

ing great strides in this field. Tomorrow's wonderworld includes innumerable plans for lightening the load of labor: automated grocery stores where the "checkers" are no longer trim young ladies but mechanical monsters who take money, "read" the bills, test it for counterfeit, make change, and wrap the packages in half the time that it takes a person to do it today; automated butcher shops, with the meat already sliced, packed, weighed, and priced by giant machines in the packinghouse plant rather than human labor; and many similar miraculous innovations.

What these technological changes mean for labor's bargaining power must be clear. As the proportion of organized (blue-collar) workers declines in favor of the unorganized technicians and office workers, established unions lose members and finances. In each plant they become weaker relative to the employer with whom they deal; for in case of a strike five hundred men in the automated shops can be replaced more easily than five thousand today. Further, the machine tends to become more important to production than the man. If the workers strike in a mechanized plant they can shut the factory down, but in tomorrow's automated shops it may be possible for a skeleton force of nonunion supervisors and office help to run the operation for the period of a strike. That is almost true today in telephone offices; the mere walkout of telephone girls and line-men does not cripple services for a long time. Thus labor's most potent weapon, the strike, is blunted. Finally, automation reduces some of the cohesiveness of the union as workers are separated from each other by relatively large distances within the automated plants.

Organization of the unorganized is thus no longer a "luxury" to the labor movement, but a vital necessity. It is no longer a question of adding more numbers to the union roster by

unionizing virgin fields, but of protecting the established organizations as well. The unorganized white-collar worker, technicians, and service workers become a threat to the bargaining power of the organized employees.

Beyond this problem there are the more urgent psychological and social ones involved in the second industrial revolution. It is anticipated, for instance, that with full automation 200,000 workers will be able to turn out as many automobiles as a million workers in the pre-automation period. The replaced workers constitute a social problem. They must either retrain for automated jobs or find other work. If they shift to retail and service fields, their wage rates are cut by half, sometimes more. Many new industries would have to emerge to absorb the large numbers whose jobs are made obsolete by the automated giants. These new industries, if they develop—and it is not certain they will—may resolve the national economic problem, but not necessarily the human one. Automation requires different skills from those in mechanical factories, and older workers trained in the mechanical techniques do not make the adjustment easily. One sixty-one-year-old man, who was shifted from the Ford River Rouge foundry machine shop to the automated engine plant at Dearborn, failed to adjust. He put his difficulties this way:

"This machine has some eighty drills ... and twenty-two blocks are going through. You got to watch. Every few minutes you got to watch to see everything is all right. And they [the machines] got so many lights and switches—ninety-some lights. It's hard on your mind." The intricacy of the new job terrifies this worker: "If there's a break in the machine, the whole line breaks down. They all look to you. They want to keep up production, and I don't blame them. But sometimes you make a little mistake, and it's no good for you, no good