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Larry HIRSCHHORN : *Beyond Mechanization : Work and Technology in a Postindustrial Age*. Cambridge, MIT Press, 1984, 187 pp., ISBN 0-262-08132-3

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diture, working time, taxes, savings, availability of goods and services on the market, actual productivity of labour, the distribution of personal income, social consumption (formal and actual), availability of jobs, etc.

Inflation appears both under capitalism and socialism and is rooted in the growing contradiction between the demand and the supply. Under socialism, the governments have much more power to withstand the pressure towards higher real wages; capitalist market economies tend to give preference to fighting inflation rather than unemployment, whilst in the socialist centrally planned economies full employment takes precedence over inflation (p. 175).

In capitalist countries the level of industrial disputes is greater the lower are the extent and degree of development and participation of the labour movement in political and management processes substantial social and economic inequality is also a contributing factor (p. 182). Under state socialism there is a general tendency to restrict strikes or exclude them entirely. The more industrialized and democratic a country, the more elaborate a system of dispute settlement it has (p. 189).

There is around 20 million migrant workers in the world, mostly in North-Western Europe, U.S., and West Africa; some labour-importing countries heavily depend on them, and also several labour-exporting countries heavily depend economically on the transfer of savings; however, labour migration has only a marginal effect on the economic modernization of labour-exporting countries.

The above mentioned general observations done by Wilczynski should inspire much more comparative research. As already mentioned, the models of socialism and capitalism offered by the author do not look as satisfactory.

Official libertarian intentions and the reality of command and centralization under «socialism» when taken together lead to a quite perplexed model. In some respect the

«command» economies as understood by Heilbronner, have several common things, does not matter is it communism, nazism, democracy at war, or a racist state. On the other hand, a mild form of state socialism, as for example in Hungary or Yugoslavia, has many common features with the free market economies.

The author probably has taken too seriously the official declarations of the communist countries in the construction of his own scheme of comparative analysis. In several places of the book he makes critical observations and comments regarding the practice of socialism (elimination of free unions, low wage policy, lack of actual participation, etc.), but at the same time he does not correct his own model taken for granted. If in the individual cases there is so much difference between ideal and reality, then why still to treat the ideal as the basis of an interpretive analysis? One of the reasons of inconsistency is the fact that the author probably incorporated the Polish events (Solidarity, etc.) later on when the basic framework of analysis was ready.

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Beyond Mechanization: Work and Technology in a Postindustrial Age, by Larry Hirschhorn, Cambridge, Mass., MIT Press, 1984, 187 pp., ISBN 0-262-08132-3

«Robots can't run factories». With that almost reassuring opening Hirschhorn, senior researcher at the Management and Behavioral Science Centre of the University of Pennsylvania, takes us through the history of mechanization, Taylorism and the assembly line aspect of Fordism (but not the overall approach of and to Fordism itself — see below) and now the big jump from automated continuity of production to the application of cybernetics to the control of the product, the producer and the process of production.

It may well be true that it was the sight of hog-butcher conveyor lines («dis-assembly» lines) that inspired Henry Ford to set up the first magneto assembly lines and then the Model T chassis lines that revolutionized the mass production industries. There are also lessons to be learned however in both the highly industrialized countries and the industrial areas of the third world from the other major aspect of Fordism: the \$5 day. At that time, (1914) a fairly decent wage, it was aimed at controlling labour in ways that went far beyond the controllable speed and other servitudes of the assembly line. It reached out to control the hearts and minds, the living and consuming habits of the workers. Ford «sociology department» investigators checked with workers' neighbours to make sure they were «steady» and «sober» — i.e. «worthy» of getting the \$5 day. Those drawn by it and accepted were instrumental in drastically reducing the high rate of labour turnover (380% in 1913!) that plagued the industry. And they supplied the basis of a mass market adapted to the mass-production of low-priced cars that came off those first assembly lines.

Hirschhorn feels that the move toward «postindustrial technology makes both Taylorism and its critique increasingly irrelevant» (p. 66). He looks «beyond», for «new possibilities for the mobilization of worker attention and thought ...». The more we move into cybernetic — automatic systems, the more «watchfulness and attention must be mobilized» (p. 72). «Preparation and learning are emerging as core elements of work». Yet, he sees that the present trend toward «displacement and defunctionalization» or deskilling of the worker, goes on undercutting the type of motivation Hirschhorn yearns for.

Drawing on detailed analysis of the nuclear power industries, Hirschhorn convincingly shows the continued need for human, i.e. worker, intervention to avert unpredictable failures in automated feed-back systems such as Three Mile Island. He decries management's clinging to old forms of power, even when obliged to expand training

programs, by insisting on training «workers who will solve problems but not challenge management» (p. 114).

The author goes into detail on some developmental case studies of «sociotechnical innovation», including one at the Olivetti factories in Ivrea in northwest Italy, with which this reviewer is familiar. It is certainly true that «the designers were more concerned with work-groups and organizational flexibility than with worker satisfaction» (p. 103). It is less exact to say (quoting a case study by Francesco Buterra) that «management engineers and union officials cooperatively reorganized work ...». Indeed, the combination of innovative and paternalistic attitudes on the part of the omnipresent engineers has been consistent with the historical record of Olivetti management that has so often been both a challenge and a source of irritation to trade unionists dealing with that company locally, nationally and internationally. In this case, the «cooperative reorganization» included a strike right at the start!

Speaking in general (p. 120) of the new trend toward «sociotechnical factories», based on work groups doing a more «complete» or «enriched» job, Hirschhorn says frankly that they «cannot be considered attempts to develop the practice of industrial democracy ... (nor) to make workers feel better about their work and to motivate them ...». If we try to do those things, he says, «we neglect the particular appropriateness of the new work forms to a postindustrial technology».

It then comes as less of a surprise that Hirschhorn's study of 24 «sociotechnical» plants chooses mostly non-union ones (even the General Motors battery plant is that rare bird — a non-union GM plant). He goes on to admit that «22 of 24 interviews were conducted with supervisory staff or consulting personnel and only 2 with workers. This represents a potential bias in the results». Perhaps a more varied sampling would have increased the author's awareness of the role of workers and their unions in shaping a future to which people can look forward.

Nevertheless, one cannot but be struck by case studies of new technology in which «on one typical shift, workers made seventeen «remedial» decisions, resulting in a total downtime of 69 minutes, or more than 12% of the total shift» (p. 123).

The final chapter («Can it happen?») and particularly the last four paragraphs of the book are to the point. Hirschhorn not only acknowledges the difficulties and failures, he goes beyond them and beyond any superficial «philosophy» of «ya win some; ya lose some». He says that though the new «socio-technical» factories will continue to fail in many ways, «In postindustrial settings ... failures are the precondition for both work

and learning». In other words, you lose, or fail, in order to win. But how?

«It is paradoxical but true», he says, «that even as we are developing the most advanced, mathematical and abstract technologies, we must depend increasingly on informal modes of learning, design and communication». But to do so, «we may have to reconstruct the institutional framework within which companies, governments, unions and schools develop, implement and coordinate their plans». And that sizable job could well require some shifts in the power relationships in society.

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