years old. So the partners decided to incorporate the firm.[55] For years they had sought the managerial autonomy the partnership form provided. Since Baldwin Locomotive had gained access to the public capital markets by [illegible] in 1901, it was inevitable that Baldwin would follow suit. Under the 1909 incorporation Baldwin remained privately held, with the separation of ownership and management. Incorporation allowed [illegible] the bond market, however, and within a year Baldwin had issued [illegible] mortgage bonds.

This bond issue was a fundamental departure for the firm. [illegible] the partners' capital expenditures had been limited by [illegible] available: cash on hand, ongoing profits, and limited [illegible] firm's capital expansion had therefore been reactive [illegible] market conditions demanded. Now the new corporation could [illegible] its growth in anticipation of the market. Samuel Vauclain in particular [illegible] take such a proactive approach in 1909. Output in that year was [illegible] of the 1906 total, but Vauclain believed that sales would soon [illegible] the low volume of orders, he was finding the Broad Street plant [illegible] The problem was the inexorable growth in the size of [illegible] by 1907 regularly exceeded 300,000 pounds. To get such [illegible] the 1890 erecting shop at Broad Street, "wheels had to be jacked [illegible] frames cut out, and switch lamps taken off the locomotives." Railroads certainly require even larger engines in the future, and Vauclain [illegible] solution: a new erecting shop at Eddystone. The company's [illegible] cial chief and new president, John Converse, opposed such a large [illegible] with Baldwin's markets so unsettled, but Vauclain lobbied hard and [illegible] other stockholders' approval.[56] The bond issue would be used [illegible] the new shop.

LINES OF DIVISION, 1910

Baldwin's first foray into the bond market required careful handling to launch the firm as a blue-chip investment. Negotiations to place the issue through the investment banking houses of Brown Brothers and Kuhn, Loeb & Co. proceeded in February and March 1910. While the financiers were hammering out the details, bedlam broke out in the streets of Philadelphia. On February 19, 1910, over five thousand union motormen and conductors struck the Philadelphia Rapid Transit Company (PRT).[57] The strike quickly turned ugly, with a number of public disturbances. On February 23 a riot broke out in front of Baldwin's works on Broad Street, Philadelphia's main thoroughfare. The trouble seems to have started between picketing PRT strikers and police assigned to protect the trolleys running down Broad Street. Baldwin workers in the street during their lunch hour began jeering at the bluejackets. Never known for brilliance or restraint, the Philadelphia police responded to this provocation by firing on two locomotive workers, wounding one in the leg.[58] The commotion drew more of Baldwin's men outside. Vice president William Austin described what happened next:

> The police ran the men back into the shop and then trouble began. Before anyone knew what started it we heard pistol shots. I looked out of the office window and saw a long line of policemen, about 2 dozen, lined up in front of the Willow Street Shop actually firing into the second and third story shop windows. They were answered by a volley of nuts, bolts, washers, shaft hangers, iron rods, etc., some very heavy, and all calculated to kill if landed in the right spot. The police shot at least 200 shots into the shops. Fortunately no one was hurt on either side but for a while it was very serious business.[59]

This incident became front-page news around the country; the Duluth (Minn.) *News Tribune* headlined it as the "Battle of the Baldwin Works." The company's management no doubt hoped that calm would soon return, but Baldwin's workers were enraged by the police action, described even by the sober Philadelphia *Evening Bulletin* as "Russian rule."[60]

With the power of the city, the state, and the PRT all allied against the striking carmen, Philadelphia's labor leaders turned up the heat. On March 4 an umbrella group for organized labor, the Central Labor Union, declared a general strike in all industries throughout the city in sympathy with the carmen. It was a desperate gamble, of dubious legality, which American Federation of Labor president Samuel Gompers refused to endorse; but by the second day up to one hundred thousand workers around the city had quit work. In its second week the general strike began losing strength as sympathy with the PRT strikers gave



The "Battle of the Baldwin Works," as the Duluth *News Tribune* headlined the story, was only one of many bitter incidents in Philadelphia's 1910 streetcar strike, which also saw the bombing of a car barn, incessant stoning of cars run by replacement motormen, and repeated battling between police and large crowds of strike sympathizers. But newspaper editors across the country gave wide play to wire-service photos of police firing at random into Baldwin's fortresslike factory—images symbolizing the vitriolic passions that ruled the entire city. MINNESOTA HISTORICAL SOCIETY

way to the hard reality of food and rent money.[61] But Baldwin's workers were just beginning their fight.

Baldwin's employees were unwilling to join the general strike en masse, but a substantial number had grievances against their own employer, grievances that drew them to evening rallies and meetings.[62] Thanks to the accounts of informants who reported to superintendent Vauclain, we can see how the sympathy strike turned into an action against the Baldwin company itself. On March 9, five days into the general strike, a rally held at Philadelphia's Labor Lyceum "was crowded, mostly with men from the Baldwin plant."[63] Speakers exhorted the men to join unions, arguing that they were underpaid and urging them to attend a special meeting, for Baldwin men only, to be held the next day. At that gathering an erecting shop worker argued that Vauclain was guilty of "bad faith" for not restoring wage cuts exacted during the 1908 recession.[64] By March 12 thirty-five hundred Baldwin employees had banded together in an organization known simply as the "Baldwin Workers" to petition the company.[65]

It is unclear and ultimately unimportant how much of this protest arose spontaneously among Baldwin men rather than having been elicited by labor organizers. National unions like the International Association of Machinists and others quickly sensed their opening. The IAM had begun to organize Alco's workers in January 1910, and preserving that advance alone offered a sufficient argument for hurrying organizers into the Baldwin plant.[66] But groups of Baldwin men also acted purely independently; for example, men from one machining department petitioned Vauclain for the return of pay cuts, a Saturday half-holiday, and time-and-a-half wages for overtime. In the

workweek ending Saturday March 19 roughly twenty-five hundred employees out of twelve thousand did not report for work.[67] Most evidently returned the following week, but organizing continued, as did petitions seeking Saturday half-holidays with no pay cut. Workers also complained about piece-rate cuts, the narrowing of skills under piecework, and unfair treatment by contractors.[68]

Samuel Vauclain was not about to tolerate unions in his plant, but a number of factors forced him to take a conciliatory stand, at least publicly. Negotiations to place the $10 million bond issue with the bankers were almost complete, and an open breach with the workforce could only hurt bond sales.[69] Also, the locomotive market was finally picking up in the spring of 1910 after two bad years. At least for now, Vauclain preferred making engines to breaking unions. Ascribing some minor troubles to the sympathy strike, he announced on March 12 that new orders would shortly bring an increase of four thousand men in the workforce, and he urged all to roll up their sleeves and get to work.[70] His employees did just that, union and nonunion alike; by August, sixteen thousand men filled the shops at Broad Street and Eddystone.

As spring gave way to summer, Baldwin's labor-management relations remained outwardly quiet. The company avoided provoking an open break, while workers concentrated on organizing. Evidence suggests that at the contest's opening, anticompany sentiment was strongest among immigrant workers in semiskilled or unskilled positions, although a number of skilled men also joined the union cause.[71] After three months of organizing, Philadelphia Locomotive Lodge No. 466 of the IAM claimed two thousand Baldwin machinists as members.[72] Other trades joined these men, and by 1911 a total of thirteen different craft unions, all American Federation of Labor affiliates, were represented in Baldwin's two locomotive plants.[73] They included locals of the patternmakers, molders, blacksmiths, boilermakers, asbestos workers, and metal polishers unions. To create internal cohesion and present a united front, representatives of each Baldwin local sat on the "Locomotive Builders Council," which sought to coordinate the actions of all trades.[74]

Vauclain was also busy wooing workers that summer. In response to their petitions he granted a paid Saturday half-holiday. He also moved to bring the contractors under tighter rein, issuing new Shop Rules in July that increased financial controls over the contractors.[75] Private shorthand notes kept by Baldwin's president, William Austin, over that summer also show a determined effort to root out contractors' abuses.[76] The officers' main concern was contractors' exploitation of the company, not workers. But by curbing the autonomy of these production bosses, Austin and Vauclain reached out to many workers whose dissatisfaction was primarily directed at the contractors who oversaw their workday. To secure workers' loyalty even further, Vauclain raised wages by an average of 7 percent over the level paid during the boom of 1907.[77] As 1911

opened, a curious calm had fallen over Baldwin's labor-management relations as the company and union men each vied for the allegiance of uncommitted workers. While neither side would outwardly provoke the other, both sought to build strength for the coming showdown.

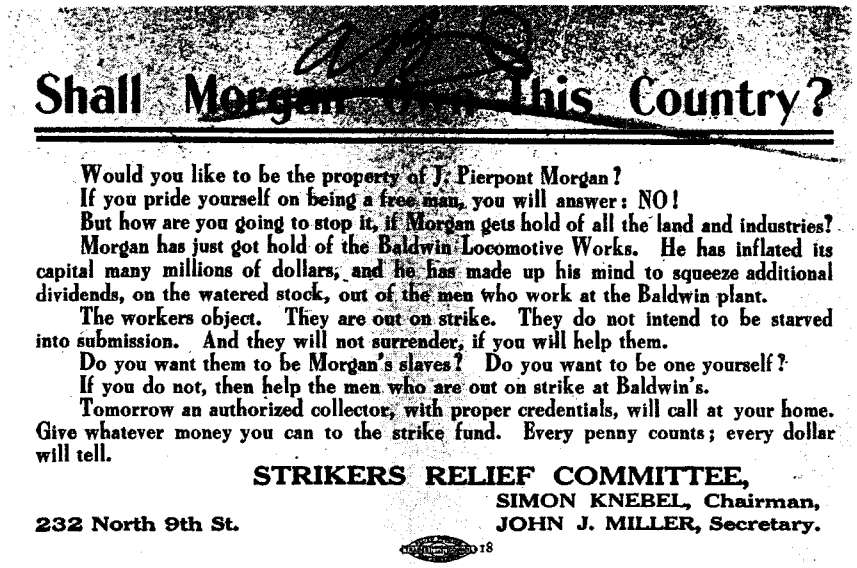
MANAGEMENT STRIKES BACK, 1911

In the spring of 1911 Baldwin's officers were again juggling financial affairs with issues in the workforce. The bond issue of the previous year had sold well, but the company was still hungry for cash. The officers decided to reincorporate to allow a public stock offering. Vice president Alba Johnson opened negotiations with Philadelphia's Drexel & Co. and White, Weld & Co. of New York to take the company public. At the same time, Samuel Vauclain decided to break the unions' grip before it got any stronger.

Vauclain moved with exact calculation at precisely the moment of his own choosing. On June 1, 1911, he announced a new "Employees' Beneficial Association."[78] The association was a novel departure for Baldwin, which had generally avoided such programs of welfare capitalism. It included an employee payroll deduction savings plan, injury and illness benefits, and death benefits for the heirs of men killed on the job. These provisions were available only to members of the association, but the firm placed few restrictions on eligibility. Finally, association members enjoyed preferential rehiring in the event of layoffs. While aspects of the plan were undeniably generous, altruism alone hardly motivated it.[79] Vauclain created the association to hold the loyalty of his nonunion men and perhaps win back some who had gone over to the union side.

Just before producing this carrot, Vauclain wielded his large stick. The 1910 upswing in orders had proven brief, and with sales off the superintendent seized the moment. On May 26 the company announced an impending layoff of twelve hundred men. Calculated to produce a showdown, the layoffs plucked union workers from all departments.[80] After a pro-union boilermaker was discharged, the boilermakers walked off the job, and men in all the organized trades quickly followed. None of the national unions involved had authorized a strike, but the strikers could take heart from the evident solidarity of trades in the plant. Thanks to the industrially organized Locomotive Builders Council, the thirteen striking unions spoke with one voice. By June 8 the council claimed that 10,700 men out of a force totaling 13,000 had laid down their tools.[81]

In fact the unions were putting up a brave but false front. Baldwin's payroll records for the first full week of the strike reveal that slightly more than half of the workers refused their call and stayed on the job.[82] The company said little in response to the walkout, announcing simply that strikers seeking to return could apply only as individuals; Baldwin refused to deal with unions or union members per se. On June 24 the company knew it would ultimately prevail, for



Shall Morgan Own This Country?

Would you like to be the property of J. Pierpont Morgan?
If you pride yourself on being a free man, you will answer: NO!
But how are you going to stop it, if Morgan gets hold of all the land and industries?
Morgan has just got hold of the Baldwin Locomotive Works. He has inflated its capital many millions of dollars, and he has made up his mind to squeeze additional dividends, on the watered stock, out of the men who work at the Baldwin plant.
The workers object. They are out on strike. They do not intend to be starved into submission. And they will not surrender, if you will help them.
Do you want them to be Morgan's slaves? Do you want to be one yourself?
If you do not, then help the men who are out on strike at Baldwin's.
Tomorrow an authorized collector, with proper credentials, will call at your home. Give whatever money you can to the strike fund. Every penny counts; every dollar will tell.

STRIKERS RELIEF COMMITTEE,
SIMON KNEBEL, Chairman,
232 North 9th St. **JOHN J. MILLER, Secretary.**

18

To rally financial support, the strike leaders circulated handbills playing on J. P. Morgan's involvement in Baldwin's 1911 public stock offering. For many working men and women, Morgan personified the merger or trust movement, which in their view had resulted in labor's enslavement to capital and Wall Street interests. SMITHSONIAN INSTITUTION

on that payday and every one thereafter, employment slowly swelled as strikers returned and the firm hired new men.[83] As the strike crumbled, the company turned away hundreds of reinstatement applicants whom it considered labor militants. All returning workers had to turn in their union membership cards to get their jobs back.[84] With some two thousand men still holding out, the Locomotive Builders Council finally declared the strike over on August 29, 1911. Almost thirty years would pass before organized labor returned to the Baldwin plant, overcoming management's continued resistance with the intercession of the federal government during the New Deal.

While Vauclain made no public comment either during or after the strike, he had provoked it, and the outcome clearly suited him. By breaking the unions the firm had maintained its "right to manage." This was no small matter for capital equipment builders. Given their circumscribed influence over marketing and innovation, these companies generally believed it essential to retain control over production.

But the strike also represented a failure for Vauclain, one that he felt deeply.[85] His career had revolved around work and workers since the age of sixteen, when he first took up the chisels and files of a machinist. He identified with these men who extracted a livelihood from the skills in their hands, and he thought he knew their concerns. While business advantage motivated his abhorrence of unions, he sincerely believed in the virtues of individual effort, initiative,



Sam Vauclain (*left*) stands on the steps of the Broad Street office building during the 1920s. At right is the boxer Gene Tunney. RAILROAD MUSEUM OF PENNSYLVANIA (2MHC)

and personal advancement, and he saw organized labor as antithetical to these principles. Such ideas had guided his own rise from apprentice to partner; surely their merit was evident to all. During his twenty-five years as general superintendent he had tried to foster this producer culture throughout the company. Baldwin's production records and its heritage of labor peace again seemed to confirm his beliefs.

Although he had precipitated the 1911 strike, it came as a personal blow that six thousand men had cast their lot against him, his company, and his ideals. During the strike Vauclain went to four old employees whose tenure dated back to Matthias Baldwin's era and asked them to write down their recollections of the 1860 walkout.[86] Perhaps something of value could be learned from that incident when workers of another era had broken with the company's culture, Matthias Baldwin, and Charles Parry. On both occasions strikers had argued for time-and-a-half wages for overtime. Shortly after beating back organized labor in 1911, Vauclain granted that fifty-year-old demand. After the strike he also ended the 1901 apprentice program. Most graduates left Baldwin after completing their terms, and clearly the program had failed to foster "a good, loyal body of men."[87]

The walkout demonstrated that the company's traditions and its workplace culture provided no shield against labor unrest. But slightly more than half of Baldwin's workers had spurned the unions' call to strike. To acknowledge their

loyalty, Vauclain created the Baldwin "Loyal Legion." Membership was limited to those who had worked throughout the strike. Members wore a solid gold badge that indicated their years of service with the company. As of February 1912, 42 percent of Baldwin's eighty-five hundred men were in the legion. Over fifteen hundred members had seniority ranging from eleven to sixty-two years.[88] Although the company's interests, traditions, and culture had been shaken by the strike, they still received the support of many employees.

HOLLOW TRIUMPH, 1911–1915

While Vauclain was besting the unions in the summer of 1911, Alba Johnson was managing Baldwin's reorganization as a publicly held corporation. The firm finally joined the modern corporate world in 1911, with its stock traded on the New York and Philadelphia exchanges, with consolidated executive powers in the company president, and with oversight by a board of directors that for the first time included outside directors.[89] With its up-to-date financial structure and its triumph over union labor, Baldwin's officers felt poised for further growth and a bright future, but that future proved difficult to manage.

The 1909 incorporation had given Baldwin a capitalization of $20 million. In 1911 three brokerage houses working in concert restructured the firm's finances to create a new corporation possessing a capital base of $40 million, equally divided between preferred and common stocks.[90] When word of this overnight doubling in capitalization came out during the strike, union leaders pointed to stock watering at the hands of J. P. Morgan, but the charge lacked merit. Under the regular financial practice of the day "preferred shares represented a firm's tangible assets, whereas common shares had as their basis good will and earning power."[91] Baldwin's top officers retained control through a majority stock interest while the investing public avidly bought shares that came on the market. Savvy investors like Pierre du Pont added Baldwin equities to their portfolios, seeing a profitable company with a promising future.[92] Indeed, Baldwin generally earned comfortable profits every year until World War I, when locomotive and munitions sales to the Allies boosted its margins even higher.[93]

Baldwin's officers were certainly optimistic about the future. They had sought the 1911 restructuring largely to provide capital for expansion. Given the competition with Alco, Vauclain in particular was determined to take advantage of this newfound ability to expand in anticipation of renewed demand. Although Broad Street and Eddystone ran at only 75 percent of capacity in 1911, Baldwin laid plans for a new locomotive plant in the West, purchasing 370 acres of land in East Chicago, Indiana. Sales were no better in 1912, but Vauclain completed a new erecting shop with 7 acres under roof at Eddystone during the year.[94]

The irony of plant expansions during a period of overcapacity underscores a unique problem facing the locomotive builder. Because the railroads, rather than Baldwin, directed the overall character of innovation in locomotives, the builder could have a plant that was simultaneously too small and too large. In 1912 the carriers did not buy in large quantity, compared with sales before the panic, but they did order even bigger locomotives. Despite the idle capacity of 1912, meeting the railroads' technical requirements required a larger erecting shop. This capital burden came on top of inexorable increases in labor-intensity, with the growth in road locomotives finally forcing Baldwin in 1911 to lengthen its List System production timetable for engines from eight to twelve weeks.[95]

Despite such problems, Alba Johnson, Samuel Vauclain, Wall Street financiers, and the investing public all saw a promising future for Baldwin after its incorporation. But in the years after 1906 a fundamental challenge was shaping up for the builder and for American railroading itself. Since the passage of the Hepburn Act America's railroads had become increasingly debilitated. Their sickness arose from a combination of inflation, which pushed up their costs, and regulation, which froze the rates they could charge shippers. In this squeeze, railroad profits and purchasing inevitably suffered.

The Hepburn Act of 1906 had signified a new regulatory climate for the railroads, a determined resolve to rein in these powerful corporations. That determination became apparent in 1910, when the Interstate Commerce Commission rejected the carriers' petition for a rate increase. Comparing 1910 with the flush times of 1907, railway traffic had increased by 10 percent while earnings had actually declined. But the regulators were unmoved. The ICC rejected renewed requests for rate relief in 1914 and again in 1915. By that time the carriers were confronting a grim financial situation. Profit margins steadily declined between 1907 and 1914, although railway traffic increased by almost 25 percent over the same period. The lines faced record demands for transportation services, but without adequate profits they could not modernize their systems to meet that demand efficiently. Albro Martin estimates that in the seven years following the passage of the Hepburn Act, American railroads suffered a capital investment deficiency of $5.6 billion.[96] In 1907 the nation's railroads stood on a pinnacle of profits and achievement. By 1917 these same companies were so broken down that the federal government had to nationalize the system as an emergency measure during World War I.

Few observers in 1907 could have predicted that the ICC would cripple the nation's largest industry over the next decade. Even those Wall Street financiers who held a direct stake in railroading's financial health did not comprehend the dimensions of the problem until after 1912.[97] Baldwin officers also failed to realize that the boom conditions of 1898–1907 would never return. In January 1913 president Alba Johnson announced expansion plans to give