Marx in Capital (1967: 371) quoted John Stuart Mill who wrote that "It is questionable if all the mechanical inventions yet made have lightened the day's toil of any human being." In his day, Mill was quite right, for men had barely scratched the surface in utilizing mechanization. Marx correctly foretold many of the sociological effects of mechanization, but he could not foresee the saving grace of capitalism in the communication explosion of the 20th century which soaked up the deficit of laborers left in the wake of the machines.

Now another revolution in the organization of labor seems imminent with skyrocketing automation -- the mechanization of mechanization. Explored in this paper are the potential effects on the American capitalist system of the latest trends in technology and the division of labor.

Sources

The figures for Graphs 1 and 2 for 1900-60 were taken from the Economic Almanac, 1967-68 edition. The 1970 figures were derived from information published by the Bureau of Labor Statistics in its monthly labor review. Since not all of the issues of this publication for 1970 were available, an average of the figures for March and August was used. The figures for Graphs 3 through 7 were calculated from the above data.
The farm worker, rather than the blue collar worker, has been the great victim of automation in the 20th century thus far. The percentage of blue collar workers in the labor force continued to rise, though not appreciably, until 1960. The correlation between the rise in the percentage of white collar workers and the drop in the percentage of farm workers is most striking. Yesterday's farmhands have become today's blue collar workers, while yesterday's blue collar workers have become today's white collar "paper pushers."

Graph 1. Percentage of Total Labor Force

- Blue collar and service
- White collar
- Farmers and farm laborers
Clerical workers have undergone the most striking increase among white collar workers in the 20th century. By 1920 they had surpassed each of the other three categories, and the upward trend has continued to the present. Even widespread use of computers has not yet served to curb employment of clerical workers. In this connection, it is interesting to note that it took some 200 years since the Industrial Revolution before mechanization caused blue collar employment to begin to drop (Graph 1). Computer programmers readily admit that they have barely scratched the surface as far as utilizing the capacities of their instruments. The delayed reaction of technology will begin to displace clerical workers first and then the other forms of production "organizers." With more of the blue collar force displaced into the white collar ranks by then, one wonders where the labor force will turn. With less need for labor, surplus value will multiple in the hands of capitalists. Unless drastic reforms are instituted, we may witness a white collar proletarian revolution!

Graph 2. Percentage of Total Labor Force

- - - Clerical and kindred
- - - Professional, technical and kindred
- - - Managers, officials, and proprietors
- - Sales
The tremendous decrease in farmers and farm laborers has allowed a simultaneous rise in both mental laborers and non-farm laborers with primarily non-mental jobs.

Graph 3. Percentage of Total Labor Force

- "A" Professionals, technical, managers, officials, proprietors
- "B" Blue collar, clerical, sales
The 1970 figures reveal for the first time a decrease in percentage of "B" laborers with a proportionally larger increase in "A" workers, those with greater economic independence by virtue of their professional nature. Yet there are still 2.95 "B"'s for every "A". We seem to be witnessing a temporary decentralization of economic control due to the mechanization of industry and resultant transfer of the former industrial labor force to organizational roles. But computers promise to recentralize control of production and throw the white collar middle class back into complete dependence on a few capitalists.

Graph 4. "B" Workers Per "A" Workers

Clerical and Kindred Workers Per "A" Worker (Graph 5)

Though the percentage of clerical workers in the labor force as a whole is still on the rise, there is evidently a leveling off of the number required by each mental laborer due to the increased mechanization of offices. Automated paperwork factories may reverse the trend toward managerial and clerical specialization begun by simple typewriters and calculators. Each man may again be his own secretary.
Graph 5. Clerical and Kindred Workers Per "A" Worker

Percentage of Total Labor Force:
"Producers" - Workers directly imparting the value of their labor to production or service.
"Organizers" - Workers whose labor goes toward organization of labor and distribution of production.
(Graph 6)
There is a marked convergence of the percentage of "producers" and "organizers." As mechanization has brought a drop in the labor needed for production, more labor is expended in organization and marketing. Much of the increasing interest in "consumer rights" is a rebellion against this seemingly superfluous labor value in products. After the effects of over-automation and over-centralization of production are felt, we may see a revival of individual craftsmanship as a Hegelian synthesis. Already there are less than two producers for every organizer in the American labor force with no end in sight. Obviously the labor-value system has undergone a revolution relatively unnoticed. If it cannot survive the change, a restructuring of the entire society will have to occur.
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Graph 7. "Producers" Per "Organizer"

References

Marx, Karl

National Industrial Conference Board
1967- Economic Almanac (in conjunction with Newsweek).
1968