

Teams between Neo-Taylorism and Anti-Taylorism

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Teamworking is often associated with sophisticated management control and intensification of work; however, many authors suggest that an alternative type exists to which this does not apply. One of the problems in the teams discussion is a confusion about terminology. The Toyota production system was relabelled 'teamworking' to increase its acceptability. Also, teamworking was used as a metonym for industrial democracy in order to increase its appeal to managers. A second problem is determinism: a tendency to prematurely lock different types of teamworking into different fields of production. This article presents a systematic, empirically grounded typology of teamworking. Neo-Tayloristic and anti-Tayloristic teamworking are contrasted to classical Taylorism. Neo-Tayloristic and anti-Tayloristic teamworking both entail intensification of work. However, autonomy in anti-Tayloristic teamworking is real; there is little evidence of a 'brave new teams' scenario. Neo-Tayloristic teamworking builds on the strengths of Taylorism. For anti-Tayloristic teamworking, the opportunity structure is less favourable; improving it remains a challenge.

Keywords: industrial democracy, sociotechnical systems design, Taylorism, teamworking, Toyota production system

Introduction

An important strand in the current research literature on teamworking supports the following sweeping statement: maybe with the exception of a few doomed experiments, teamworking means intensification of work by removing some of the rigidities of the Tayloristic division of labour; autonomy in teamworking is either cosmetic or part of a managerial control strategy that is cheaper

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and more insidious than classical direct control. On the basis of published case studies (for example, Ezzamel and Willmott, 1998; Barker, 1993; Pollert, 1996), it seems safe to conclude that this tendency at the very least exists. It is unclear to what extent this is inevitable. The purpose of this article is to explore the space for organizational choice in teamworking.

The rise of teamworking as a popular topic is the result of two distinct symbolic transformation processes that occurred more or less simultaneously. The Toyota production system was the starting point of one of these transformations. During the 1980s, western researchers discovered that the Toyota production system was a highly productive alternative to classical Tayloristic mass production. Womack et al. (1990) coined a new name for the Toyota production system that did not refer to the Toyota Motor Company: 'lean production'. This terminological innovation helped elevate them to fame.

Womack et al. (1990: 99) associated the Toyota production system with teamworking by stating that 'the dynamic work team' is 'the heart of the lean factory'. They also suggest that in lean production it is essential that managers delegate responsibility to the teams: 'Our studies of plants trying to adopt lean production reveal that workers respond only when there exists some sense of reciprocal obligation, a sense that management actually values skilled workers, will make sacrifices to retain them, and is willing to delegate responsibility to the team' (Womack et al., 1990: 99).

On closer inspection, the association made by Womack et al. of teamworking with the Toyota production system, or lean production, seems somewhat of a fabrication. For example, there is no reference to teams whatsoever in the seminal exposition produced by Taiichi Ohno (1988), the chief creator of the Toyota production system after 1945. The confusion about teamworking in Japan was noted by Dankbaar (1997: 577) who explained: 'The Japanese notion of "teamwork" refers to a sense of responsibility for the whole enterprise ("Team Toyota"), and to mutual aid and off-line improvement activities. It does not refer to working in teams.'

Thus the association of teamworking with lean production is a myth, albeit a functional myth. It is a functional myth because the proponents of implementing the Toyota production system in the West faced a formidable handicap: the bad name that the Toyota production system had in terms of quality of working life. The western public had been forewarned about this by Satoshi Kamata,

who recorded half a year of experience as a Toyota worker in 'Japan in the passing lane'. Kamata (1983: 87) described his work and that of his colleagues as: 'a kind of lobotomy'.

The term 'team' is attractive because it connotes rewarding types of activity. It brings the vocabulary of sports and professionalism ('medical team', 'team of scientists') to the factory and the office floors.

It was exactly in this context that Womack et al. (1990: 14) introduced the term 'team' when they wrote: 'lean production calls for learning far more professional skills and applying these creatively in a team setting rather than in a rigid hierarchy'.

Thus the topic of teamworking got a major impetus from efforts to increase the western public's acceptance of the Toyota production system.

However, there was also a completely different movement that, too, helped make the term 'teamworking' important. A cluster of anti-Tayloristic reform activities, predominantly undertaken in Europe (including the UK), was the starting point of this movement.

Anti-Taylorism involves consciously moving towards job enrichment instead of division of labour and towards a reduction of the separation of conception and execution. It also means choosing to use human skills instead of trying to incorporate these into information systems. It further entails striving towards worker autonomy and codetermination instead of increasing discipline.

Anti-Taylorism does not necessarily mean putting the quality of working life before productivity. Anti-Taylorism takes improvement of the quality of working life as a condition for improvement of performance. Anti-Tayloristic programmes included (and are) socio-technical systems design, industrial democracy and humanization of working life (Germany).

A common characteristic of organizations that introduced anti-Tayloristic reforms is an emphasis on (semi-)autonomous teams. Gradually, the adjective 'autonomous' was discarded. 'Teamworking' came to be used as a metonym for anti-Tayloristic forms of work organization. In this way, the reform aspect was de-emphasized. A second reason for using teamworking as a metonym was simplicity. Over time, modern sociotechnical systems design theory had become wildly complicated (see van Eijnatten, 1993). When asked whether this complexity was an obstacle to its diffusion, a leading developer/consultant working within the modern socio-technical systems design paradigm in the Netherlands explained:

'we just talk about teamworking'. And Appelbaum and Batt (1994: 125) coined the term 'American team production' to label a production model that 'combines the principles of Swedish socio-technical systems and self-directed work with those of quality engineering'.

Thus, the second symbolic transformation process involves making a concept that was rooted in social reform, and furthermore theoretically sophisticated, managerially acceptable.

To summarize: teamworking is the point where two movements intersect: a movement for making a managerially attractive concept – the Toyota production system – socially acceptable and a movement for making a socially attractive concept – anti-Taylorism in its various forms – managerially acceptable. The double lineage of the teamworking concept gives rise to internal contradictions and confusion.

A fairly common strategy for making sense of teamworking is to make a distinction between two models. Pollert (1996: 190), for example, distinguishes a hierarchically dominated Japanese version from a participatory, democratic Swedish model. Danford (1998: 412) also mentions two models of teamworking: 'Japanese Style' vs 'alternative, more autonomous models'. In Lucio et al.'s (2000) account of union responses to management use of the teamworking concept at the Royal Mail in the UK, we see a distinction between on the one hand teamworking as a means to increase competition between employees, and on the other hand 'alternative understandings of employee empowerment and non-competitive group work as seen in parts of the Swedish or German industrial relations contexts' (Lucio et al., 2000: 276). Schumann (1998: 24–6) distinguishes 'Taylorized structurally conservative group work' and the 'Structurally innovative model of group work'.

These dichotomies point to an important fork in the road of job design that needs to be explored further.

Conceptual Problems

Benders and van Hoogtem (1999) provided a critical examination of existing dichotomies of teamworking. Two of the flaws that they highlight are: a bias towards autonomy and a car industry bias. However, these two problems seem minor when we realize

that what Benders and van Hootegeem (1999: 609) call the 'team discussion' is not about teams in general, but about teams against the backdrop of Taylorism. Lack of autonomy is one of Taylorism's key problems and the car industry is its paradigmatic locus.

Also, Benders and van Hootegeem (1999) indicate that dichotomies of teamworking are plagued by pervasive problems of definition (should we call the top figure in a work unit a foreman or a team leader, can a work unit be called self-managing if it is semi-autonomous but concentrates decision-making power in one person, do tasks have to rotate or might a team also consist of specialists complementing one another). Meanings will continue to shift because of constant reinterpretation by practitioners (Benders and van Hootegeem, 1999: 623). Because of its appeal, inflationary use of the term 'teams' is to be expected.

In this article, I approach the definition problem by starting out from classical Taylorism. Key economic problems of Taylorism are that it involves an expensive set of supervisors and that it entails a lack of flexibility (and thus a dependency on economies of scale). The problems of Taylorism spur attempts to modify it (neo-Taylorism) as well as attempts to break with it (anti-Taylorism) (Pruijt, 2000). Neo-Taylorism is a strategy that addresses the key economic problems of Taylorism, while keeping the two core attractions of Taylorism intact: the promise that the best possible way will be uniformly used, and the promise to address what Taylor called 'systematic soldiering'.

Accordingly, I distinguish two types of teamworking: a neo-Tayloristic type, with roots in Japan, vs an anti-Tayloristic type, with roots in (among other places) Scandinavia. A further reason for using the labels 'anti-Tayloristic teamworking' and 'neo-Tayloristic teamworking' is to detach the models from their geographical roots. This precludes being sidetracked into the question to what extent the models fit with the realities of Japan and Sweden.¹

Determinism

Benders and van Hootegeem (1999) pointed out that in the literature there is a tendency to include variables that relate to characteristics of the product, such as required skill levels. They say that this leads to confusion and may be misleading. However, a worse problem is that it may lead to determinism. A typology is more than just an

analytical instrument; there is widespread acceptance of the notion of 'horizontal fit', i.e. that a coherent set of practices is more effective than application of a few isolated elements of a model (Appelbaum et al., 2000: 32–6). In other words, sticking to the pure type promises success, while mixing and matching elements of different types is a recipe for failure.

If we included a high level of skill as a characteristic of the anti-Taylorist type of teamworking, we would almost imply that this type is geared to diversified quality production rather than to mass production. And the extent to which certain output characteristics require certain organizational characteristics is a matter of experimentation and debate; building determinism in the conceptual tools can hardly be helpful.

One way to attenuate the deterministic tendency in typology-building is to increase the number of types. Boyer and Freyssenet (2000) present a six-way typology of production models. In this typology, the Honda model, based on a strategy of creating innovative products and flexibility, appears as an interesting alternative to Toyotism (which is based on a strategy of cost reduction with constant volumes).

In this article, I tried to steer clear of determinism by excluding from the variables that make up the typology anything that is related to output characteristics.

Structure of the Article

The structure of the article is as follows. First, I concentrate on the similarities between the two models. Although the two models were chosen to be as far apart as possible, when we compare the two models to classical Taylorism, two common features stand out: a certain type of intensification is inextricably linked to teamworking; and in both types of teamworking there is integration of first-level managerial work and production work.

Then the article turns to the differences between the models. The question is: how cosmetic are the special properties that make anti-Tayloristic teamworking different from neo-Tayloristic teamworking? The possibility that autonomy is a refined managerial control strategy, the brave new team thesis, is considered next.

The last question addressed is: is anti-Tayloristic teamworking, in

as far as it is not cosmetic or a refined managerial control strategy, stable? Or is neo-Taylorism the winning model, the end of history?

Empirical Grounding of the Models

In order to be relevant, both models of teamworking should be empirically grounded. This implies that the anti-Tayloristic model of teamworking should have features that not only go against the grain of Taylorism, but that can also be shown to work in practice. Also, it should be possible to find cases in which all characteristics are present. For the empirical grounding of the anti-Tayloristic model I made use of data on 62 cases in which managers and organization experts tried to create alternative ways of working. Employee representatives supported these initiatives. I had collected this information as part of a wider research project on change efforts that had at least one of the following goals: reduction of the separation of conception and execution; using human skills instead of trying to incorporate these into information systems; enhancing worker autonomy and codetermination instead of increasing discipline.

Sources for cues for cases were the literature and expert advice. The intention was to collect information that pertained to real change at the shopfloor level rather than to ideological window-dressing. A large part of the information came from published and unpublished case studies and internal company documents. I supplemented written information by conducting interviews. Where possible, I sought to enhance validity by collecting information from different sources and parties. The book that resulted from the study (Pruijt, 1997) contains a general evaluation of the change projects. What I present in this article is a re-examination of the data in the context of teamworking. This involved focusing on the way in which workers cooperate in work groups and the conditions for this. The neo-Tayloristic model is based on literature about the Japanese automobile industry. The literature on Japanese companies tends to be plagued by deep ambiguity (see Berggren, 1993). I tried to counter this obstacle by concentrating on claims that were sustained by solid examples. Suitable in-depth case studies of Japanese shopfloor organization seemed rare. Apparently, Japanese companies tended to shield themselves against investigation (Grønning, 1996). Therefore, I would like to record my admiration

TABLE 1
Classical Taylorism vs Anti-Tayloristic and Neo-Tayloristic Teamworking

	Classical Taylorism	Anti-Tayloristic Teamworking	Neo-Tayloristic Teamworking
Division of labour	Relatively strict. Imbalances and disturbances cause idle time.	Less strict. Jobs larger, less demarcation. Functional flexibility precludes idle time.	Less strict. Jobs larger, less demarcation. Functional flexibility precludes idle time.
Supervision	No integration of production and management at all.	No supervisor inside team. Some management functions are distributed among team members, often in the form of spokesperson rotation.	Supervisor present in team as team leader. The team leader performs production work as well.
Decision-making	Managers decide.	All team members can participate in decision-making.	At the most, only the team leader can participate in decision-making.
Standardization	Relentlessly pursued.	Not relentlessly pursued.	Relentlessly pursued.
Power balance	Conflicts and games.	Management accepts some measure of worker control.	Nearly unlimited management prerogatives.
Technical and logistical context	Technical discipline, e.g. short-cycled work on the assembly line is a logical part of the system. Buffers exist as way of dealing with imbalances caused by the rigid division of labour.	Tendency to alleviate technical discipline, e.g. to find alternatives for the assembly line. Buffers help create the conditions for autonomy.	Technical discipline, e.g. short-cycled work on the assembly line is not seen as a problem. No buffers.
Wage system	The variable part of the wage is in a predictable, bureaucratically regulated way related to performance.	Pay on the basis of proven skill level. No group bonuses.	Individual bonuses based on assessments by supervisor on how deeply a worker cooperates in the system. Group bonuses are also given.

for those colleagues who, with dogged determination, have shed light on the shopfloor realities in these companies. The two models, juxtaposed to classical Taylorism, are summarized in Table 1.

Intensification Inextricably Linked to Teamworking

Let us now return to the proposition that teamworking means intensification of work by removing some rigidities of the Tayloristic division of labour and that autonomy on the shopfloor level is a low cost management tool for extracting effort.

If this were true, both models of teamworking of the anti-Tayloristic variety would entail intensification of work.

Juxtaposing the two models, as shown in Table 1, allows us to examine not only differences but also commonalties between the two models. When compared to classical Taylorism, both models have in common that the division of labour is less strict. Jobs are larger; there is less demarcation between tasks. Functional flexibility precludes idle time.

In accounts of the Toyota production system we can see this intensification mechanism quite clearly. As Ohno explains, a goal of the Toyota production system is cost reduction independent of economies of scale. This implies a constant search for ways to decrease the number of hours worked per product, independently of volume: 'in business, we are always concerned with how to produce more with fewer workers' (Ohno, 1988: 67). The way in which Ohno looked at workers boils down to distinguishing 'work' from 'waste'. His ideal was that the actions of the workers should consist 100 per cent of work that adds value to the product. One of the forms of waste that should be eliminated is waste through waiting. A way of eliminating waiting is letting one worker control several machines simultaneously. Grønning (1992: 33) reports that balance delay, causing idle time, is not accepted. Training in multifunctionality is one of the means used to tackle this problem. Kenny and Florida (1988: 131–2) state that 'work roles overlap, and tasks are assigned to groups of workers, who then reallocate them internally'.

Also in some of the cases of anti-Tayloristic teamworking there were indications that work intensification occurred. At Felten and Guillaume, a German producer of parts for electrical installations, the workload had increased as a result of job enlargement and a reduction in personnel (Theerkorn, 1991: 234). Employees at the

Volvo Uddevalla plant reported (in spring 1990) that people were working under great pressure. Absentee rates had risen to 12 percent. Nevertheless, teams had to produce the same number of cars at all times, regardless of the number of people present.

Increased work intensity in Volvo and Saab plants was also reported by C. Berggren (quoted in Sandberg et al., 1992: 71). In the Netherlands, employees at the IHC shipyard and at the paint factory Sigma Coatings spontaneously pointed out that work was intensified. In these two cases, the increased versatility of employees made interruptions disappear. In this respect, there is no difference between neo-Tayloristic and anti-Tayloristic teamworking: to the extent that the balancing losses associated with a Tayloristic organization of production decrease, idle time – sometimes a welcome break – disappears.

Job demarcations based on craft can offer workers some protection (Danford, 1998). This kind of protection is bound to disappear in any kind of teamworking. The same holds for job demarcations based on seniority (Blyton and Bacon, 1997).

Anti-Taylorist cases are not free of job losses either. For 42 percent of the cases, there was information available on the effect on the volume of employment (Pruijt, 1997). In 26.9 percent of these cases, there was a reduction of employment. This reduction averaged 26.7 percent.

Consistent with these results, Kuhlmann and Schumann (2001: 197) found that most workers experience higher performance requirements compared to before the introduction of teamwork.

Unions tend to have little difficulty with job enrichment, in contrast with work intensification and job losses (McCabe and Black, 1997). The preference for job enrichment makes anti-Taylorist teamworking a natural choice for unions; however, this does not provide an escape from intensification and job losses: for unions, teamworking poses a dilemma.

I have argued that both in neo-Tayloristic and anti-Tayloristic teamworking there is intensification due to the disappearance of balancing loss-related idle time.

Nevertheless, it seems logical to expect that a high level of autonomy (as in anti-Tayloristic teamworking) provides workers with better opportunities for coping with high demands without suffering from unhealthy stress (Karasek and Theorell, 1990). Appelbaum et al. (2000: 198), in their survey of workers in steel, clothing and medical imaging, did not find that participatory structures lead to

more stress; rather, autonomy seemed to reduce stress. However, one has to consider the potentially stressful effect of increased individual accountability, which autonomy entails.

Integration of First-Level Management and Production Work

A second, not as widely noted similarity between the two models is the integration of first-level management and production work.

Both models can be seen as answers to one of the great drawbacks of classical Taylorism that had already hindered Taylor himself: Taylorism is expensive because it entails creating jobs for non-value adding supervisors and other indirect workers. Taylor wanted to subdivide the work that was usually performed by a single gang boss among eight men: route clerks, instruction card clerks, cost and time clerks, gang bosses, speed bosses, inspectors, repair bosses and a shop disciplinarian (Taylor, 1964: 104). Taylorism was not just a movement for efficiency but also a movement for providing jobs in the production process for the middle class (Merkle, 1980). In 1901, when the United States Steel Corporation took over the cradle of Taylorism, Bethlehem Steel, it laid off 60 specialized foremen (Kanigel, 1997: 355). To Taylor's dismay, the high costs led employers to dilute the model (Bloemen, 1988: 41).

Both neo-Tayloristic and anti-Tayloristic teamworking provide an opportunity for saving money by integrating first-level management and production. However, the method of integrating first-level management and production is different. In anti-Tayloristic teamworking, some of the workers take on management duties alongside their work in production. In neo-Tayloristic teamworking, first-level supervisors do production work as well. This feature of neo-Taylorist teamworking might be used to cut overall labour costs without intensifying the operatives' work.

Cosmetic Autonomy?

It is difficult to establish whether a change is cosmetic or significant. Therefore I try to specify how – in terms of autonomy and the conditions for autonomy – anti-Taylorist teamworking differs from neo-Tayloristic teamworking. I consider the following areas:

supervision, decision-making, standardization, power balance, technical and logistical context and wage system.

Supervision

In neo-Taylorist teamworking, as exemplified by Toyota, each team has one permanent team leader. In this system, 'team leader' is a misleading label for a first-level supervisor who does double duty: supervising and (from time to time) working on the line as well. This is the only difference between a neo-Taylorist style team leader and a Taylorist low-level supervisor (Grønning, 1992: 135).

In contrast to neo-Tayloristic teamworking, in many of the anti-Tayloristic cases, more than one team member took part in managerial activities. Often, the leading position in the team rotated. An indication that team leader rotation can be more than cosmetic, is that employees pressed for it. In one case (the IHC shipyard) management wanted to have two permanent coordinators per team. The works council was opposed to this and felt that the role of coordinator had to rotate among team members. The works council convinced management that this was the way to do it.

There were two types of management-imposed limitations on team leader rotation: generally, employees needed a certain agreed upon qualification to be able to become team leader/coordinator/spokesperson; in one case (the IHC shipyard), managers had the possibility to take away someone's coordinator status, if the latter did not set a good example for his coworkers.

Apart from team leader rotation, there is also another way of involving more than one team member in managerial activities: areas of managerial responsibility can be divided up over several team members.

Decision-Making

In neo-Taylorist teamworking, in as far as there is any discretionary power delegated to the team level, it is the team leader who makes the decisions (Grønning, 1992: 119; 1990: 44-5). Some authors (for example, Fukuyama, 1995) feel that the Toyota production system involves the delegation of decision-making authority to

workers. The key piece of evidence is that each worker has the right to stop the assembly line. Fukuyama claims that this arrangement puts the assembly line workers in control of their own actions (Fukuyama, 1995). However, one may ask how different this statement is from claiming that access to emergency brake handles puts railway passengers in control.

Grønning shows that at Toyota, the group leader, one level up from the team leader, determines how long each task can take and also the order of operations that make up the task (Grønning, 1992: 119). This means that control over workers' actions is located two levels up in the hierarchy.

Generally in the anti-Taylorist cases, at least some of the team members were involved in decision-making. Three areas stood out: detail planning and scheduling of production, typically within a one-week time horizon; autonomously taking action when problems occurred instead of going to a supervisor; choosing team leaders.

Difference in Zeal for Standardization

A core attraction of Taylorism is that it promises that the best possible method, 'the one best way', will be used. Whether there exists a one best way to work may be a matter of philosophical debate. Taylor strongly believed in it.

But also in highly modern discussions about organizational learning in the context of mass production we find this assumption. For example, Adler and Cole (1995: 169) write: 'Standardization captures best practice and facilitates the diffusion of improvement ideas throughout the organization – you cannot diffuse what you have not standardized.' In this view, standardization means that, for each task X, the best way is determined and laid down in rules. Everyone who has to perform this task X, must follow the rules for X exactly.

At Toyota, standardization is the basis of everything, even of the use of teams. Grønning writes:

The main reason for the use of teams is that this unit corresponds to one of the standardized processes – for example the sub-assembly of a particular component – when standardizations are decided. The group leader will then standardize each and every one of the minute tasks that are needed in order to complete the process, thereby utilizing standardized work as the administrative

basis for his group and his teams. This administrative basis then has implications on the day-to-day management of the workplace, such as in formulating a program for making the workers multifunctional enough to handle several of the standardized tasks. (Grønning, 1992: 32)

Standardization is never permanent, but always the basis for further improvement (Grønning, 1992: 32).

In the anti-Taylorist cases, there was no obsession with standardization. Leaving autonomy on the shopfloor level implies that there is no enforcement of a one best way. There will be variation between teams in the way of working. An example is the IHC shipyard in the Netherlands. A change programme involved the creation of semi-autonomous teams. Teams had to choose coordinators and the idea was that all team members should perform all tasks. Special training courses were part of the programme. One of the teams in the IHC machine factory chose not to have any coordinators, they were happy when they got rid of their bosses. They did not participate in the courses either. They also disregarded the official line of diminishing the division of labour by keeping a special person around who did nothing but removing burrs. Management accepted this, since this team's performance was on a par with the other team in the same workshop who did participate in all aspects of the change programme.

Adler and Cole (1995) claimed that standardization is essential for organizational learning. This implies that in anti-Tayloristic teamworking, to the extent that standardization is not being pursued, organizational learning is impossible. Adler and Cole's (1995) analysis ultimately depends on the assumption that there is 'one best way'. Even if this assumption is relaxed, in anti-Tayloristic teamworking, organizing cross-team learning remains a challenge.

Power Balance in the Employment Relation

The Japanese organization of production has been described as 'simply the practice of the organizational principles of Fordism under conditions in which management prerogatives are largely unlimited' (Dohse et al., 1985: 141). Specifically, compared to classical Taylorism, managers are more likely to make arbitrary decisions. This reflects in the Japanese notion of competitiveness. Competitiveness means permanent rationalization even in economically good

times and flexible, vague working arrangements without precedent-setting agreements (Grønning, 1992: 3).

This involves Taichi Ohno's 'Oh! No!' method in which workloads are calculated at 100–110 percent. This makes overtime a structural requirement. Through *kaizen* this overtime is reduced. Subsequently, managers increase workloads (Grønning, 1992: 27).

In anti-Tayloristic teamworking, management accepts at least some measure of worker control. Also, there are limits set to management prerogatives, in the shape of agreements that not only confer obligations on the workers but also bind management. I would not want to describe anti-Tayloristic teamworking as a stunning triumph of organizational democracy; but at any rate, there are at least some examples of worker control.

In some of the cases, unions played an active role in job design. A good example of this is the Volvo car plant in Uddevalla. Initially, the plan was to set up the Uddevalla factory with a system of computer-controlled carriers as used in the Volvo plant in Kalmar. Intervention from chief executive Gyllenhammar and pressure from the unions led to a more radical solution. The metal workers' union took part in the designing of the factory from the start. Six shop stewards were members of the project group preparing the design of the factory. They played an active role in the brainstorming sessions, and not only defended the interests of union members, but also contributed their experience as carmakers. The final design for the factory showed a more radical departure from the assembly line concept than the Kalmar plant did.

In a few cases, there were indications that work teams can achieve such a level of autonomy that the labour process becomes a black box for management. To the workers, this can be a source of power. This occurred in the IHC shipyard. An HR staff member explained: 'The teams in final assembly [of ships] work most independently. Often, customers come directly to them. They like to mount things before management knows about it. That the boss says "but it cannot be mounted yet" and that they can say "but it is already in place!" Management lost track of what they are doing. They exploited this position already twice by threatening to strike, with the argument that they had taken over tasks that once were part of much more well paid jobs. They got their pay raise. Managers accept their independence because things are going so well.'

Technical and Logistical Context

In terms of autonomy, assembly line production is at the low end of the scale. In the anti-Tayloristic cases, engineers and managers struggled to find ways to abolish the assembly line, or they modified it to increase worker autonomy. Most common was the introduction of buffers and of dock-assembly (i.e. offline assembly).

In the neo-Tayloristic team concept, as seen by managers and designers, short-cycled, machine-paced work is not a problem.

Wage System

Bonuses that make up a substantial part of the wage are a powerful tool for controlling employee behaviour. In Japanese companies bonuses tend to represent a large proportion of the wage packet (up to 50 percent). Individual bonuses are based on assessments by the supervisor on the extent to which a worker cooperates within the system. Group bonuses are also given (see Dohse et al., 1985: 137–8).

In the companies pursuing anti-Taylorist teamworking, the idea of group bonus systems in the form of additional wages was generally unpopular. Works councils feared that teams would push out weaker workers. In some cases (Holec, manufacture of electrical equipment; Van Nelle, tobacco processing), teams received bonuses that they must use collectively. At Van Nelle, one team decided to use their bonus for buying ventilators, another team decided to spend it on a stereo system for their department. However, according to a Holec manager's experiences: 'Something like this works only for a short time. The renewal must come from inside.' At IHC, there is no group bonus for performance: 'We still assume that everyone does his best. After a terrific performance there is cake for the entire production personnel.' In several of the anti-Taylorist cases, there were specially designed wage systems for encouraging learning. For example, in the Volvo Uddevalla plant, pay was related to the proportion of a car that an employee could assemble. However, this only applied up to a certain degree. Consequently, learning to assemble an entire car was not encouraged financially. In the paint factory of Sigma Coatings, pay was based on knowledge rather than performance. At IHC, every course out of the training programme that was successfully completed led to

a pay supplement. Typically, these schemes were laid down in rules that preclude arbitrary management decisions.

Brave New Teams

Some authors suggest that autonomy in teamworking is a managerial control strategy that works through installing self-discipline (an internalized iron cage), making employees see themselves as entrepreneurs, obscuring the employment relationship and strengthening identification with the organization. Such a control strategy would be cheaper and more insidious than classical direct control. Sennett (1998: 56) argues that in an organization that is based on semi-autonomous teams, there still is a power centre that allocates tasks and sets production goals. This makes management-by-stress easy to accomplish. The exercise of power becomes less clearly visible, but no less strong. Bourdieu (1998) describes a scenario in which teams of flex-workers compete against each other, while self-management leads to overinvolvement and consequently to self-exploitation. This all happens under hierarchical direction. Burawoy (1985: 151) qualifies the type of change initiatives that I have termed 'anti-Tayloristic' as an 'attempt to invade the spaces created by workers under the previous regime and to mobilize consent to increased productivity'.

Willmott (1993: 523) sees shopfloor autonomy as 'the development of a "second nature"', in the form of a normative framework, through which the bogey of indeterminacy is practically exorcized'. He points out that in the newspeak of corporate culture, there is 'simultaneous affirmation and negation of the conditions of autonomy' which he sees as 'seductive doublethink' (Willmott, 1993: 526).

As of yet, there is little evidence for the proposition that granting autonomy is, by itself, a managerial control strategy that is both cheaper and more insidious than classical direct control.

Appelbaum et al. (2000: 184) report survey results that indicate that 'high performance work systems' enhance organizational commitment. Kuhlmann and Schumann (2001) found that the introduction of teamworking comes with more willingness to contribute to reorganizations for increasing competitiveness. Workers tend to stop assuming that change automatically hurts their interests. Feelings that 'all are in the same boat' increase. However, the workers' critical attitude towards management remained intact.

Several case studies exist that demonstrate a link between, on the one hand, teamworking and, on the other hand, increased pressure to raise output (Ezzamel and Willmott, 1998; Barker, 1993; Pollert, 1996). Following the critical theorists, one would expect these case studies to show the effects of overinvolvement, self-exploitation, mobilization of consent, normative control or seduction. Instead, they show the effects of financial incentives, financial discipline and a development away from autonomy respectively. In Ezzamel and Willmott's (1998) case study in the clothing industry, it was a team-based bonus system that brought managers the production increase that they desired. In Pollert's (1996) case study of teamworking in a food-manufacturing factory, the devolvement of budgetary control to first-line managers was the decisive management tool. Barker's (1993) case study in the electronics industry describes how, inside teams, formalized rules developed that became more and more rigid. However, in this case the key change was a shift from team leader rotation to having one permanent 'facilitator' per team. What we see here is not the use of autonomy as a control tool but the re-emergence of a more Taylorist structure. This phenomenon, the crystallization of a more Taylorist way of working, was not uncommon in the companies that I studied. For example, at the Van Nelle tobacco processing plant, team coordinators eventually took on all the managerial tasks that had been devolved to the teams. According to a Van Nelle manager, one of the coordinators acted as a foreman: 'Inside his work group, he formed a Tayloristic bunch, of which he is the foreman.' In the ship-building units of IHC, temporary workers did more and more work; in some teams the proportion came close to 100 percent. This caused team coordinators to act as bosses. It could happen that one welder, leading a group of temporary workers, put a whole section together. In the production islands of Felten and Guillaume, one found unskilled workers (*Ungelernte*), semi-skilled workers (*Angelernte*), skilled workers (*Facharbeiter*) and foremen (*Meister*) working together. Within the islands, there developed a division of labour between these categories of workers. On the basis of available evidence, autonomy in teamworking seems more an unstable characteristic than a key part of a sophisticated management control strategy.

Likewise, it is unclear whether autonomy helps forge consensus. Consensus was certainly at the heart of the anti-Tayloristic cases. However, from the outset in these cases, management and

employees consented on the desirability of teamworking. Typically, works councils of union clubs supported its introduction. And we need to remind ourselves that a Taylorist system can produce consent as well (Burawoy, 1979).

Finally, one of the cases, container manufacturer Rietbergwerke in Germany, highlights problems in concertive control. After years of trying to work with coordinator rotation, Rietbergwerke reintroduced foremen (*Meister*). In the beginning, the system of coordinator rotation worked well. Workers proved that they were up to it. But soon problems arose, when coordinators had to take unpopular decisions. When the person affected by such a decision would later take over the coordination role, they would get back at the previous coordinator. For this reason, coordinators grew ever more careful and more reluctant to make decisions. Besides, cliques formed that picked the best pieces of work for themselves. A manager explained: 'This led to tensions that the workers took home with them. The former coordinators were not angry when the system was abolished. They were taking the conflicts home with them, and deep down they felt relieved. But the job enrichment was gone. For years we had tried to hold on to the coordinator system, but the mood worsened and worsened. The works council, too, felt that it could not go on like this. The abolishment meant a drop in pay; coordinators were making DM 200 per month more. The collective agreement, after the project had been extended to three or four years, was cancelled.' Employing *Meister* was expensive, but management and works council felt that there was no other choice, due to the inefficiencies caused by the social frictions on the shopfloor.

Neo-Taylorism and the End of History

Is anti-Taylorism restricted to doomed experiments while neo-Taylorism is the wave of the future? Especially in the car industry, the current outlook is neo-Tayloristic. Volvo closed anti-Tayloristic car plants; generally in the automobile industry, there is a resurrection of the assembly line (Schumann et al., 1989; Pruijt, 1997: 112; Shimokawa et al., 1997; Springer, 1999).

This is especially significant because, historically, job design paradigms tend to spread from the car industry: the assembly line from Ford, semi-autonomous teams from Volvo and lean production from Toyota.

For example, in the Mercedes-Benz plant in Bremen, the path of using dock-assembly in parts of the production system was discontinued. When the time came to install a new production system (for the C-class cars), management chose an assembly line system.

In 1999, corporate management at Mercedes-Benz felt that their current strategy for rationalization was too much based on responsible autonomy, while in Japanese plants standard worksheets were important for productivity. These standard worksheets specify the order of operations and the time allowed for them. The reasoning behind this boiled down to this: when granted autonomy, workers in mass production do not put in a maximum effort (Springer, 1999).

Gearbox factory ZF in Germany had become famous among researchers because of an anti-Tayloristic flexible manufacturing system and corresponding organization of work, developed as part of the 'Humanization of Work' programme (Schultz-Wild et al., 1986). One of the features was an integration of supervision of the installation, setting up system components, quality control, adjustment of tools, adaptation of NC (Numerical Control) programmes and creation of work schedules. Among these tasks were not only the typical residual tasks that remain after automation, but also tasks that are usually split off from the operator's job and handled by special departments (Schultz-Wild et al., 1986: 523). Employees worked in teams, each team being responsible for a production island. Workers did not have permanent work stations; the team allocated tasks. The researchers, who followed the project over the course of 10 years, made a clear statement as to what extent this new system departs from the usual way of working. They found the new system, from the point of view of organization of work, work content, personnel administration and qualification demands, to be 'in sharp contrast with the tendencies that have for decades dominated the rationalization of production work' (Schultz-Wild et al., 1986: 519). Later, however, management became disappointed with anti-Tayloristic teamworking because of the high wages commanded by the highly skilled operators. The next strategy was to try out advanced automation. This turned out to be an expensive solution because of maintenance costs. Then, ZF engineers had the opportunity to look inside a Japanese gearbox factory. A ZF manager observed: 'One man operated seven or eight machines and they worked like ants. In Europe you cannot introduce this in one sweep, it has to happen step by step. The Japanese factory

was only half automated. Robots were simple, making them easier to program.' Management felt that this was the way to go.

Thus, in the automobile industry there was competition between the two models. Neo-Tayloristic teamworking had the upper hand. But small cracks in its armour were visible. Totsuka (1995) presents survey evidence that shows a decline in Japanese auto worker job satisfaction from 1985 to 1990, concluding that there is a need for reform of the lean production system. Recruitment difficulties have prompted the introduction of some buffers (Benders, 1996). Moreover, Toyota increased the proportion of ability-based pay (Shimizu, 1998: 62).

Also, information on overseas transplants of Japanese companies indicates that not all features of the model were easily replicated outside Japan. For example, at the NUMMI (New United Motor Manufacturing, Inc, a US joint venture between Toyota and General Motors) plant, workers could refuse to rotate. At Toyota this was not possible (Grønning, 1992: 143). At GM in the UK and in Spain, the introduction of neo-Tayloristic teamworking met with union opposition (Stewart and Lucio, 1998). The unions succeeded in putting constraints on the development of lean production arrangements; resistance did not result in a shift towards anti-Tayloristic teamworking.

Outside the automobile industry, however, there were few indications of competition between the models. Nevertheless, anti-Tayloristic team structures proved to be relatively unstable. One of the mechanisms involved is spontaneous Taylorization inside teams, which I have already mentioned in the previous section. Where spontaneous Taylorization does not occur, horizontal coordination may lead to stress, as in Rietbergwerke (see previous section). Stress can also result when a particular implementation of anti-Tayloristic teamworking is overambitious in terms of skill demands. When production work is supplemented with management tasks, workers need social and literacy skills. In some cases, an unexpected lack in this area caused stress. In another case, management carefully assessed available skills prior to the introduction of anti-Tayloristic teamworking, and hired instructors to provide training.

Anti-Tayloristic teamworking was never in the mainstream. This implies that it is vulnerable to contingencies like mergers, restructuring, resignation of key persons (both managers and union officials) and financial troubles.

Conclusions

The concept of teamworking is the product of two distinct developments. One, a neo-Tayloristic form of organization of work, which Toyota has shown can be very profitable, was packaged and reframed to make it acceptable to the western public. Two, anti-Tayloristic ways of organizing work, inspired by ideals of organizational democracy, were relabelled to make them acceptable to profit-oriented managers.

It is useful, as several other authors do, to preserve the double lineage of teamworking by distinguishing two different types. I have called these neo-Tayloristic and anti-Tayloristic teamworking.

Key concerns in the teamworking literature are intensification of work and the use of shopfloor autonomy as a cosmetic or manipulative device. Indeed, all the features of neo-Tayloristic teamworking are geared towards the intensification of work. However, one of the intensification mechanisms, the removal of Tayloristic rigidities in the division of labour, applies to anti-Tayloristic teamworking as well. On the other hand, the difference in terms of autonomy between neo-Tayloristic and anti-Tayloristic teamworking is real. The instability and vulnerability of anti-Tayloristic teamworking imply that it can only develop and flourish when managers and employee representatives put determined effort into it. The opportunity structure for this contains both economic and political elements. In mass production, the economic success of Toyota, through skilful mediation by management gurus, makes the opportunity structure for anti-Tayloristic teamworking relatively unfavourable. Outside mass production it is much better; widespread knowledge about the possibilities for organizational choice could improve the opportunity structure for anti-Tayloristic teamworking. Nevertheless, the overlap between the two types of teamworking – intensification of work by the removal of Tayloristic rigidities in the division of labour – poses a structural dilemma for employee representatives.

Notes

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1. As Appelbaum and Batt (1994) show, anti-Tayloristic team structures can be found in the US.

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