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Flexible Production and the Capital/Wage Labour Relation in Manufacturing

According to some writers, the Fordist model is replaced by 'Flexible specialisation', while according to others by 'neo-fordism'. The author believes that neither of the alternatives are appropriate and proposes a 'flexible production' model. According to this model, the recent process of transformation of the organisation of labour and production has not eliminated the fundamental antagonism between capital and labour.

● Marxian theory could hardly be more out of fashion today. There are two main reasons for this; the belief that the basic conceptual apparatus of Marxian thought is fundamentally flawed, and the belief that historical developments since Marx's day have refuted his central theses. The collapse of self-proclaimed 'Marxist' countries is the historical development most often invoked in this context. But many believe that developments within capitalism are also relevant here. The present paper discusses one of these developments in capitalism.

Throughout most of the twentieth century most of the dominant firms in the capitalist world approximated what may be termed the 'Fordist' model. In this model giant firms engage in mass production, using single-purpose machinery and high levels of stocks. These firms attempt to impose a separation of mental and manual labour, have an extensive corporate bureaucracy, keep a hands-off relationship with their suppliers, and offer standardised products on a 'take it or leave it' basis to consumers. There is general agreement among social theorists that the shift away from the Fordist system of manufacturing is among the most significant developments in capitalism today.

What is replacing the Fordist model? Piore and Sabel (1984) talk of a move from mass production to 'flexible specialisation', a social order reminiscent of Proudhon's vision of anarchism. Their argument is that decentralised worker-run firms can best respond to sudden shifts in consumer demand, input prices, and available technologies. New forms of craft production are arising in which small-to medium batch production by skilled workers replaces the mass production of standardised goods by a deskilled work force. The problem with this perspective is there does not appear to be any strong tendency in the contemporary economy to move to decentralised worker cooperatives of the sort they describe (Williams, et. al. 1987).

Other theorists speak of the rise of neo-Fordism. In their view the giant mass production firms of the Fordist epoch are not about to disappear. They are instead undergoing a two-fold restructuring. On the one hand, they are automating facilities wherever possible, replacing single-purpose machinery with general purpose computers. And where automation is not yet practical they are shifting production to low-wage regions of the globe (Froebel, et. al. 1980). This neo-Fordist account does not square with the fact that many of the most successful firms in the global economy today did not initiate an all-out push for automation and did not lead the search for low-wage areas of investment. General Motors fits the neo-Fordist model better than Toyota, but it is Toyota, not G.M., that has had more success.

A consensus is gradually forming around a third perspective. According to this view the alternative to Fordism first arose in Japan. Due to a series of historical contingencies the leading firms in post-war Japan never completely embodied the Fordist paradigm. They were forced to evolve a new model of manufacturing, whose elements include shorter product runs, just-in-time delivery systems, new management/labour relations, minimal corporate bureaucracy, close relationships with suppliers, and greater attention to shifts in consumer demand. This new model is now in the process of proving its superiority in the global market. A representative and influential example of this viewpoint is found in the study of the global automobile industry, *The Machine that Changed the World: The Story of Lean Production.* The authors of this study term this new model 'lean production'. They write, '(I)n the end we believe lean production will supplant both mass production and the remaining outposts of craft production in all areas of industrial endeavour to become the standard global

production system of the twenty first century.' (Womack, et. al. 1990, 278; Freeman 1988; Kenny and Florida 1993; Sayer and Walker 1992; Juergens 1989).

In what follows I shall accept this third perspective. What are the implications of this new 'global production system' which I shall term 'the flexible production model'? [1] In the business press near unanimity holds: this new stage in the history of capitalism will abolish the antagonism between labour and capital, bring about trust and co-operation among different units of capital, institute true consumer sovereignty, and so on. Defenders of this 'new capitalist utopianism' typically do not engage in an explicit polemic against Marx. Yet if their analysis is accurate Marxian theory is left in shambles.

Not all those who accept that the Japanese model represents a new stage in the evolution of capitalism also accept the utopian reading of this development found in the business press; Sayer and Walker (1992), for instance, reject this. The strongest case against Marxist theory, however, can be found in the business press, and it is the cogency of this case that is the topic of the present article. In what follows the term 'defenders of the flexible production model' should be taken to refer only to authors who defend the above reading.

Marx's account of the capitalist mode of production incorporates a great many themes: the commodity form, the money form, the capital/wage labour relation in production, the circulation process, the relations among different types of capital, the capital/consumer relation, and so on (Smith 1990, 1992, 1993). The defenders of the flexible production model implicitly call into question Marx's treatment of almost all of these topics. It is not possible to consider all of these issues here, and so I shall limit my remarks to the capital/wage labour relation in production. Marx himself obviously considered this to be the heart of his theory. If contemporary developments in capitalism have made this central part of Marxist theory obsolete, any claim that this theory provides an adequate account of the capitalist mode of production as a whole loses its plausibility at once.

In the next section I shall lay out the arguments proposed by 'the new capitalist utopians' regarding work relations in the age of flexible production. Then a Marxist response to these arguments, inspired by Braverman's deskilling thesis, will be examined. I argue that this response does not provide an adequate defence of Marx's position. Finally a return is made to the first volume of *Capital,*

and the discussion of structural coercion, exploitation, and the real subsumption of labour that can be found there. I defend the claim that an adequate defence of Marx's approach can be made in terms of these three notions. In conclusion some practical implications of this claim are drawn out.

Flexible Production: Beyond the Capital/Wage Labour Antagonism?

Marx devoted hundreds of pages in Volume I of *Capital* to the capital/wage labour relation. However his core thesis can be summarised in a single statement: there is a fundamental antagonism between capital and labour, a fundamental incompatibility of interests. Interestingly, the advocates of flexible production often seem to imply that Marx's account may have previously made some sense. The authors of a report in *Business Week,* for example, describe the 'old way' of labour relations as follows: 'Labour and Management interests are considered incompatible. Conflict arises on the shop floor and in bargaining.' (Hoerr, et. al. 1989, 362). However, defenders of flexible production insist that this account captures at best a soon-to-be-bygone age, and not the inner nature of capital as Marx supposed. In their view flexible production is characterised by a fundamental reconciliation of interests between capital and labour. In the 'new way' of labour relations, '(m)utual interests are emphasised. Management shares information about the business. Labour shares responsibility for making it succeed.' (ibid., 362).

Why does flexible production lead to this change in the social relations between labour and capital? Six arguments can be formulated, all of which have the same structure: in flexible production systems the rational self-interest of those who own and control capital leads them to transform work relations in a way that is in the interests of labour. The invisible hand of Adam Smith generates a 'win-win' situation, as opposed to a zero sum game in which the interests of one group are furthered only by inflicting losses on the other.

Before turning to these arguments it is first necessary to note the connection between flexible production and the computerisation of manufacturing. A significant part of flexibility in manufacturing is the ability to shift rapidly from one product line to another. It is true that this can be done with conventional

technologies. While US manufacturers chased the dream of full automation, the Japanese learned how to create what were in effect 'multifunctional' machines through combining low-cost conventional machines in a manufacturing cell (Warner 1989, 276). However it is also clear that flexible production systems tend to evolve such that conventional machines are replaced by programmable multifunctional machines, capable of switching from one production application to another at low cost (Ohno 1988; Maleki 1991). Computer numerically controlled (CNC) machines are the most important example of such machines. A number of arguments for a transformation of the capital/wage labour relation are connected with this computerisation of manufacturing.

1. Flexible production technologies are introduced by capital in order to obtain productivity advances. Incremental changes arising from 'learning by doing' in the long run provide greater productivity advances than the search for radically new process technologies (Dertouzos, et. al. 1991, 53). This requires a workforce that is attentive to the production process, one in which the intelligence of the worker is mobilised. The split between doing and thinking must be overcome, so that the worker has the power to make suggestions and implement changes in a process of continuous improvement (*'kaizen'*). And the work process must be structured so as to present wage labourers with continuous challenges to their creativity (Imai 1986). All of this is clearly in the interests of labour.

2. Tasks such as simple machine repair, housekeeping, materials-ordering, and so on, do not add value to the final product. Firms thus have an incentive to reduce such tasks. They can be reduced if production line workers incorporate them into the labour process, thereby eliminating the need for separate departments dedicated to them. Production line workers thus must become multiskilled (Koike 1988). Flexible production thus involves the end of detail labour, in which each worker is assigned a single task to perform repeatedly. Given the tedious nature of detail labour, this development is in the interests of labour. Further, quality improvements demand multiskilling as well. Quality problems are best diagnosed and corrected immediately on the line by the workers themselves, rather than left to a specialised group after the production process has been completed.

3. Flexible production employs highly complex technology systems. When a number of complex production systems are

combined, the result is a system of such hypercomplexity that it is impossible for engineers to foresee all the results that may occur. Under these circumstances it is inevitable that emergencies will arise. If workers have been vigilant, curious, and committed, the chances improve that they will respond to these emergencies successfully. If not, then catastrophes may well occur. (Given the cost of high technology production systems, any extensive down-time is quite expensive.) And so the owners and controllers of capital have a clear incentive to develop a skilled workforce, including, for instance, a workforce capable of programming CNC machines on the shop floor (Hirschhorn 1984; Bessant and Chisholm 1989, 314; Schumann, et. al. 1990, 18).

It is also worth pointing out that if machines malfunction and the labour force has not been trained to repair those machines, firms are completely reliant on machine suppliers. The desire to avoid this provides a further reason for the owners and controllers to provide training to the work force.

4. If the intelligence of the worker is to be mobilised, if the worker is to develop a variety of distinct skills, and if worker vigilance and curiosity are to be sustained, then the worker cannot be treated as an isolated individual. The best way to attain these goals is to have workers participate in teams in which a variety of different tasks are rotated (Aoki 1988). Here too the interests of capital and those of labour coincide: 'To give workers a greater variety of duties, a sociotechnical auto plant would call for teams to assemble entire subunits of a car from parts moved through the plant on AGVs (automated guided vehicles). Team members would be free to move around, rotate jobs, pace themselves within a much longer work cycle of perhaps five minutes or more, and have more control over product quality. Studies show that group assembly not only makes workers feel better but also produces higher quality.' (Hoerr, et. al. 1989, 364).

5. In flexible production a consumer order provides the signal for a delivery to be made: a delivery order provides the signal for final assembly; a final assembly order provides the signal for a finished part to be delivered, and so on all the way back to the initial act of production undertaken by a supplier. This is termed 'just in time' production, a goal of which is to reduce inventory costs to the greatest degree possible (Sayer 1986). However, the lack of inventories makes flexible production fragile. If inventories are present, a stoppage in one part of a plant does not necessitate that production ceases elsewhere. Without the buffer provided by

inventories, a stoppage in one part does mean that production in the plant as a whole soon comes to a stop. This vulnerability can only be dealt with if the workforce is diligent. And so the rational self-interest of the owners and controllers of capital leads them to commit themselves to meeting the interests of labour, in the hope that this will encourage workers to maintain the degree of diligence necessary for flexible production to function smoothly.

6. It has been argued above that multiskilled and attentive workers are absolutely crucial to the success of firms today. It follows from this that those who own and control capital cannot meet their objectives if workers are treated as replaceable parts hired to perform fragmented and deskilled labour in a strict hierarchy. Those who own and control capital must incorporate the workforce as a partner, offering guarantees of employment and profit-sharing schemes that keep labourers committed to the firm (Shimada and MacDuffie 1986). In this manner the workforce of the flexible firm attains a level of security far beyond the norm in the Fordist period. In this regard too the result is a system of 'reciprocal obligation' rather than one of mutual antagonism: 'To make this system work, of course, management must offer its full support to the factory workforce and … make the sacrifices to ensure job security that have historically been offered only to valued professionals. It truly is a system of reciprocal obligation.' (Womack, et. al. 1990, 102).

A First Marxian Response

Are we to conclude that Marx's account of the capital/wage form is now irrelevant as we enter the age of flexible production? One possible response by Marxists who wish to contest this conclusion is to insist that the dominant tendency in capitalism is for capital to deskill the workforce, that this tendency remains in force in flexible production, and that there thus can be no reconciliation of interest between labour and capital within flexible production.

The argument for a necessary tendency towards deskilling in capitalism rests on two closely related points. The first is that a deskilled labour force reduces labour costs, and is therefore more profitable for capital (Braverman 1974, 79–82). When labour is deskilled, labourers are easily replaceable, so wage costs are lower. Training costs are also lower. This does not change with the computerisation of the factory. And so the owners and controllers

of capital continue to have an incentive to deskill their workforce in the age of flexible technologies.

The second factor said to underlie the tendency to deskilling is that capital can maintain control over the labour process better with a deskilled workforce. The owners and controllers of capital may even rank retaining control over the production process higher than increasing productivity and efficiency. David Noble has argued that computer numerically controlled machine tools were not selected over available record playback machining technologies due to the former's technical efficiency. The latter were rejected because they left skills in the hands of the machinist, thereby limiting capital's control of the labour process. Shaiken's studies of the computerisation of the factory led him to a similar conclusion:

> In the vast majority of cases, the responsibility for writing instructions for the machines had been removed from the shop floor and given to programmers working in offices, even when this was far from optimal technically. Understanding why requires taking a look at owners' motivations in introducing CNC. They told us they introduced CNC partly to improve the machines' speed and flexibility, but also to tighten control over shop operations. By concentrating planning in the relatively small, white-collar programming department, they believed they could specify more uniform procedures for carrying out jobs. Also, since programmers are not responsible for actually running the machines, they have little incentive to use programming to slow the pace of production, the owners felt. As the officers of the Numerical Control Society, an organisation of managers and engineers concerned with computers in manufacturing, wrote in 1981, CNC has put important decisions 'in the hands of managerial and professional personnel rather than machine operators.' (Shaiken 1985, 293).

We can also mention in this context the fact that computerisation allows the manager of the flexible plant the opportunity to monitor the workforce directly.

It is interesting to note that defenders of flexible production who attempt to deny that it may involve deskilling often appear to fall into inconsistency. Hoerr, et. al. (1989) first affirm a technological determinist position in which computerisation

unequivocally improves work conditions: 'It is becoming evident that advanced computer technology calls for a radical change in traditional work practices. The old 'scientific management' method of dividing work into discrete tasks that require little skill or training becomes obsolete in a computerised workplace.' (ibid. 358). But elsewhere in the same short article they write, 'Dislocation is not the only serious problem caused by technology. Some workers complain about being deskilled; others say their employers use the computer as a control device … Government policy, of course, can't solve these kinds of problems.' (ibid. 360). They attempt to resolve this apparent inconsistency by invoking the difficulty of breaking authoritarian management habits formed in earlier periods: 'The old idea that a manager's main function is to control workers is replaced with the concept that a manager should encourage employees to use initiative. This goes against the grain of everything managers have been taught since the early years of the century.' (ibid, 359).

This is not an adequate reply. There are many cases where technologies characteristic of flexible production are conscious1y selected in order to deskill the workforce (Parker and Slaughter 1988, Part III). A strategic decision of this sort cannot be explained away as merely an expression of old habits. It would be much more accurate to say that management was pursuing its interests in a way that was not compatible with the interests of the workforce. If the workforce in the era of flexible production remains subject to deskilling, if computerisation allows for enhanced capital control of the labour process, then the argument that the antagonism between capital and labour has been overcome appears weak indeed.

However, it would be a mistake to regard the points made above as a sufficient defence of the Marxian view. The deskilling argument has serious shortcomings, having to do with the logic of capital, the concept of skill, the empirical evidence, and the political implications that follow from this argument.

The capital/wage labour relation is indeed characterised by capital's desire to limit wage costs, to limit training costs, and to control labour. Deskilling is often an especially effective manner of attaining these objectives. However, the capital/wage labour relation is also characterised by capital's drive to extract surplus labour from the workforce. These factors may come into tension. It may very well be the case that deskilling labour would significantly *lessen* the amount of surplus labour undertaken by

labourers in some situations. In such circumstances it is impossible to derive a necessary tendency towards deskilling from the logic of capital.

A second point has to do with the concept of skill that is presupposed when the term 'deskilling' is used. In Braverman's classic discussion the term is based on a craft model, in which labour is said to be skilled when the individual worker both controls the labour process and performs a variety of (mental and manual) tasks. This concept of skill is very useful in describing the fragmentation of craft labour that occurred with the development from handicrafts to manufacturing. However Paul Adler has argued persuasively that contemporary developments demand that the concept of skill incorporate other elements. In his view skilled labour involves more training, higher levels of responsibility, more abstract tasks and goals, and greater functional interdependence (Adler 1988, 2). Airline pilots or surgeons who must follow established procedures in every detail have little job autonomy. And yet the training time and responsibility connected with these occupations are such that pilots and surgeons are (correctly) considered to be highly skilled. Manufacturing jobs that appear to be deskilled when measured in terms of the craft model of skill may look quite different from the perspective of a more nuanced concept of skill (Zuboff 1988).

When we turn to the empirical evidence, Braverman's claim that there has been a secular trend for the skills of the working class as a whole to be lowered does not seem to be substantiated. As a general rule the introduction of flexible production technologies is correlated with a net increase in the substantive complexity, responsibility, abstract reasoning, and complex interdependence of jobs. At least this is the consensus view of Adler (1987, 1988); Adler and Borys (1989); Kelley (1986); Spenner (1983); and the authors in Wood (1982).

As the Shaiken passage quoted at length above suggests, management may have the intention of deskilling and controlling the workforce when it introduces new technologies. But, as the Rolling Stones said so eloquently, 'you can't always get what you want.' In the case of computer numerically controlled (CNC) machines in specific, Kelley and Harrison (1992) suggest that the evolution of the technology has forced a reversal of the deskill/control imperative. Among recent adopters of this technology two-thirds involve blue collar programming.

A final point to be made in this context concerns the political implications of the deskilling thesis. If one holds that flexible production leads to a significant deskilling of the labour process, then it is easy enough to reject the claim that the labour/capital antagonism is overcome in flexible production. However this defence of a Marxist position may come at the cost of having to abandon another Marxian claim. For Marx, wage labour provides the working class with both an awareness of universal interdependence and the capabilities to organise society itself. Marx felt that these were necessary conditions of the possibility for the working class to bring about socialism. The more one holds that the labour force has been thoroughly deskilled, the less plausible it is to assert that the working class is capable of playing the political role Marx assigned to it (Adler 1990).

I conclude that the deskilling argument does not provide an adequate response to the claim that work relations under flexible production refute Marx's theory. This argument cannot be derived from the logic of capital. It employs a questionable concept of skill. It does not seem to be empirically verified. And it has implications that seem to be incompatible with a crucial presupposition of Marxian politics.

A Second Marxian Response

If the deskilling thesis is abandoned, must we accept the claim that flexible production signifies the reconciliation of capital and labour? Before drawing this conclusion a closer examination must be made of Marx's account of the capital/wage labour relation. When Marx's account of the capital/wage labour relation was first introduced above, it was summarised in the thesis that there is a fundamental antagonism of interests between labour and capital. This thesis must now be fleshed out. The idea that the relationship between capital and labour is based upon a fundamental antagonism of interests can be interpreted as equivalent to the claim that structural coercion, exploitation, and real subsumption under an alien power all necessarily tend to arise within the capitalist mode of production.

It is necessarily the case, Marx thought, that in a society of generalised commodity exchange a class will tend to form that acquires sufficient resources to purchase means of production as well as means of subsistence. Another class tends to form that

lacks these resources. From this asymmetry in property relations Marx went on to derive a necessary tendency for *structural coercion* to arise. Those without access to the means of production and subsistence are forced by the structure of their situation to sell their labour power to those who own the means of production.[2] There is a direct link between this concept and the notion of *exploitation*: those who own and control capital necessarily tend to ensure that the terms of the wage contract allow them to appropriate an economic surplus created by wage labourers. They also necessarily tend to impose a transformation of the labour process, in order to increase the amount of surplus produced by the workers. Marx termed this transformation the move from the formal subsumption of labour under capital to its *real subsumption* under the alien power of capital.

For flexible production to overcome the capital/wage labour antagonism it would have to remove structural coercion, exploitation, and the real subsumption of labour under an alien power. A second Marxian strategy for responding to defenders of flexible production is to show that this is not the case.

1. Regarding *structural coercion,* defenders of flexible production models advocate granting a certain sector of the workforce employment security. It could be argued that for these workers structural coercion is lessened in the sense that they do not have the threat of unemployment hanging over their heads day in and day out. But a number of other considerations must be kept in mind. First, flexible production has proven more productive than Fordist production, and so the firms that initially mastered the technologies and organisation associated with it have been quite profitable. Guarantees of employment are relatively painless to provide to wage labourers in firms that are among the first to shift to more profitable technologies and modes of organisation. However as innovations are diffused the initially innovating firms lose these surplus profits. As flexible production spreads and profits come under increasing pressure, lay-offs may soon follow, job guarantees or no job guarantees. In other words, the job guarantees that defenders of flexible production proclaim are intrinsically tied to the production system may represent temporary benefits stemming from the competitive position of initial innovators. If so, we cannot say that a basic transformation of the dynamic of the capital/wage labour relation has occurred.[3]

Second, lifetime job guarantees in effect do not lessen structural coercion as much as transform how it operates. Instead

of the lack of access to means of production and subsistence forcing one to work for some unit of capital or other, this same lack forces the worker to continue labouring for a particular unit of capital (Kumazawa and Yamada 1989). Flexible production systems do not allow the worker the flexibility of shifting from one employer to another, as even its strongest defenders acknowledge: '(B)rilliant team play qualifies workers for more and better play on the same team but makes it progressively harder to leave. So a danger exists that employees (may) feel trapped in lean organisations.' (Womack, et. al. 1990, 251; see also Adler 1988, 28; Parker and Slaughter 1988, 79). They do not propose a solution to this problem beyond the vague statement that, 'Western companies, if they are to become lean, will need to think far more carefully about personnel systems and career paths than we believe any have to date.' In Japan this problem is 'solved' simply by removing the possibility of working for another employer as a viable option. It turns out that work conditions, job guarantees, and profit sharing are not the main mechanism ensuring the loyalty of the work force in Japan after all. More important is the fact that any workers leaving firms automatically start at the very bottom of the pay scale in their new place of employment, so that 'jumping ship would be quite pointless.' (Womack, et. al. 1990, 251). Is it really so obvious that Marx's notion of structural coercion is inapplicable here?

But let us suppose for the sake of the argument that structural coercion has been lessened for workers granted lifetime employment. Even then it would be mistaken to conclude that structural coercion has been lessened for the working class as a whole. In the cases of flexible production discussed by its defenders, only a relatively small proportion of workers (those in the 'core') are offered this benefit, while a much larger 'periphery' of workers are not. In Japan, for instance, lifetime job security is offered to less than one third of the workforce, according to Parker and Slaughter (1988, 60). Price (1992, J5) puts the figure at 20–25 per cent of the workforce.[4] Whatever the precise figure, it may well decline over time. Even without firings, jobs will still be eliminated in the core firms by attrition whenever productivity advances outstrip growth in market demand. The underlying tendency is for a growing number of workers to find themselves working in part time or temporary employment, where employers have the 'flexibility' to hire or fire them at will. Even if individual workers benefit from job guarantees, the job security of the labour

force as a whole may decline. For the labour force as a whole, structural coercion may be increased, not alleviated, by flexible production.

2. Turning to capitalist *exploitation,* Marx's definition of this category has two parts. First, exploitation involves the production of a surplus value exceeding what the workers receive back in the form of wages. Second, this surplus is appropriated by an alien power, capital, rather than remaining under the control of the collective labour force that produced it.

It is beyond dispute that flexible production is all about increasing the amount of economic surplus produced. The whole point of 'lean' production is to produce more with less, i.e. to increase economic output per unit of labour power purchased. This is by definition equivalent to an increase in the rate of exploitation.

The fact that a portion of wages in flexible production is categorised under the heading of 'profit sharing' does not lessen the applicability of the category of exploitation. In fact, this provides the flexible production model with a mechanism to increase the rate of exploitation in periods of economic slowdown. 'Most employees at all levels in Japanese companies receive a large part of their compensation—up to a third—in the form of bonuses.' (Womack, et. al. 1990, 250). If either a cyclical downswing or an extended loss of surplus profits due to the diffusion of innovations occurs, the portion of wages treated as 'profit sharing' can be quickly eliminated. Unless the prices the company charges are reduced proportionately, the rate of exploitation immediately rises.

The second component of the Marxist category of exploitation continues to hold in flexible production as well. For all the talk of worker participation in the team model, for all the homilies in praise of blurring the lines between management and labour, a chasm remains between the decisions in which workers participate and the decisions management retains as its prerogative. The goal of team participation is to extract ideas regarding how to improve productivity from the workforce. In order to do this management may make some concessions regarding issues of status (e.g. doing away with separate lunch rooms for management and labour, abolishing reserved parking for management, etc.). But this is a world away from allowing workers to determine democratically how the surplus extracted from the workforce is to be allocated. When this is kept in mind arguments that Marx's category of

exploitation has no place in the new epoch of flexible production lose their force.

3. This leaves the issue of the *real subsumption* of labour under capital as an alien power. In this context we must return to the question of deskilling. A net deskilling of the workforce does not appear to be necessarily connected with flexible production. However there are certainly many sectors of the labour force whose labour *has* been deskilled by this method of organising production. The real subsumption of labour under the alien force of capital clearly continues to hold for those workers whose labour is deskilled in flexible production systems.

What of workers who experience enhanced skill development in flexible production? Defenders of flexible production would point out that their intelligence is mobilised in the *kaizen* (continuous improvement) process, that they are multiskilled, that they participate in teams at the point of production, and that the just-in-time system demands their diligence. Given all this, does it make sense to say that capital operates as an alien power over these labourers at the point of production?

There are four reasons that suggest that it does. First, *kaizen* and incorporating non-value added tasks at the point of production (so-called 'multiskilling') both lead to the same result: hyper-intensive work. Whereas in traditional manufacturing plants the labour process was designed to occupy the experienced worker approximately 45 seconds out of a minute, in flexible production plants the figure is 57 seconds (Adler 1992, 42). Production workers on Toyota's assembly lines in Japan are reported to make 20 motions every 18 seconds, or a total of 20,600 motions in a working day (Watanabe 1992, J4). This leads to a level of stress that threatens both physical and psychological health. In the extreme case it can lead to *karoshi*, 'sudden death from overwork'.[5] Even the strongest advocates of flexible production freely admit that the search to maximise output with a minimum of labour costs increases worker stress. This increase is not merely an unintended by-product. The entire point of just in-time production is to maximise the stress level, since anything less represents an 'excess' that could be made 'lean' (Tomaney 1990). Defenders of flexible production feel that the challenge of coming up with ever-more creative ways to produce more with fewer people fully compensates for the increase in stress (Womack, et. al. 1990, 101). Perhaps, or perhaps not. But the point to be made here is simply that this still counts as the real

subsumption of labour under an alien force as described by Marx. The underlying structure of the labour process is still imposed by capital, even if the workforce is encouraged to participate in the initial design and subsequent improvement of the details of that process.

Second, flexible production systems making use of teams and rotations significantly reduce work rules, job classification, and the importance of the seniority system. This leaves management free to change work standards or job assignments at will. Those identified by management as having 'an attitude problem' (as a result, for example, of insisting that safety regulations be followed) can be transferred to the most arduous jobs in the plant until they are forced to quit. The elimination of classifications and the security system also makes it impossible for workers to transfer to less physically and psychologically demanding jobs as they get older. A 'lifetime' guarantee of a job means little if it is attached to a job that cannot be performed by people in their fifties or sixties.[6] Here too it continues to make sense to assert that labour is subjected to an alien force.

Third, in lean production extra workers are generally not hired as absentee replacements. As a result if a worker is absent his or her team members suffer additional stress. This creates a great amount of peer pressure to not miss work, even when a worker is ill, or should be home taking care of an ill family member (Parker and Slaughter 1988, 22). This design of the labour process clearly furthers the interests of capital at the cost of the interests of labour.

Fourth, it is true that just-in-time production systems cannot work unless labourers are committed and diligent. However it is quite a jump to conclude that therefore management must incorporate the interests of labour at the point of production. The fear of penalties can also lead workers to be committed and diligent. Failure to keep up with the line can result in attention and pressure from management, reduced perks, undesirable new assignments, and possible discipline (Parker and Slaughter 1988, 18). In order to avoid this, many workers are working through breaks or coming in early, performing unpaid labour in order to avoid the penalties attached to interruptions in the just-in-time system (Parker and Slaughter 1988, 23). Here, too, the labour process does not appear to be structured in a way that is consonant with the interests of labour. It appears much more plausible to assert that labour has been subsumed under capital as

an alien force, even if that labour is not deskilled. 'The obtaining of restitution of qualifications to workers becomes possible *without* management having to pay the price of losing centralist process control.' (Manske 1990, 75)

Conclusion

The issue at debate is not whether the flexible production mode improves the lot of certain workers. Without question it does. Some workers are less exposed to the vagaries of the labour market, and without question some workers find their work lives enriched. At issue is the assessment of the capital/wage labour relation in general. The model of flexible production does not lessen exposure to the contingencies of the labour market for the vast majority of workers. And all workers in this model face an increased rate of exploitation and the real subsumption of labour under capital as an alien power. Structural coercion in the labour market, exploitation, and real subsumption were the three features that defined the capital/labour form in *Capital*. Therefore the move to flexible manufacturing systems has not made this aspect of Marx's theory irrelevant. It continues to make sense to say that the social relation between capital and labour is fundamentally antagonistic.

What practical implications follow from this? One thing that obviously follows is that working men and women must be prepared to engage in struggles in defence of their interests. This in turn implies the need to form (or preserve) organisations that can effectively carry out such struggles. There is a clear need for independent labour organisations controlled by the work force itself. Given the continued existence of capital/wage labour antagonism, the imperative to avoid company unions is as strong as it has ever been.

This brings us to the question of the organisational form to be taken by these unions. When they are forced to deal with unions at all, the managers of flexible production firms clearly favour single-union plants. Sayer and Walker comment that this is not in itself necessarily a bad development:

> (P)rovided that they do not lead to company unions, single union plants have at least the potential of overcoming the division in the workforce supported by multiple-union

> plants. Certainly the familiar organisational forms do not represent a golden age for labour , even if, at their height, labour was stronger than now, for it was a highly selective and ambivalent strength, one which actively reproduced divisions in the workforce, particularly between men and women. (Sayer and Walker 1992, 189).

The problem here is that single-union plants can themselves 'actively reproduce divisions in the workforce' even when they are not company unions. They may allow whipsawing, in which groups of workers in different plants of the same firm are forced to compete against each other. And they may not unite workers in 'core' firms with those working for firms in the 'periphery,' even though the fate of these workers may be closely intertwined. If core firms and periphery firms have different gender, racial, ethnic or nationality make-ups, then single-union plants may perpetuate these divisions in the workforce.

The self-organisation of labour must be on the same scale as the organisation of capital. This means that the basic unit of organisation cannot be the firm. As capital is organised into unified networks of firms, so labour organisations must unite workers in assembly firms with those employed by suppliers and distributors. And as capital is organised on a global level labour organisations must become truly international.

What should the agenda of these labour organisations be? A conservative defence of the old Fordist model is not a viable strategy. This model does not provide high levels of worker satisfaction, and so it is not very likely that a mass labour movement will suddenly arise to retain it. Does it follow from this that the labour movement ought to embrace the move to flexible production, and attempt to push it in a more progressive direction? (Rustin 1989, 60, 74ff.)

The strongest case against this has been proposed by Pollert (1988). In her view usage of the term 'flexibility' legitimises management policies for labour fragmentation and labour market deregulation. It also distracts attention away from issues such as the international movement of capital, capital concentration, and the social distribution of wealth. She believes that the labour movement and its allies ought to refrain from using this language altogether. Pollert is certainly correct that the corporate defenders of flexible production considered in this paper use the term in this way. And many of the supposedly 'left' perspectives on flexible

production are guilty of the same thing, as Clarke has shown at length. However it does not necessarily follow that the concept of flexible production ought to be rejected out of hand.

An analogy may help here. Today the term 'democracy' is used to legitimate a situation in which those holding economic power are able to exert disproportionate influence on the political process. Yet those who condemn this situation generally do not conclude that this term ought to be abandoned. Political struggle often includes linguistic struggle over the terms used in everyday language, and the term 'democracy' can be given quite another meaning, one in which disproportionate political influence stemming from economic power is categorised as profoundly undemocratic. Today the term 'flexible production' is used to legitimate flexibility for capital alone. But two considerations suggest that the term can be defined differently.

First, many of the central aspects of the flexible production model are positive from the standpoint of labour, such as the emphasis on quality products, the minimisation of waste and the mobilisation of workers' intelligence. Second, the flexible production model may ultimately have implications that surprise its corporate defenders. These writers insist that flexibility demands the overcoming of antagonism in work relations. Well then, what conditions would have to be met before we can accurately say that work relations are no longer antagonistic? More specifically, what would it take for structural coercion, exploitation, and subsumption under an alien force to be overcome? The answer includes provisions such as the following:

- direct provision of certain basic necessities;
- guaranteed income to meet minimal subsistence needs;
- rights to employment; and
- worker self-management (Elson 1988).

The structural coercion that workers face in capitalist labour markets stems from lack of access to the means of subsistence and production. The direct provision of certain basic necessities and a guaranteed income to meet minimal needs provide access to the means of subsistence. The right to employment grants access to the means of production. In this manner structural coercion is overcome.

Worker self-management can be institutionalised in a variety of ways. One option is complete direct democracy, in which the workforce as a whole votes on every decision made within the firm. In another, all decisions are assigned to elected

representatives. Or it is possible to combine both direct and representative democracy in the enterprise. For example, fundamental strategic decisions could be subject to the vote of the entire workforce, while delegating decisions regarding the day-to-day running of the firm to elected officials. In any case, decisions regarding that part of the surplus that remains within the firm are either directly controlled by, or made by those accountable to, the producers of that surplus themselves. A necessary condition for exploitation is thus missing.[7]

In all these variants it would also be the case that labour would not be either formally or really subsumed under some alien force in the labour process. Workers themselves either directly vote on the organisation of the labour process, or decisions regarding the organisation of the labour process are taken by officials elected by the workforce. Either way, the democratisation of the work place provides an institutional mechanism ensuring that the labour process is structured in a way consonant with the interests of workers.[8]

It may be the case that the workforce as a whole experience a net increase in skill levels with the transformation to flexible production processes in capitalism. But the defenders of flexible production are mistaken when they conclude that this means that the fundamental antagonism between capital and labour discussed by Marx is now a thing of the past. Structural coercion, exploitation, and the real subsumption of labour under capital remain in flexible production systems. As long as they remain, the capital/labour relation will be one that is inherently antagonistic. Eradicating this fundamental antagonism demands an institutional shift far deeper than that advocated by the 'new capitalist utopians'. It requires a shift to socialism.

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Notes

1. Sayer and Walker (1992) correctly point out that the term 'flexible production' is potentially misleading. In some respects and in some contexts the Fordist approach may be more 'flexible' than this new alternative. For instance, hands-off relations between assemblers and suppliers may often grant these firms more room to manoeuvre than they have when they are closely bound to each other. Nonetheless defenders of this model in the business press again and again come back to the point that it will increase over-all flexibility. Since the term is so established in this literature I have decided to retain it here.
2. The term 'structural coercion' is used to distinguish this situation from the direct coercion that occurs when one individual forces another to do his or her will under the threat of physical or psychological violence. The concept of structural coercion does not imply that once the wage agreement has been made those who own and control capital will necessarily tend to employ overt coercion at the point of production. They may well attempt to evoke a high degree of voluntary compliance from their employees through promotions, higher wages, etc. The fact of such compliance does not in itself establish that there is no fundamental antagonism between labour and capital. In concentration camps the promise of privileges for prisoners often evoked voluntary compliance with the rules of the camp, yet no one would conclude that the fundamental interests of the guards and the prisoners coincided.
3. 'What happens as lean producers…encounter heavy seas…? A General Motors executive gave us one answer: …"When the Japanese (meaning lean) producers encounter these gigantic market waves, they will quickly become as mediocre as we are. They will have to start hiring and firing workers along with suppliers…" We aren't so sure, but we do feel this is a vital issue…' (Womack, et. al. 1990, 249–50). Given the importance of the topic, this last sentence is remarkably insubstantial. The computer industry is a good example of how firms that once gave considerable lip service to a 'no lay off' policy (IBM, DEC) abandoned that policy as soon as surplus profits disappeared.
4. It should be noted that racial and gender factors play a big role in determining which workers are assigned to the core and which to the periphery. (See Murray 1983; 1987; Sayer 1986; and Jenson 1989).
5. According to the citizens' volunteer group Karoshi Dial 110, some 1500 case of *karoshi* have been reported as of June 1990 (Watanabe 1992, J4). Obviously guarantees of lifetime employment mean little if job-related physical exhaustion and mental strain lead to the destruction of health.
6. 'Because most assembly line jobs are so demanding in traditional auto plants, workers look to the off-line 'desirable' jobs as a form of job security. If they cannot keep up the pace when they get older, they can hope that they will have enough seniority to select a job that matches their capabilities. (In flexible production plants) these jobs do not exist.' (Parker and Slaughter 1988, 105).

7. Of course some combination of direct and representative democracy must also provide the collective workforce with control over that portion of the surplus that is allocated outside of the particular firm within which it was produced.
8. This does not necessarily mean that speed-ups will never occur. Sections of the workforce might democratically decide that they would prefer a shorter work day of more intense labour to a longer work day at a more relaxed pace.

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