

9-1910

Organized Labor's Attitude Toward Machinery

Paul Klapper

Follow this and additional works at: <https://egrove.olemiss.edu/jofa>



Part of the [Accounting Commons](#)

Recommended Citation

Klapper, Paul (1910) "Organized Labor's Attitude Toward Machinery," *Journal of Accountancy*. Vol. 10: Iss. 5, Article 1.

Available at: <https://egrove.olemiss.edu/jofa/vol10/iss5/1>

This Article is brought to you for free and open access by the Archival Digital Accounting Collection at eGrove. It has been accepted for inclusion in Journal of Accountancy by an authorized editor of eGrove. For more information, please contact egrove@olemiss.edu.

The Journal of Accountancy

Published monthly under the auspices of the
American Association of Public Accountants

Vol. 10

SEPTEMBER, 1910

No. 5

Organized Labor's Attitude Toward Machinery*

BY PAUL KLAPPER, PH.D.

I

Introduction

The numerous mechanical improvements with their application of steam power, coming in close and rapid succession at the end of the eighteenth and the beginning of the nineteenth centuries, caused an industrial maelstrom which left countless human wrecks in its wake. The poor laborer found that his life was completely revolutionized. Readjustment to a new socio-economic environment was not a simple process. Old social coordinations could not be broken and new ones acquired at will. The domestic system under which he managed his little farm and kept the members of his household busy at his work, had given way to the factory with its machines and mechanical power. The skill which he had attained at his work as a result of a long apprenticeship, years of practice and assiduity, was no longer his pride; a machine had supplanted him. His masculine strength and physical power were no longer his assets; they were no longer necessary in the process of manufacture. The magic power of steam applied to a simple mechanical contrivance set numberless wheels in motion by the mere manipulation of a hand lever or throttle,—the work of a child. His position as head and supporter of his family was now denied him. His wife and children were in the factory from early morn till long past sundown, grinding away their lives for a mere pittance, tending these machines, while he spent his hours in idleness with his boon companions,—his fellow sufferers. To the supplanted day laborers, therefore, machinery was the embodiment

* Offered in partial fulfillment of the requirements for the degree of Doctor of Philosophy at New York University.

of the most heartless cruelty; it symbolized the most intense misery. Time and again these unfortunates united in riots, destroyed machines in great numbers, pillaged and sacked the factories, which housed their common enemies, "The Iron Monsters." Many a time did the flames crackle and the streets of the newly established town run rivers of blood in the workers' blind and hopeless attempts to seek vengeance.

This deep-rooted hatred lasted for over two generations. It was kept alive and even intensified by stupid governmental persecutions of labor organizations. The idlers, as well as those who were fortunate enough to be employed, felt that they were smarting under the same injustices and miseries. Machinery had displaced the skilled artisans and had reduced them to the ranks of the common laborer. Mechanical power, introduced extensively, caused a temporary over-supply of human labor in particular crafts; competition in the market was therefore bitter and intense. Those in actual employment were hardly faring better than those without work. They toiled for long and unheard of hours; the pay was exceedingly small—not more than the modern equivalent of fifty or sixty cents a day; the factories hastily built in answer to the most pressing demands, were often only reconstructed stables or remodeled deserted buildings, the conditions and filth of which were sheer abominations; the tyranny of the employer or too often an over-zealous foreman or overseer, anxious to establish a record in a newly organized industry, made work a veritable slavery. Hence employed and unemployed felt that they were brethren in misery, —tied by a common tie. Their only hope and final salvation, they reasoned, lay in union, in organization of the workers of the craft.

Law after law sought to curb and discourage this natural tendency of labor to unite. At first the decree was that, "All combinations to raise the wage rate are conspiracies in restraint of trade and punishable by two months' imprisonment." Later "combinations to raise wages" were legalized but a "labor union had no property rights." Their funds were pilfered, their little property and books maliciously destroyed; the defenders carried on their nefarious activities with impunity for, since the labor unions had no property rights, no property was legally taken from them. The law was soon modified and ceded the workers

Organized Labor's Attitude Toward Machinery.

property rights, but all members of a union were individually held responsible for an act of violence committed by any of their members. Despite the schemes and designs which were enacted to discourage labor organizations, all plans to stop labor from combining, proved as futile as the laborers' attempt to destroy machinery. Not until 1875, however, was unionism fully established in England on a legal basis.

The displaced workers regarded the machine as the cause of all these changes and persecutions that were so detrimental to themselves and their families. The inevitable deep-seated hatred which accompanied this conviction lasted, as we have observed, more than two generations. As late as 1844, Sidney Webb found it in the "Potters' Trade Journal," whose editor, a representative labor man of his day, wrote, "all evils of the factory workers can be traced to one cause: Machinery! Machinery has left them in rags and with no work at all. Machinery has crowded them into cellars, has immured them in prisons worse than the Parisian Bastilles, has forced them from their country, to seek in other lands the bread denied them here. I look upon all improvements which tend to lessen demand for labor as the deadliest curse which could probably fall upon the heads of our working classes, and I hold it to be the duty of every working potter—the highest duty—to obstruct by all legal means the introduction of the scourge into any branch of his trade." (Webb, *Industrial Democracy* Vol. II, p. 391.) This we unhesitatingly judge as foolish and stupid advice. We may even stigmatize it, if we will, as economic myopia. But when we look at the problem from the proper perspective afforded by our modern development and present industrial organization, we realize that it was natural enough for the unfortunate victim to take such a view and advocate such a policy.

By the middle of the nineteenth century we find a marked change in the attitude which the workers took toward machinery. The labor organizations which were persecuted by all possible means and through every conceivable agency were now receiving partial legal recognition. Their own organizations had undergone a process of integration and unification which gave them control of the trade and made them masters of a definite policy in regard to machinery. Since then, a conciliatory attitude has been manifested by the bodies of organized labor. In 1850 "The

The Journal of Accountancy.

Union of Bookmakers of England" deemed it neither desirable nor practical to resist the extension of mechanical improvements. In 1869 "The Liverpool Coopers" passed resolutions "that we permit any member of the Society to go to work at the steam cooperage." These quotations and a list of similar ones which can readily be cited serve only to indicate the change in the attitude of organized bodies of workmen toward machinery.

Accusations against labor unions have followed very much the changing attitude taken by the workers. Prior to 1850 or 1860 all labor organizations were charged with being unalterably opposed to all forms of labor saving mechanical appliances. Students of economics of the day expressed without reserve or hesitation their belief that one of the basic principles of unionism was the resistance of the initial introduction and the progress of machinery in any and every industry that was manual, and whose workers ranked among the skilled artisans. Webb bears out this statement, for he believed that "it was assumed as a matter of course by every educated person, that it was a cardinal tenet of Trade Unionism to oppose machinery." (Industrial Dem. Vol. II, p. 392.)

The more recent attacks on labor unions are much modified in tone and far less sweeping in their indictments. The sum total of all present attacks, is that the labor unions do not encourage the use of machinery, that where it is installed, the workers do not bring out its potentialities and fail to actualize its latent possibilities. The National Founders Association, an organization of the owners of the largest foundries in the United States and Canada complained bitterly that the Iron Moulders' Union was imposing such conditions that the new moulding machines could not be run at an advantage. The leading shoe factory owners made the same charge against the shoe workers' union. They, too, urge that more could be accomplished in introducing and encouraging new devices, if the union were not putting one stumbling block after another in the way. If it were not a matter of hours, it was the pay. If the salary were satisfactory, then they demanded a change from the piece method to the time system, thus upsetting the entire schedule, and causing strikes and "tie-ups" in the various branches. Many glass manufacturers are at present gathering data to prove that the same machines which are run at a loss and which are judged ineffective

Organized Labor's Attitude Toward Machinery.

in a union shop, give a fair revenue and exceedingly satisfactory results when non-union men are employed. Similar attacks made in the same tenor we find in any industry that is beginning to feel the revolutionary effects of the introduction of epoch-making machinery. That Trade Unionism is still more or less hostile to new labor saving mechanical inventions, and that its policy shows an attitude which is inimical to the best interests and the development of the craft, is at present set forth in all seriousness and sincerity against organized labor.

It is the object of this paper to study these indictments against labor unionism and to set forth the results of the investigation of these charges, from trade union documents, trade journals issued by the workers and by the employers, convention reports, minutes of important labor meetings and conferences, strike histories, and court records,—all these supplemented by the results of personal visits, interviews and observations, in the hope of formulating as a definite policy the attitude which labor unions have taken toward new machinery. The latter charges, although modified and less serious than the older ones, are nevertheless grave. It is a matter of interest and consequence to learn whether these charges must stand or fall.

It is evident that organized labor's attitude toward the introduction of new mechanical devices and improvements will inevitably be a reaction to the effects which these changes will have upon the organization itself. If the new inventions will tend to upbuild the craft, infuse into it new life and power, then they will be received with open arms. If, on the contrary, they weaken and demoralize the trade, humble the worker to a lower industrial stratum, and bring about a disintegration of the union, their reception will be marked by obstacles of one kind or another. We must therefore begin our study with a consideration of the effects of machinery upon the labor union. Our results will foreshadow the next question: "What attitude did the unions take?" Since the organization's policy expresses itself in the practices of its individuals as well as in corporate action, we shall trace the attitude of the unions as manifested by their component members before we study their plans and official programs. Our immediate chapter is therefore, "What are the effects which the introduction of new labor saving machinery has upon the organization of labor unions?"

II

Effects of Machinery on the Craft and the Organization of Labor Unions

To say that the modern tendency of the forces in the industrial world is toward concentration is to indulge in a platitude, offensively trite. Nevertheless, we often take this statement from too narrow a view. We must realize that this is characteristic of almost every phase of life. There seems to be a universal tendency away from the individual in all things. Our conception of life is becoming thoroughly social. In education, the social factor is becoming the primary factor. In ethics and morality we are fast losing the individual view of conduct and action, for both are judged from the social conception. On all sides we see the one subordinated to the many, the individual sunk in the corporate entity. This social tendency leads inevitably to organization. In the industrial world we all recognize this movement on the side of capital because of the prevalence of corporate and trust organization. But though less evident on the labor side, the social tendency is just as positive and manifests itself in the growth of labor unionism.

Is the labor union then a corporation? If we modify our question to mean a logical or an economic corporation, we must answer affirmatively. From the legal point of view it is not. Neither is the New York Stock Exchange, which is essentially a trade union according to John Frankenheimer, a recognized New York authority on corporation law. Conyngton (*Modern Corporation*) begins his book with, "a corporation is an artificial person, created or authorized by law for some particular purpose or purposes." If we omit the legal qualification, we find that the definition fits the labor union; it is (1) an artificial person and (2) finds its *raison-d'être* in the specific purpose or purposes for which it is organized. "When an employer recognizes a labor union, he ceases to recognize the individual and the latter has no place in the economy of his establishment. He must deal with the concrete idea represented by unionism and forsake the theory that he can handle the individual as such," writes Don C. Seitz in "Trade Unionism and Labor Problems."

Just as the tendency of organized capital is toward monopoly, so, too, organized labor's goal is the establishment of monopoly.

Organized Labor's Attitude Toward Machinery.

The more a trust approximates a monopolistic stage in its industry, the stronger does it entrench itself in the industrial system, the greater are the financial benefits to its members, the more powerful and controlling does it become—in a word, the more economically efficient does it become. So, too, with a labor union. Its strength lies in monopoly,—not monopoly of money, of raw material, of consumers' goods, but of the most vital and essential aid or means of production,—labor. The very essence of a labor union's power lies in the complete monopoly of the labor of its craft. It follows, inevitably, therefore, that whatever attacks its monopoly is inherently inimical to its best interests. "Will labor show a friendly or an inimical attitude toward machinery," is our original and central question. The answer depends on the answer we get to the question which we regard as basic in our present chapter; viz., "Will automatic labor-saving machinery weaken or strengthen the union's monopoly of the labor of its craft"? It is obvious, a priori, even to the mere dilettante in the field of labor, that *automatic* mechanical improvements have shown not only a decided tendency to weaken this monopoly, but also gradually to devitalize and finally destroy it by lowering the standard of skill, increasing the minuteness of the division of labor, making it possible for women to enter trades heretofore closed to them, encouraging child labor, allowing the use of cheap immigrant labor, helping to disintegrate the union by overspecialization, making labor more mobile with respect to industries, and breaking the apprenticeship regulation. The only exception is a glaring one,—printing—but here the machinery is so different that we can hardly call it automatic, from the point of view of skill. Let us turn to each of these effects, see its cause and ascertain how it undermined the union's monopoly of the labor of its craft.

LABOR REDUCED FROM SKILLED TO UNSKILLED RANKS

Before the introduction of machinery, one of the essential elements in determining the price of a manufactured article was the skill of the worker. The craftsman imparted his personality to his work. His skill was his commercial asset. With the introduction of machinery, skilled and unskilled workmen were put on a par. A few industries, the attitude of whose labor unions we shall study later, will illustrate this point.

The Journal of Accountancy.

John Mitchell, speaking for the Coal Miners at their convention in 1901 said, "If the rapid increase of machine coal mining is increased a few years longer, the skill now required by those engaged in the work will no longer be necessary. Instead of being a body of skilled workers we shall be simply coal shovelers, whose only essential qualification for securing employment will be the possession of a strong back and an abundance of physical energy. The introduction of machinery has caused our men to compete with the machines." We see then that the result of the introduction of the machine consists not only in a greater output but also in the greater per capita efficiency of the force employed. The gain is consequently to the employer rather than the worker. The mining machine destroys the value of the miner's skill and experience, obliterates his trade and reduces him to the rank of a common laborer or machine driver. So too in the boot and shoe industry. The days of individual skilled journeymen workers are gone. To-day each little process is an independent act, performed automatically by a machine. A modern shoe factory is hardly complete without forty or fifty different machines, each doing a special part of the finished product that formerly demanded the skill and deftness of hand which resulted from years of assiduous toil and apprenticeship. The modern worker in a shoe factory is, in the main, more of a machine tender than a shoe-maker,—the machines make the shoes, the workers tend the machines,—skill is a needless asset for the modern shoe-worker.

The workers in the glass industry, especially those in the bottle, jar and chimney departments, never for a moment imagined that their craft would be invaded by machinery. The work requires so much watching, manipulation and guidance that it was considered above the scope of the possibilities of mechanical contrivances. To-day, we find that the machine is so far perfected that all wide-necked bottles and jars are made automatically. Only the backward and unprogressive factories are now turning out the handmade product. The Owen Machine is rapidly nearing a stage of almost incredible perfection; it is now turning out narrow-necked beer bottles in such numbers that consternation reigns among the hand blowers who previously supplied establishments like Pabst or Schlitz. Five years ago the workers boasted that a bottle with a narrow neck was beyond

Organized Labor's Attitude Toward Machinery.

the pale of the machine. To-day they know better. They realize fully that in another five years their skill will go to the human scrap heap. The very best glass lamp chimneys, always made by hand and by high-priced skilled workers, are now machine products absolutely, and are being turned out in vast numbers by the Macbeth Evans Company which supplies 60 to 75% of the market. The workers in this factory engaged in lamp chimney production are unskilled and never served an apprenticeship. The "National Glass Budget," the official organ of the employers, commenting on the vast introduction of machinery in the industry says: "It is to get rid of skilled labor and its high cost that induces manufacturers to install machinery and not increase the number of workmen required." Machine watchers and guiders are slowly taking the place of the old-time skilled glass blowers.

So free from molestation did the iron moulders of the country feel that in 1890 when small casting machines were introduced into the larger factories, the workers refused to believe that an inanimate mechanism could possibly do their work which demanded so much skill, judgment and experience. The beginnings were small, but the principle which proved successful in making small castings was soon applied to the more intricate and involved work. No moulder was considered a journeyman worker until he had completed a minimum apprenticeship of about four years. To-day a year is a long time and a six weeks' period is not unusual. Many men enter the foundry as general help, engaged in lifting, pulling, carrying or in work of a similar nature,—thoroughly unskilled. In a short time they are placed at the machines and turn out excellent work, having gained their experience and served their apprenticeship while casually observing the machines in the course of discharging their other duties. Herbert N. Casson, writing on the steel foundries, in *Munsey's* of May, 1907, says: "In some mills three out of four workmen are unskilled. The unskilled workman is too likely to take to himself the credit for the vast amount of work turned out by the machines. . . . It is hard for him to realize that he has become a very insignificant factor" in the operation involved in the production of steel.

In the great 1906 strikes the Foundrymen found themselves tied up rather badly; work had to be finished on contract time

and the Iron Moulders' Union, which was very strong then and controlled the labor market of its craft, succeeded in practically closing the very largest foundries in the country. The owners decided to experiment with these machines to their utmost, testing every possibility. How successful they are, how they managed to get automatic machinery to answer the demands in some of the most skillful branches of the craft, is shown by the fact that apprentices and handy men were able to make successful castings, weighing, in some cases, over forty tons. It is estimated that about 1300 such machines were introduced into the foundries of New York, Buffalo, Chicago and Milwaukee alone. Figures obtained in eighteen of the largest foundries on strike show that now only 35 or 40 out of each 1000 men employed are skilled moulders.

From these instances we can comprehend to what extent dexterity had been replaced and cast upon the scrap heap of discarded industrial skill. The almost human biography of a steel rail in the Edgar Thompson Steel Works of Pittsburg, written by H. N. Casson, may serve to reinforce our conception of how moulding had become a mechanized process. He says: "Starting at the ore yard we see a vast pile of ore containing perhaps a half million tons. Nearby are the bins for the coke and limestone. Properly mixed, these three materials go in a continuous stream of cars to a row of eleven big furnaces. These furnaces are insatiable monsters. They must be fed with ten tons every minute.

"Every little while the furnaces are tapped and the molten iron flows into little cars which hurry off to a great mixer. This is a steel box on rockers. The cars are emptied into the mixers which rock up and down till the iron is all of one quality. Then a second train puffs up, receives a load of iron,—about two hundred tons,—from the mixer, and scurries away to four Bessemer converters. These blow iron into steel at the rate of four tons every minute.

"The converters spout their steel into big ladles which pour the sputtering fluid into moulds, pushed into position by a third train. When the moulds are filled the train runs about fifty yards and stops. As soon as the steel is cooled into red hot ingots, they are taken out and put into red hot ovens, so that they will not become cold. From here, one at a time, they

Organized Labor's Attitude Toward Machinery.

are jerked out and put upon a small electric car which rushes them to the roller to be squeezed into shape. Back and forward through the roller they go. . . . Soon it looks like a flaming red worm, twisting and squirming to escape. You notice now that it is a rail.

"In a second it is switched to another track and springs away as if it had succeeded in escaping from its tormentors. Two whirling saws cut off its ends with a sudden shriek and blaze of fireworks. Steel hands grip it again and fling it through a cold roller so that its surface may be hardened. Nothing remains save to straighten it out and drill the holes." (July 1906.)

We note that almost no human hand has touched the rail in the course of its entire creation. Men go about directing the machines and engines, pulling levers, pressing buttons, applying or removing power. But the moulding, the shaping, the measuring or the mixing processes that meant years of experience and skill, resulting from perseverance and assiduity, demanding a quick and well used eye, a deft hand, all these are out of the realm of "skilled labor," they are performed automatically by the "iron monsters." The only skilled workers are those who direct the process and adjust the machinery.

As we have already intimated, typesetting machinery is the marked exception to the trend which we noticed above. The linotype was indeed a great innovation, just as revolutionizing in its effects as the improvements in the industries we just saw; but instead of requiring less skill it required more. When the linotype was first introduced every worker feared it very much because its keyboard resembled that of a typewriter. At the beginning, firms whose printers went out on strike, advertised for female typewriters. In the Detroit Strike of 1896, the workers became frightened and fearing the partial success of such a scheme asked that these typewriters be admitted into the International Typographical Union. (Typo. Journal v. 9, p. 245.)

The theory and their fears proved unfounded. Unskilled printers and typewriters turned out poor work and much less of it on the linotypes. Experiments in Ottawa showed that the non-skilled did 18,000 ems per day while the skilled printers showed 23,000 ems for the same time. Mr. Best, owner of the leading newspaper in that city and an expert printer himself, says that the latter prove to be the better workers. (Typo. Jour-

The Journal of Accountancy.

nal Sept. 15, 1894, p. 7.) President Dodge of the Mergenthaler Linotype Company writing on this question says in part, "It has been the policy of this Company, in introducing machines to have them operated as far as possible by men already in the offices, and this practice has been followed in nearly every case." It was to his interest to prove that unskilled boys and girls who run typewriters could be introduced into the shops to work these linotypes. This would have made the machines exceedingly popular with the members of the Typothetæ, but he realized that the printer could do more justice to the new inventions.

President Lynch has expressed this very view in open convention. In giving his summary of this situation he said, "One of the anomalies of typesetting machinery is that it brought skill to the fore. The field for the trained printer—one who understood his art—is growing greater. Highly trained men, both for machinery and elsewhere, are in demand." (Address 47, Annual Convention 1901, p. 11 of Proceedings.)

We see then that with one notable exception, machinery is reducing the skilled trade to the rank of the unskilled. Just how a union's labor monopoly is broken and how its attitude towards machinery is thus determined, we shall see more clearly as we go into our present topic more extensively. We can perhaps best sum up our work thus far by quoting from Louis Bell Ph.D., who in his "Philanthropy of Self Help" says, "The twentieth century conception of a machine shop is not an aggregation of intelligent workmen, provided with the most efficient tool and apparatus that ingenuity can devise, and using them with all the cunning that trained minds can suggest. The shop, from the present standpoint, is simply a huge machine tool, as void of conscious volition as an automatic screw machine, of which the intelligent operator is the manager, and in which lathes and workmen, drills and inspectors, nutting machines and laborers are on one common plane of nonsentient, coacting subordination." (Report—U. S. Labor Bureau No. 67.) That machinery has reduced the skilled industries to the rank of the unskilled and thus reduced them to a lower industrial stratum is undeniable; but this in itself would mean little to the union, if not for the attending demoralizing and disintegrating effects. The machine can now automatically turn out a product as artistic and finished as that of the worker with all his skill and dexterity. Since the genius

Organized Labor's Attitude Toward Machinery.

of the inventor has supplanted the ingenuity of the artisan, any unskilled laborer can enter a craft heretofore closed to him because of his lack of technical and industrial attainments. The vast majority of our immigrants are unskilled (Adams and Sumner p. 81, Labor Problem). In 1903, for example, 46.5% were ready to take up any work offered them and were fit for no one trade. An additional horde of foreigners, therefore, augments our native army of unskilled workers already too large, and presents a great menace to the artisans whose crafts are fast becoming automatic. With the introduction of machinery, we find a simultaneous influx of unskilled workers and untrained foreigners, which results in a bitter competitive struggle and destroys that monopoly of the craft's labor which the union seeks to maintain.

(To be Continued.)