

ECONOMICS, LABOR & BUSINESS

*The Future of
The Factory*

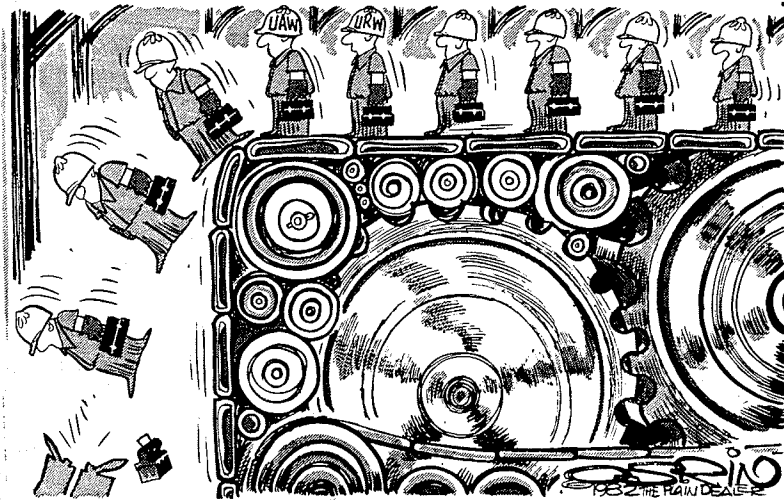
"The Race to the Automatic Factory" by Gene Bylinsky, in *Fortune* (Feb. 21, 1983), 3435 Wilshire Blvd., Los Angeles, Calif. 90010.

The last major revolution in American manufacturing occurred when Henry Ford opened the first assembly line in 1913. Today, reports Bylinsky, a *Fortune* editor, another big breakthrough is on the horizon.

Coming up are so-called flexible manufacturing systems. Conventional assembly lines are relatively rigid: Each machine performs a single, narrowly defined function. Any change in the product requires that the machines be replaced or rebuilt, and often, rearranged. Workers may have to be retrained. Such systems work well in mass production industries, which turn out huge quantities of identical products—cars, televisions, toasters. But as U.S. corporations shift these operations overseas to use low-cost labor, Bylinsky predicts, American industry will increasingly emphasize production of small batches (from one to several thousand) of highly specialized goods.

In the new flexible systems, machines on the line are directed by a central computer; robots handle the parts; and remotely guided carts carry away the finished product. To switch to another product, the computer is reprogrammed, and the machines take on new tasks.

This flexibility is useful in a variety of "batch production" industries. For example, 75 percent of all machined parts, the components of sophisticated equipment, are now produced in lots of 50 or fewer. Farm



AUTOMATION.

"High-tech" industries will generate up to one million new jobs by 1993: That may not be enough to offset job losses due to automation.

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tractors, airplanes, and main-frame computers are also assembled in small numbers. General Electric Corporation uses flexible technology in a New Hampshire plant that turns out 2,000 different versions of its basic electric meter.

U.S. firms pioneered flexible manufacturing technology, but the Japanese are far ahead in actually using it. To date, American corporations have bought only 30 flexible systems; a single Japanese firm, Toyoda Tool Company, owns more. Yamazaki Machinery Works operates a \$20 million automated lathe factory that employs only 12 day-shift workers and a lone night watchman; a comparable conventional plant would require 215 employees and four times as much machinery.

But American firms are finally showing interest in the new technology. That, says Bylinsky, could be "great news for almost everyone."

SOCIETY

*Countering
Discrimination*

"Discrimination and Thomas Sowell" and "Special Treatment for Blacks" by Christopher Jencks, in *The New York Review of Books* (March 3 and 17, 1983), P.O. Box 940, Farmingdale, N.Y. 11737.

Are "affirmative action" quotas and other compensatory federal anti-discrimination efforts unnecessary?

Thomas Sowell, an influential black UCLA economist, believes they are, and his arguments in such books as *Ethnic America* (1981) have supported the Reagan administration's retreat from social activism. But Jencks, a Northwestern University sociologist, takes issue with Sowell and his conservative colleagues.

Sowell argues that American blacks today are hampered more by their background than by discrimination. Historically, he says, the success of ethnic groups in America has been largely determined by their native skills and cultural traits. Jencks disputes this generalization: American Irish Catholics rank near the top of the U.S. earnings scale, while Irish Protestants have below-average incomes, reversing the pattern that prevailed in the "old country."

Some blacks are now becoming more prosperous, Jencks reports, but others are actually losing ground. In 1979, college-educated black men earned 84 percent of what their white counterparts did, up from 68 percent in 1969. Black women with college degrees have been earning *more* than white female college graduates since 1969. Black male high-school graduates, by contrast, earned only 74 percent as much as their white counterparts in 1979, down from 75 percent in 1969. What this suggests, says Jencks, is that "employers may be reacting more to ghetto culture than to skin color per se."

Sowell argues that the free market, not federal intervention, is the