5. Whose standards? Workers and the reorganization of production in the United States, 1900–20*

During the first two decades of the twentieth century both managers and workers in America's large-scale factories sought to reorganize the human relationships involved in industrial production. The authority of foremen and the autonomy which skilled craftsmen had customarily exercised in the direction of their own work and that of their helpers came under attack from two directions at once, as the scale and complexity of industrial enterprises grew. From one side, the craftsmen themselves developed increasingly collective and formal practices for the regulation of their trades, both openly through union work rules and covertly through group-enforced codes of ethical behavior on the job. The rapid growth of trade union strength in most sectors of the economy between 1898 and 1903, the eagerness of workers to undertake massive strikes to obtain or preserve union recognition, such as the coal strike of 1897, the steel and machinists' strikes of 1901, and the meat packing strike of 1904, and the revival of sympathetic strikes all increased the ability of skilled workers to impose their union work rules and standard rates (minimum wages) on their employers.2

From the other side, the owners and managers of large enterprises developed more direct and systematic controls over the production side of their firms. By the end of the 1890s many metalurgical, textile, and machinery-making companies had erected new plants, which were well adapted to the unemcumbered flow of materials through successive operations, introduced large numbers of specialized machines, developed careful methods of cost accounting, and experimented widely with systems of incentive pay, which, the managers hoped, would entice their workers to greater exertion. After 1900 a veritable mania for efficiency, organization, and standardization swept through American business and literary circles. 4

The scientific management movement of Frederick Winslow Taylor and his disciples was the articulate and self-conscious vanguard of the businessmen's reform effort. Although fewer than thirty factories had been thoroughly reorganized by Taylor and his colleagues before 1917,

the essential elements of their proposals had found favor in almost every industry by the mid-1920s. Those basic elements were as simple as they were profound: (1) centralized planning and routing of the successive phases in fabrication, (2) systematic analysis of each distinct operation, (3) detailed instruction and supervision of each worker in the performance of his discrete task, and (4) wage payments carefully designed to induce the worker to do as he was told.⁵ All of these points undermined the traditional autonomy of the craftsmen, and the last three were incompatible with the wage scales and work rules of trade unions. As its impact spread, therefore, the scientific management movement not only clashed frontally with the growing power of trade unionism, but also exposed basic weaknesses in the craft-based structure of American unionism and inspired many workers to experiment with new forms of struggle.

Three aspects of the battle to reshape work relations at the beginning of this century will be examined: management's standardization of tasks, the conversion of laborers into machine tenders, and the controversy over incentive pay schemes and job classifications. Special attention will be devoted to the metal-working industries, where these issues appeared first. The struggles of munitions workers in Bridgeport, Connecticut, will be used to illustrate the innovations which appeared during these years at the initiative of workers.

Standardization of tasks

"It is only through enforced standardization of methods, enforced adoption of the best implements and working conditions, and enforced cooperation that this faster work can be assured," wrote Taylor. "And the duty of enforcing the adoption of standards and enforcing this cooperation rests with the management alone." The quest for systematic control by the management of all aspects of the production process, which Taylor described, arose in part from its needs for more thorough cost accounting, interchangeable parts, and integration of the various departments of large-scale manufacturing. On the other hand, it also involved the destruction of work practices which had grown up over the last half of the nineteenth century, and through which skilled workmen had exercised considerable discretion in the direction of their own work and that of their helpers. Iron molders, iron rollers and heaters, glass blowers, bricklayers, coal miners, machinists, jiggermen in potteries, stitching-machine operators and lasters in shoe factories, mule spinners, and other craftsmen not only

enjoyed broad autonomy in their own work, but also defended that autonomy by their own codes of ethical work behavior. The operation of more than one machine by one man, undermining a fellow worker's position, employing more than one helper at a time, suffering any supervisor to watch one work, turning out more production than the stint set by the group, and, among carpenters, machinists, and others, accepting any piecework form of payment, were all seen as "hoggish" and "unmanly" forms of conduct, unbecoming a true craftsman.8

Taylor denounced the craftsmen's code as "soldiering" (restriction of output), but, as he was keenly aware, skilled workers were able to direct their portions of any production process and to defend work patterns which they considered honorable and rational, because their knowledge of their own tasks was superior to that of their employers. The first step in reform, said Taylor, was "the deliberate gathering in on the part of those on the management's side of all of the great mass of traditional knowledge, which in the past has been in the heads of the workmen, and in the physical skill and knack of the workman, which he has acquired through years of experience." The best technique for "gathering" the craftsmen's knowledge into the engineer's head was time and motion study, which Taylorites called "the basis of all modern management." 10

To the craftsman, therefore, time study symbolized simultaneously the theft of his knowledge by his employers and an outrage against his sense of honorable behavior at work. Hugo Lueders, a machinist at the Watertown arsenal, spoke for thousands of his colleagues, when he said that he had no objection to improved planning of production. "The men would welcome any system," he said. "They want it bad." But, he added quickly and emphatically, "as far as having a man stand back of you and taking all the various operations you go through, that is one thing they do not care for."11 The molders where he worked agreed among themselves that none would work under the clock. A machinist at the Rock Island arsenal, who was seen measuring the bed of a planer for standardized bolts and clamps, was ostracised by his workmates. Time-study men at Pittsburgh's American Locomotive Company were attacked and beaten by workers in 1911, despite the fact that they had been introduced into the plant with the consent of the unions. The appearance of time clocks and work tickets at the Norfolk Navy Yard in 1915 led to a mass walkout and a union rally "in emphatic protest." Five years earlier machinists at Starrett Tool had resolved to treat such clocks "as part of the furniture." The mere suspicion that time study was to be introduced into the repair shops

of the Illinois Central Railroad was enough to forge a united front of all the shop crafts and precipitate a strike in 1911, which lasted four bloody years.¹²

Time study, like incentive pay, was introduced most easily in nonunion shops, where each worker could be induced to accept the new ways separately. When the National Metal Trades Association launched its open-shop drive against the machinists' union in 1901, it demanded "full discretion" for employers "to designate the men we consider competent to perform the work and to determine the conditions under which that work shall be prosecuted." Its declaration of principles added: "We will not permit employees to place any restriction on the management, methods, or production of our shop, and will require a fair day's work for a fair day's pay." ¹³

Where unions were effectively excluded from the plant, many craftsmen acquiesced in time study and learned to grasp at incentive pay, as the only means available to improve their incomes. In remarkable contrast to the machinists of American Locomotive in Pittsburgh, who threw their premium pay envelopes into trash bins to demonstrate their contempt for the new system, those of United Shoe Machinery in Beverly, Massachusetts, lined up to volunteer for premium pay contracts and crossed streets to avoid meeting union members. In the machine shops of Bethlehem Steel, Taylor's disciple Henry Gantt observed to his satisfaction that the lathe operators, in ardent pursuit of bonuses, lost their scruples against hurrying the helpers and crane men, not to speak of themselves.¹⁴

In such factories, the stint, by which craftsmen had openly and deliberately regulated output in former times, had been abolished. But extensive studies of nonunion factories in the 1920s revealed that it had survived in a new form. Everywhere Stanley B. Mathewson looked in that decade he found that the restriction of output which "Taylor discovered [still] obtains today," while "payment plans, designed as incentives to increase production . . . turn out to be incentives to restriction." In fact, he observed, "the mere intimation that the time-study man is to make his appearance will often slow up a worker, a group or a whole department." This is not to say, however, that scientific management had changed nothing. The customary craftsman's stint had been an overt and deliberate act of collective regulation by workers who directed their own productive operations. The group regulation which replaced it was a covert act of disruption of management's direction of production. The stint had become sabotage.

The scientifically managed factory appeared to employers to be under rational engineering control. But to craftsmen of the prewar generation that plant resembled a bedlam: arbitrary and pretentious men in white shirts shouted orders, crept up behind workers with stopwatches, had them running incessantly back and forth to time clocks, and posted silly notices on bulletin boards. Incentive pay in any form impressed machinists as a "vile, insidious disease," which "encourages greed, is immoral in its tendencies, and does more to create discord and make a perfect hell of a harmonious shop or factory of our craft, than all the evils that escaped from Pandora's box." Taylor's famous paper Shop Management was widely read by union machinists. In fact, it was their main source of information on their employers' intentions. Their response to it was angrily summed up by Nels Alifas, a machinist from Davenport, Iowa:

Now we object to being reduced to a scientific formula, and we do not want to have the world run on that kind of a basis at all. We would a good deal rather have the world run on the basis that everybody should enjoy some of the good things in it, and if the people of the United States do not want to spend all of their time working, they have a right to say so, even though the scientific engineers claim that they can do five times as much as they are doing now. If they don't want to do it, why should they be compelled to do it?¹⁷

Laborers and machine tenders

By the end of the First World War the most numerous group of workers in the major metal-working industries (auto, electrical equipment, farm machinery, and machine tools) was made up not of craftsmen, but of specialized machine tenders. A survey of the automobile industry in 1923 found that only 9 percent of the workers were in skilled trades, such as machinists or die sinkers, and less than 9 percent were common laborers. On the other hand, almost 18 percent worked on assembly lines and 47 percent were machine tenders. "The ability to meet ('to hit') and maintain a constant pace," noted a contemporary observer, "to be able to eliminate all waste and false motions; to follow without wavering printed instructions emanating from an unseen source lodged in some far off planning department – these constitute the requirements of a successful machine tender." 18

The "dilution" of skilled trades (to borrow the splendid British expression) involved both placing men and women with little prior training at the controls of machine tools and creating a large supervisory force to direct their work. In Taylor's view this innovation provided promotions

for both the skilled workers who became foremen and the laborers who operated the machines. In fact, there were workers who experienced improvements in their status and earnings as a result of the dilution of crafts, and such workers were unlikely to battle for restoration of the old ways. The new art of welding with oxyacetylene torches, for example, had been part of the general skill which a machinist acquired during his apprenticeship, but during the war many women were trained exclusively as welders in railroad car shops and other metal works. To the women involved, most of whom had previously been garment and textile workers, the welder's job represented a considerable improvement in their economic status, which they were prepared to defend. The machinists, however, saw the women's presence as an intolerable erosion of their trade and an unwelcome intrusion by women into shops which had previously been male preserves. They reacted furiously, and often violently, against the women welders in their midst.¹⁹

It was the rapid expansion of the metal-working industries, however, which accounted for both the widespread conversion of unskilled laborers into machine tenders and the improvement in earnings which the new positions often represented for them before 1920. During the war decade the number of journeymen and apprentice machinists listed in the U.S. census actually grew by 8 percent annually, from 460 thousand to 841 thousand. In the next decade, however, that growth turned to a decline of 2 percent per year (to 656 thousand in 1930). On the other hand, the number of machine operatives in the auto and farm equipment industries alone swelled by almost 40 percent each year between 1910 and 1920 (from 26 thousand to 129 thousand) and continued to grow, though at a much slower rate, through the twenties. This change was not the result of the introduction of new machine tools. Although there was extensive retooling by American industry after the crisis of 1907-9, the new lathes, boring mills, milling machines, and radial drills were no simpler to operate than the old. The simplification resulted from prefabricated jigs and fixtures and from the detailed instruction and supervision given to those who repeated the same standardized operations again and again on those machines.

Ironically the same dilution also created a new skilled trade, that of tool and die maker. "Cheap men need expensive jigs," said Taylor's associate Sterling Bunnell, while "highly skilled men need little outside of their tool chests." Nowhere was the truth of this observation more evident than in the wartime production of artillery shells, where tens of thousands of inexperienced men and women manipulated form tools, jigs, dies, and

taper fixtures, which had been fabricated in the tool room. In 1900 the category "tool and die maker" had not existed in the national census of occupations. In 1910 there were nine thousand of them listed, and by 1920 there were 55 thousand, a growth of more than 50 percent per year during the war decade. In many wartime strikes the practitioners of this new skill proved to be the most militant and the most innovative of the workers involved.

The process of converting skilled workers into tool makers or supervisors, so that production itself could be assigned to untrained operatives, performing minutely subdivided tasks, was carried to its ultimate development in Ford's Highland Park plant. Ford's circumstances were unique. So great was the demand for the company's Model T's that 90 percent of the one thousand or more cars which came off its final assembly lines each day were shipped immediately to dealers. Consequently, it was possible to commit fifteen thousand men and women to fabricating a single product in a plant which was characterized not only by large and small chain-driven assembly lines, but also by thousands of machine tools especially designed for making a single cut on a single part (and capable of nothing else).

To perform such jobs, the company had "no use for experience." In the words of one engineer: "It desires and prefers machine-tool operators who have nothing to unlearn, who have no theories of correct surface speeds for metal finishing, and will simply do what they are told, over and over again, from bell-time to bell-time." On the other hand, outfitting the machine tools which those novices could operate required a staff of 240 tool makers, 50 tool-fixture draftsmen, and 105 pattern makers, for whom nothing was "scamped and hurried." No fewer than 255 overseers in the machine shops alone watched over the machine tenders, with absolute authority to fire any of them at will. 22

Such conditions obviated the need for incentive-pay schemes, so everyone in the plant was on hourly rates. They also produced staggering rates of labor turnover. Company officials had discovered that to maintain an average force of thirteen thousand during the prosperous times between October, 1912 and October, 1913, they had to hire 54 thousand men (an annual turnover rate of 416 percent). They introduced elaborate personnel checks and a system of periodic wage increases based upon the recommendations of foremen, and later a personnel department to which a worker might appeal his discharge, in order to reduce this separation rate. The campaign of the Industrial Workers of the World at the gates of Detroit's auto plants and the strikes which that organization led in the

Consequently, in January, 1914, the company proclaimed an 8-hour day and five-dollars-a-day pay for all those employees who were over twenty-two years of age, contributed to the support of others, and were pronounced "acceptable." A staff of 100 "sociologists" examined the habits, home lives, and attitudes of workers to discover who was "acceptable," and by the end of March, 1914, 57 percent of them were receiving the magical five dollars. Later in the year Ford introduced classes in the English language, which foreign-born employees were required to attend, and subsequently it celebrated the graduation of the first such group with an "Americanization Day" festival, featuring a parade of more than six thousand Ford workers.²³

Small wonder there was always a crowd outside the gates of the Highland Park plant looking for work, and a riot had broken out among jobseekers the day after the five-dollar day had been announced to the press. The fact remains, however, that Ford's policies were unique, even within the automobile industry. No other firms could undertake mass production of a single item on so lavish a scale. On the other hand, there is no doubt that unskilled workers throughout the land did enjoy substantial improvements in their incomes between 1909 and 1920, even if they did not rush off to Detroit. Those gains were the consequences of rapid economic growth, which enabled laborers to move from job to job incessantly in search of better incomes, and to undertake wage strikes with increasing frequency and effectiveness.²⁴ They were not benefits which flowed from managerial reform.

In fact, during the war years, when workers in munitions and other industries most often struck and won the most significant advances in their earnings (relative to those of more skilled workers, as well as in absolute terms), they also challenged management's efforts to systematize and intensify their work. The experience of the Brighton Mills of Passaic, one of the very few textile mills to be reformed by Taylor's colleagues before the war, illustrates this development. Henry Gantt boasted in 1914 that his introduction of functional foremanship and the task-and-bonus plan had stimulated new "habits of industry" among the weavers and accomplished miracles of production. All of the weavers he studied had either conformed to the new output standards or quit. In April 1916, however, the weavers struck the Brighton Mills, demanding an end to Gantt's innovations.²⁵

Conflict over the pace of work raged with special intensity in shell turning. As early as 1910 a preview of the wartime disputes in that line

of work had been offered by the workers of Bethlehem Steel. The operatives in Machine Shop No. 4, where the strike began, complained that the premiums paid to lathe operators and their foremen had created unbearable chaos. The eagerness of foremen to maximize their own bonuses had led them to monopolize the crane men and other laborers for the use of the shell-turning lathes, charge work on which there was no bonus up to shell-turning time, and, worst of all, to order the shell turners into work one Sunday after another. The strike began when one lathe operator feigned illness on a Saturday in order to avoid being told to come in on Sunday. He was caught in the act and fired. All the machine shop's workers then went on strike.²⁶

The frenzied atmosphere of the war years reproduced this type of situation time and time again. At the Westinghouse works of East Pittsburgh the workers' demands in the strikes of 1914 and 1916 and in the acrimonious negotiations of 1915 and 1917 consistently involved efforts to abolish premium pay and to ease the pace of work. Workers could stay home from work more safely as jobs became more plentiful, and at Bethlehem Steel an average of 20 percent of the force was missing each day by the fall of 1918. After those workers had struck several times, the National War Labor Board ordered Gantt's task-and-bonus system abolished, on the grounds that it had had a "serious detrimental effect upon the production of war materials." ²⁷

To the eyes of leading figures in American business, output per hour was declining during the war years at the very same time that the number of hours regularly worked each week were falling. 28 This trend not only injured the war effort, they claimed, it also threatened their plans for the postwar world. The 1916 convention of the National Metal Trades Association was warned by its president, James A. Emery, that the current war of arms would be followed swiftly by a war of economic competition. Only by resisting union interference and efforts to reduce working hours could American business prepare itself for the "world contest of peace succeeding that of war." "It is no hour for watered capital or watered labor," Emery declared, "but for management trained to the moment and operatives conscious that harmonious co-operation and intelligent self-interest can alone insure the joint industrial success of employer and employee."²⁹

In short, the war crisis itself intensified the struggle for power within the factory, increased labor's ability to impose its standards and resist those of the employer, and greatly increased the appeal of scientific management to industrialists. It also forced the apostles of scientific man-

agement to wrestle with the problems of industrial psychology, personnel management, and "Americanization" of immigrants, in addition to the more familiar questions of standardizing tasks and wage systems. Although the transformation of immigrant laborers into machine tenders and the rapid increase in the number of supervisors and tool and die makers had initially weakened the position of craft unions in the metal-working industries, the unskilled operatives came to assert themselves with increasing militancy, and sometimes undid the once-successful work of efficiency experts. The day of reckoning came, of course, in the postwar depression of 1920–2. Then union strength in basic industries toppled like a house of cards, and the wages of all workers plummeted downward (especially those of the unskilled). Weekly hours of work were lengthened again, and productivity per worker rose rapidly. Only then did the standards of scientific management, now in harness with the new concerns of personnel management, carry the day.³⁰

Incentive pay

More controversy arose around the payment systems associated with scientific management than over any other single aspect of the new managerial practice. Although the workers' hostility to incentive pay posed a less fundamental challenge to scientific management than did open protests against the stopwatch and job standardization, it often gave rise to large and protracted conflicts because it reflected both their sense of moral work relations and their urgent concern with what they earned. Moreover, struggles arising over this issue contributed to the growing desire of American workers for their own standards and also produced new styles of organization among them, which were perceived as a dangerous challenge to the authority of the employers and of the existing trade union leadership alike.

Conflicts over piecework had been endemic in the metal trades during the late nineteenth century, in America as well as in Europe. The widespread experimentation of employers with the various types of premium payments and differential piecework rates during the 1890s heralded the dawn of scientific management. The International Association of Machinists was intransigent in its opposition to all forms of payment by results, as is evident from its famous constitutional provision adopted in 1903 that no member of the union might "operate more than one machine or accept work by the piece, premium, merit, task, or contract system, under penalty of expulsion." Often during the decade after that rule was

adopted, officers of the union sought authorization from their members to negotiate with employers concerning terms which might safeguard the workers in return for union acceptance of the new pay schemes, but the elected delegates to convention after convention adamantly refused to allow their leaders to make any compromise on the question whatever. In response, the owners of most machine shops around the country simply declared their enterprises "open shops." They were supported by the National Metal Trades Association, which announced as one of its basic principles: "Employees will be paid by the hourly rate, by premium system, piecework, or contract, as the employer may elect."³²

To the advocates of scientific management, however, the decisive question was not simply what form of wages would best induce workers to meet the norms set by time-and-motion study. The crucial point was that wages had to be individualized - the tasks and performance of each worker had to be evaluated separately, if that worker was to be persuaded to toil at maximum efficiency. "Class wages" were denounced by Taylor and Gantt as slovenly management practice. Companies which boasted of "scientific wages" were typified by the H. H. Franklin Company of Syracuse, which fixed wages on "a purely individualistic basis," through periodic evaluations of each worker's output, attendance, spoiled work, "co-operation and conduct factor," and fourteen other variables of behavior. 33 The task-and-bonus, differential piece rate, Halsey-Towne, Bedaux and other wage plans were all designed to make each employee stand alone in this relationship to the company. From the point of view of their advocates, the trade union tradition of the "standard rate" for each craft was an abomination.³⁴

By 1909 many more machinists and operatives were paid according to some "scientific" scheme than were covered by IAM standard rates. Beginning with the strikes at the Pressed Steel Car Company in McKees Rocks that year and Bethlehem Steel the next, however, the demand that straight hourly pay rates be substituted for premium and bonus schedules became an increasingly common feature of workers' protests. As we have seen, a relentless attack on incentive wages infused the joint struggles of tool makers and machine tenders at Westinghouse Electric from 1914 through 1917. A few miles away at the huge Mesta Machine Company 300 machinists, helpers and tool makers struck late in 1918 for demands which by then had become commonplace: end the premium system, establish standard rates, accept the 8-hour day, and recognize a shop committee. Cancellation of government contracts made it easy for the company to fire its dissidents, but six months later 720 workers walked

out at the same plant for the same demands.³⁵ Throughout 1918 and 1919 the General Electric Company's plants in Schenectady, Lynn, Pittsfield, Erie, and Fort Wayne were wracked by a series of strikes over the same issues. Workers' delegates sent from each of those cities to present their cases to the National War Labor Board in Washington used their visits to the capitol to keep each other informed and to spread sympathetic strikes.³⁶

Three characteristics of these numerous strikes deserve attention. First, in this instance it was the workers who were demanding standardization. The idea of job classifications for large industrial enterprises was not proposed by management reformers, but resisted by them. When the War Labor Board ordered General Electric to abolish bonus payments and accept minimum wages for different classes of work, the company refused to obey the award. Similarly in Bridgeport, the officials of Remington Arms contended that a "standard wage . . . would destroy discipline," and that "the right to classify must be exercised by those directly responsible for maintaining production."³⁷

On the other hand, the demand for classifications was not simply a return to craft traditions. Wartime strikers were seeking not one standard rate (as had been the time-honored machinists' demand) but a graduated scale of standards, which recognized the variety of skill levels created by modern management while it opposed the individualization of earnings. The workers clearly disliked the idea of a vast array of wage rates. Usually in metal works they proposed six or seven rates including a catch-all category for operatives whose machines were set up by other, more skilled workers, and a minimum for unskilled labor. The high turnover of workers and the rapid dilution of skills during the war made the establishment of such classifications urgent for the workers. Moreover, their proposals often appealed to the bureaucratic mentality of the functionaries of government agencies and received some support from that quarter.

Second, the workers' new types of wage demands appeared together with new forms of organization, which modified or even abandoned the craft orientation of the unions. The earliest manifestation of this development was the appearance of "system federations" among railroad workers. These alliances of the unions of craftsmen in the repair shops with those of the clerks and the laborers were widely formed by activity at the base as early as 1910–1911, and were closely linked to the struggle against the stopwatch and premium pay. During the war shop committees flourished, both on the workers' own initiative and on that of government agencies. They quickly became a battleground where employers' efforts

to shape them into employee representation plans (or company unions) clashed with the efforts of imaginative local trade unionists to use them as militant tribunes of the union members and nonmembers within the firm alike.³⁸

Most impressive of all were the local metal trades councils, which were formed in factories and shipyards to coordinate the struggles of the different trades. Although such councils had existed before the war, their role had been rather perfunctory. During 1917 and 1918, however, they displayed considerable local initiative and often preempted the role once played by the national trade unions in the formulation of demands and the leadership of strikes. The independence of the councils disturbed the national officers of the unions involved as much as it did the employers. In 1919 the leaders of the AFL moved vigorously to tame the metal trades councils, which had proven themselves very effective in the electrical, machine tool, automobile, and shipbuilding industries. A special conference of the metal trades department of the AFL decreed in February of that year "that no local metal trades council can order a strike unless the local unions affiliated first have received sanction or permission from the internationals," and that "any attempt on the part of any local council to force any sympathetic strike in any locality is a violation of our general laws."39

Third, manufacturers viewed proposals that they recognize these new workers' organizations with undisguised hostility. To be sure, the National War Labor Board and other government agencies tried to preserve industrial peace by dealing with workers' delegates and supporting many of their demands. But Loyall A. Osborne of Westinghouse expressed the dominant mood of the business world, when he wrote to former President W. H. Taft concerning the policies of the NWLB, on which they both served:

It is quite natural that you should approach these questions in a different frame of mind than do we, for you have not for years, as we have been, fighting the battle for industrial independence. You have not had constantly before you as part of your daily life evidences of bad faith, restriction of output, violence, disregard of obligations and irresponsibility that has [sic.] ever been the characteristic of their [the workers'] organizations.⁴⁰

A brief filed by the manufacturers of Bridgeport to the NWLB summed up the response of metal trades' employers to labor's demands by restating the essence of the new managerial practice. It insisted upon: (1) complete and exclusive control of production by the employers, (2) the rewarding of each individual employee according to his or her merits,

(3) full freedom for management to evaluate those merits, and (4) settlement of all disputes by the management and the employee directly concerned, without the intervention of outside agencies, trade union or governmental. The employers' resolution not to yield on these principles intensified at the close of the war, when they faced strong deflationary pressures. Although the government quickly dismantled its regulatory agencies, it fostered corporate self-regulation through trade associations. At the same time, the Republican Party was returned to power (in the congressional elections of 1918 and the presidential election of 1920) largely by its success in championing consumers' desires for lower prices. By the time of the depression of 1920–2 manufacturers' associations and government leaders were working in harmony to eliminate "waste in industry," reduce labor costs, and roll back prices. 42

In short, although incentive-pay plans represented only one element of scientific management, and one, moreover, which had less direct impact on the worker's status than the standardization of tasks, the new style of supervision, or time-and-motion study, overt conflicts between the efforts of workers and those of employers to reorganize work relations often focused on methods of payment. This fact is not surprising – one endures work in search of pay. On the other hand, disputes over forms of payment crystalized the struggle over power at the point of production. The American Federation of Labor at its 1920 convention turned management's own rhetoric against it with the claim that the "workers are appalled at the waste and ignorance of management, but they are too frequently denied the chance to offer their knowledge for use." The remedy, the AFL resolved, was to replace "autocratic management" with "conference boards of organized workers and employers" as a means of "promoting the democracy of industry through the development of cooperative effort."43

On the Left, numerous activists of the Socialist Party, the Socialist Labor Party, and the Industrial Workers of the World derived from the workers' new forms of struggle a vague but attractive formula of "mass action," which promised to reconcile their earlier ideological differences over "parliamentary" versus "direct" action and to guide the working class toward the overthrow of capitalism. 44 All of them agreed that the workplace itself was the decisive battleground of revolutionary struggle and that the councils formed by workers in the midst of industrial conflicts were the embryonic forms of a future socialist regime. The cataclysmic experience of the war itself confirmed the wisdom of these mutually exclusive conclusions to their adherents on the Left and the Right and laid the basis

for postwar divisions in the American workers' movement, comparable to those which their European counterparts then experienced.⁴⁵ It was the new level of workers' activity which all parties involved in these debates were trying to interpret from their own vantage points.

Bridgeport

Craftsmen's resistance to standardization, the new importance of machine tenders and tool die makers, the conflicts over the intensification of work and wage classifications, the employers' determination not to allow the vagaries of full employment to loosen their grip on their factories or impede managerial reform, the workers' new forms of organization, the gospel of "mass action" and the encounter between local revolutionaries and the newly powerful leadership of international unions were all evident in the munitions center of Bridgeport, Connecticut. A brief look at the events which unfolded there may serve to illustrate the preceding general arguments.

The state of Connecticut had been a center of brass, watch, armaments, and machine tool production since the eighteenth century. Bridgeport's good harbor, its ready access to the brass of Waterbury, and its location on Long Island Sound close to New York City had made it an ideal site for the manufacture of sewing machines, motor boats, typewriters, turret lathes, and gramaphones by the early twentieth century. It was here that the Remington Arms and Ammunition Company elected to build a factory in less than eight months of 1915 which could employ more than fifteen thousand workers. The company was a subsidiary of the Midvale Steel and Ordinance Company, on whose board of directors sat representatives of the Chase National Bank, the National City Bank of New York, International Nickel, Baldwin Locomotive, the Guarantee Trust Company, and Midvale Steel, as well as Percy A. Rockefeller himself.⁴⁶

Incentive pay and time study prevailed throughout the machine shops of this city by 1910, and the machinists' union was so weak there that its Lodge 30 could not even send a delegate to the 1903 convention. By 1911 it had revived somewhat, and it cast its vote solidly with the Socialist bloc, which won control of the IAM that year. But it was only with the war orders of 1915 that the union grew in strength and, by threatening a strike, persuaded the Remington Arms Company to grant its workers an 8-hour day in August 1915. Huge contracts from the Russian government for cartridges, shells, machine guns, and other accounterments of modern warfare led Remington Arms to install thousands of specialized machine tools and employ men and women with little previous machine-

shop experience. The older firms of Bridgeport soon became subcontractors for the new giant, making parts and especially tools, jigs, and fixtures. Hundreds of tool and die makers, of varying degrees of expertise, found employment in them.

Until the summer of 1917 most of the city's industrial conflict took place in the older companies, especially the American Graphophone Company, as those plants tried to fend off the growing power of the unions by discharging and blacklisting their members. In February, 1917, however, a strike of Remington Arms' metal polishers against a reduction of their piece rate for polishing bayonets was actively supported by more than one thousand machinists in the factory, despite the opposition of the local leadership of the IAM to any sympathetic action. In the union elections which occurred soon afterwards two prominent militants replaced the incumbent conservative leaders: Edwin O'Connell as President of Lodge 30 and Samuel Lavit as business agent of the city's District 55 of the IAM.

Lavit had formerly been active under several pseudonyms in the IWW, and he had served one and a half years in prison for his activities during the 1913 Paterson silk strike. He soon became Bridgeport's most famous citizen, loyally supported by an ever-growing circle of machinists and regularly denounced by the local press as a German agent and the source of all the city's troubles. "Samuel Lavit," announced the *Bridgeport Times* in a typical report, "surrounded by the usual crowd of henchmen, appeared at his usual haunts in the German cafes and wined and dined in a most lavish fashion."⁴⁷

Under the leadership of Lavit and O'Connell, all of Remington Arms's machinists walked out in sympathy with the company's metal polishers in July 1917 when those craftsmen protested the employment of women to perform roughing and other less skilled polishing work. In the meantime, the machinists had drawn up a list of their own demands and circulated it to all the employers of the city. The 8-hour day, freedom to join unions, recognition of shop committees, and six standard wage classifications, ranging from tool maker to specialist and helper, were the basic demands. When Remington Arms responded with a reduction in piece rates for grinders and screw machine operators, it set off a wave of work stoppages, which lasted through most of September and October.

By January 1918, the organized machinists of Bridgeport had developed an effective style of struggle, in the face of heavy labor turnover, ever-spreading dilution of the craft, and draconic use of military conscription by the city's draft board to tame the restless workers. The

proper strike procedure which was prescribed by the constitution of the IAM (involving negotiations with the management and a three-fourths affirmative majority of the union's members before a strike might be called) was ignored by the Bridgeport members. Stoppages in that city were sudden, usually brief, involved only one or two departments in most instances, and often ended with the strikers returning to work without a formal settlement, as abruptly as they had left.

Lavit loudly proclaimed his loyalty to the war effort, while his followers used strikes to bring government mediators running to the offices of their employers to plead for concessions. The only newspaper openly critical of the war was a Hungarian-language journal, which the government suppressed early in 1918. The Bridgeport Labor Leader, edited by Lavit himself, coupled patriotic stories from the front with acclaim for the endeavors of German revolutionaries and admonitions that a scientific organization of production could be established only by "the Cooperative system of production for use through industrial democracy." Its regular column, "Men and Matters" reprinted news items from the Socialist Labor Party's official organ, The Weekly People. 48 Four locals, including a new "Polish Lodge No. 782" and a very active Ladies' Auxiliary, developed under the aegis of District 55 of the IAM, and in each of more than seventy metal working plants in the city a shop committee carried grievances to the management.

The relative calm of early 1918 was shattered on Good Friday, when Remington Arms's tool makers walked out in a rage at the news that they were not to receive time-and-a-half for working that day. They assembled in their union hall, where they drew up a new set of demands. In addition to overtime pay on holidays, they called for a standard rate for their trade and others for machinists and operatives, equal pay for women who did equal work, the "free right to fraternize and co-operate for their mutual benefit," and a thirty-day extension of draft exemptions for anyone who changed jobs. ⁴⁹ The campaign for these objectives reached its climax in May, when a strike began among subcontractors, then was dramatically joined by seven hundred tool makers and machinists from Remington Arms. A promise from the Ordnance Department to arbitrate the dispute sent everyone back to work. ⁵⁰

On June 8 the Labor Adjustment Board of the Ordnance Department agreed to six minimum wage classifications, covering tool makers, machinists and the more highly skilled specialists, but it said nothing about the less skilled operatives. When the large American and British Arms Company rejected the award, its employees began holding "a continuous

meeting," and finally organized a public rally where some three thousand workers, heavily infiltrated by agents of the military intelligence, vowed to join the strike. All metal factories of the city were shut down, when the National War Labor Board announced it would take up the situation at once, if the strikers would return to their jobs.

Back they went, and throughout July their delegates presented arguments to the officials of the NWLB. The question of job classifications quickly became the central issue of the controversy. The IAM expanded its demands to seven standard rates, among them rates for machine operatives, and a minimum of thirty-five cents per hour for "women's jobs." In other words, the craft union had adapted its standard rate principle to cover all metal workers in the city. So sharp was the disagreement within the NWLB itself over the question that, for the first time in its career, the board engaged an umpire to resolve the dispute among its own members. Loyall Osborne of Westinghouse personally presented the employers' case. The "thousands of hourly rates" in Bridgeport, he argued, were "incentives to self-interest," with which the government had no right to interfere. Above all, he added, it was outrageous to propose that machine tenders doing a wide variety of work be given a single rate.

In its award on August 28, the board decided "against changing the method" of payment "now in operation." It did grant extensive wage increases on a sliding scale, the largest going to the lowest-paid workers on a percentage of their present earnings. It also granted a minimum wage of thirty-two cents an hour for the two thousand women on piecework and decreed an 8-hour day. Finally, it called for government-supervised elections of shop committees, which should be recognized by every employer, and for a city-wide committee of six workers' representatives and six employers, to hear appeals from disputes in any factory of the city. The Bridgeport employers and the Board alike evidently hoped to isolate the militant machinists' lodges by offering large wage increases to the unskilled workers who did not belong to the union and by establishing government-supervised shop committees, which would be far more broadly representative of the workers than the craft unions and presumably less militant than the existing unofficial committees.⁵¹

The skilled machinists were enraged by the award, but it confronted them with a difficult strategic problem. To react with a successful strike they would need to enlist the active support of the unskilled operatives and also to violate the no-strike pledge of their international union. Both acts would bring them into conflict, not only with their employers and government, but also with the leaders of the IAM. The contradiction inherent in their position quickly became evident.

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A huge Labor Day rally, bedecked with large placards denouncing bloated profiteers, was addressed by both President William Johnston of the IAM, who reminded his members of their patriotic duty to continue production, and the future Communist leader Ella Reeve Bloor, who evoked roars of enthusiasm with her denunciation of the NWLB's award, the capitalist war, and the imprisonment of Eugene V. Debs. By the time the board tried to conduct its shop committee elections the following week, more than five thousand workers were already on strike. They demanded that President Woodrow Wilson seize the factories and enforce the earlier ordinance department ruling, and they refused to return to work without classified standard wages. When a national officer of the IAM, addressing another rally the following Sunday, threatened to revoke each local's charter if they did not return to work, the strikers bellowed, "take it!" and passed resolutions calling for a national convention of the union to depose its officers, if they outlawed the strike. 52

It was not President Johnston but President Wilson who outlawed the strike. On September 13 he addressed a letter to the Bridgeport machinists, ordering them back to work. "If you refuse," said the president's proclamation, "each of you will be barred from employment in any war industry in the community in which the strike occurs for a period of one year . . . and the draft boards will be instructed to reject any claim of exemption based on your alleged usefulness on war production."53

The strikers quickly returned to their jobs, and in the ensuing calm the city's Board of Education created a network of community associations, under the personal direction of Harrison Streeter of the Committee on Public Information and President Wilson's daughter Margaret, to promote industrial peace and warn "against German propaganda." The schools were "thrown open to the workers in the munitions plant for the selection of committees to deal on their behalf with the employers," announced a CPI news release, labeled "for Social Democratic League – European Circulation."54

When the workers elected their six representatives to the city-wide arbitration panel, however, Lavit himself and two other strike leaders were among those chosen. The employers refused to deal with them. Moreover, District 55 launched a local American Labor Party in the November elections, running candidates for every local office "for the express purpose," according to their platform, "of exercising their political

rights as an instrument of industrial emancipation thus paving the way for an autonomous Industrial Republic (shop control in the factories, mines, mills, and other establishments wherein workers are employed)."55 The phraseology of this declaration was clearly borrowed from the Socialist Labor Party.

The Bridgeport Central Labor Union, which was dominated by cautious members of the Socialist Party, refused to endorse the electoral effort. More important, the new party was too tightly bound to the local IAM (to which every one of its candidates belonged) to attract many voters. Undaunted by its small poll, the *Labor Leader* enthusiastically endorsed revolutionary proposals from other lodges of the IAM, especially that of Micrometer Lodge 460 in New York, to which Ella Reeve Bloor belonged, for a convention to reconstruct the IAM on industrial union principles.

When cancellation of government contracts in December 1918 brought heavy unemployment to the city, Lavit's organization staged a rally of nearly four thousand workers, under close scrutiny from the police, who prohibited a parade and limited the number of speakers. At this point Lavit could still share the platform with Andrew McNamara of the IAM's leadership and attorney Louis Waldman of the Socialist Party. Petitions to Congress were circulated, calling for "National Labor Agencies" to protect collective bargaining, extensive public works to absorb the unemployed, and the "abolition of competition, criminal waste and profiteering in industry and substituting co-operative ownership and democratic management of industry and securing to each the full product of his toil." At the IAM hall Louise Bryant's new book Six Red Months in Russia was on sale, and Miss Bryant herself addressed a second rally of the unemployed on the Soviet solution to their problem. 56

In short, a continuous struggle by the munitions workers of Bridgeport against the huge Remington Arms Company and its scores of local subcontractors had evolved from a craft-based effort of machinists and metal polishers to enforce their union scales and work rules into a confrontation involving several thousand men and women, who were attempting to establish collective bargaining and their own scheme of wage classifications in the face of unrelenting opposition from their employers. The intensity and persistence of this battle brought the city's district of the IAM under the leadership of Lavit, O'Connell, and their colleagues, who never opposed the war effort, but did use their position to popularize the Socialist Labor Party's conception of "an autonomous Industrial Republic" based on "shop control" as the true way to operate industry scientifically. They

also used the lodges of the IAM to coordinate both city-wide strikes, involving nonmembers as well as union members, and the activities of the government-sponsored shop committees. They even won election to the city's arbitration board, which had been designed to combat their influence.

On the other hand, the war's end virtually closed the Remington Arms plant and left older firms of the city determined to rid themselves promptly of the radical menace which had grown up in their midst. Although the National War Labor Board strove to strengthen the shop committees it had created, the city's manufacturers treated that agency with undisguised scorn as the date approached for the closing of its local office, in March 1919. The city-wide arbitration board never functioned, and in its absence only the role of the IAM prevented the shop committees from becoming simply company unions, or collapsing altogether.⁵⁷

Consequently, the hostility of the international officers of the IAM toward the leaders in Bridgeport became increasingly important in the local balance of power. President Johnston warned in May against the "growing tendency" of lodges to disregard the laws of the IAM, especially when they were connected with shop committees and metal trades councils, and he insisted that he would enforce his union's regulations no matter what the price. Hardly two months later a wave of strikes swept across the older Bridgeport firms, bringing out 22 thousand workers by the beginning of August. When Lavit applied to the international union for strike funds, the executive board replied by accusing Lavit of admitting anyone to the IAM, regardless of trade, and it suspended him from office. The board charged that the membership of Lodge 30 had fallen from four thousand to fourteen hundred under Lavit's misleadership and that he pulled men "on the street under promises of benefits who were not members of the IAM" or connected with the trade, "in conjunction with an organization known as the W.I.I.U." The charge referred to the union arm of the Socialist Labor Party, formerly known as the Detroit IWW. "We are at this time," concluded the board's circular, "fighting Lavitt [sic.], the I.W.W. group, the private detective group, the manufacturers' association group, all in one."59 When Lodge 30 continued to support Lavit, its charter was revoked.60

By August 10 the Bridgeport strikes had collapsed, and the city had set out on the short road back to open-shop status. Lodge 30 was restored the next spring, in the safe hands of "good members," but its influence within the city remained negligible.⁶¹ In the meantime, within a month of his suspension from union office, Lavit was arrested in Newport,

Rhode Island, and charged with having driven across the state boundary with a male friend and two young women "for immoral purposes," in violation of the Mann White Slave Act. The Mayor of Bridgeport and a federal agent offered him the choices of facing prosecution or leaving the city. On August 30 the *Bridgeport Times* printed the banner headline: "Sam Lavit quits town."⁶²

Conclusions

Throughout the first two decades of the twentieth century both organized workers and management reformers were attempting to reform work relations. Over the demise of customary factory management, based on the autonomy of the skilled craftsman and the personal authority of the foreman, there developed a bitter battle of standards. Scientific management and trade-union rules sought to transform industrial practice in mutually exclusive ways. The conflict reached its greatest intensity during periods of abundant employment after 1909, when scientific management spread rapidly through metal-working industries and became increasingly concerned with personnel relations. Simultaneously, the level of strike activity rose rapidly, and large numbers of workers took part in devising forms of organization which transcended older craft union lines. The workers formulated their own plans counter to those of management, particularly in the realm of payment schemes. These developments intensified the employers' determination to restore the "open shop" and contributed significantly to the ideological controversies which divided the labor movement.

Notes

- * This essay originally appeared in a somewhat different form and in French as "Quels Standards? Les ouvriers et la réorganisation de la production aux Etats-Unis (1900–1920)," *Le Mouvement Social*, 102 (Janvier–Mars 1978), 101–27. Research for the study was assisted by a fellowship from the John Simon Guggenheim Memorial Foundation.
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- 27 Examiner in charge to E. B. Woods, October 28, 1918, National War Labor Board Administrative File B 56, Record Group 2, National Archives; NWLB Docket No. 22, "Findings in re. Machinists, Electrical Workers, et al, versus Bethlehem Steel Company . . . July, 1918," Record Group 2, National Archives, Washington, D.C.
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- 29 Iron Age, 97 (May 4, 1916), 1075.
- 30 See J. B. S. Hardman, American Labor Dynamics in the Light of Post-War Developments (New York, 1928); Robert H. Zieger, Republicans and Labor, 1919–1929 (Lexington, Ky., 1969); Vertrees J. Wyckoff, Wage Policies of Labor Organizations in a Period of Industrial Depression (Baltimore, 1926).
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- 34 See McCabe, Standard Rate.
- 35 Department of Labor, Mediation and Conciliation Service files 33/37, 33/202, 33/374, 33/2849, 170/487, Record Group 280, National Archives, Washington, D.C.
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- 45 See James Weinstein, The Decline of Socialism in America, 1912-1925 (New York, 1967), 177-257.

46 Iron Age, 96 (October 14, 1915), 908; ibid., 96 (July 22, 1915), 201-3.

- 47 Bridgeport Times, May 10, 1918; NWLB Case File 132, Record Group 2, National Archives, Washington, D.C. On Lavit, see R. M. Wade to W. B. Wilson, n.d., Department of Labor Mediation and Conciliation Service file 33/567, and file 33/347, Record Group 280, National Archives, Washington, D.C.
- 48 NWLB Case File 132; W. H. Lamar to George Creel, March 4, 1918, file 49506, Record Group 28, National Archives, Washington, D.C.; Labor Leader, January 10, 13, 17, 1918.
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50 "Transcripts of Proceedings, District 55 . . . " NWLB Case File 132, Box

22, Record Group 2, pp. 100-5.

- Transcripts of Proceedings, District 55"; "Brief submitted by Remington Arms Union Metallic Cartridge Company," NWLB Case File 132, Box 21; "Transcript, Executive Session of Board, Washington, D.C. August 16, 1918," NWLB Case File 132, Box 20, Record Group 2.
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- 62 Ibid., 32 (April 1920), 317; Bridgeport Times, August 30, 1919. Lavit soon returned to Bridgeport and became active in the Republican Party. In 1951 Republican leaders proposed his name as a candidate for mayor, to oppose the Socialist incumbent, but Lavit declined to run. Bridgeport Post, November 4, 1951, December 18, 1958 (obituary). I am indebted for this information to Ms. Cecelia Bucki.