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Managing Occupational Health and Safety:

A Route to a New Negotiating Order in

High Performance Work Organizations?

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Working paper no 71, 2010

Abstract. Contrary to a widely held view, rather than seeing the certification of Occupational Health and Safety (OHS) as a barrier to increasing employee participation, this article views new ways of structuring participation as a necessary step towards making improvements in OHS management systems. The article first considers how work organization has changed and then in a similar way traces how bargaining has shifted from being distributive to become integrative to create a fundamental change in the negotiation regime. Finally, by analysing an OHS-certified firm in greater depth, the article shows how solutions for improvements in OHS management and notable bottom-up formulations of OHS benchmarks may help us discover how the organizational form of firms in which high-performance work organization can be developed through new participative structures.

1. Introduction: is employee participation possible under OHS certification?

Until recently it has been argued that OHS was best looked after by effective government regulation and inspection combined with safety organizations (SO) and safety councils (SC), with employee participation at the level of individual firms. In this way firms would be forced to take OHS issues into consideration when optimizing the efficiency of a given set of routines by making increasing use of technology, aiming for economies of scale and coordinating the activities of bureaucratic hierarchies (Nelson and Winther 1982; Chandler 1962, 1977).

Observers investigating this previous system found that one of its weaknesses was that SOs and SCs never became fully integrated into the managerial system of production but were placed in a 'side-car' position from which it was difficult to achieve effective influence on the firm (Frick 1994; Frick et al. 2000). To its critics, this system could only be improved by granting employees sitting on SCs greater participatory power over decisions concerning investments, choice of technologies, the setting of local standards in employment relations, etc.

However, instead of reforms improving the system through increased participatory power for local SCs and creating refined procedures for their collaboration with the state's OHS authorities, in many countries reforms of the system have evolved towards greater self-regulation on the part of employers. In Denmark and other countries, firms could simply obtain certification (e.g. under OHSAS 18001) of their management system for OHS purposes and in this way escape the costs and inconveniencies of routine inspections by the OHS authorities. To those who saw participation as

being dependent on government control and vice versa, certification broke a cumulative chain of causation that could have led to a better system (Dawson and Clinton, 1988; Frick 2009; Frick et al. 2000).

There are good reasons to question whether this would in fact have led to a better system as the economy re-organized. With the turn to a new economy where internal work organization, technology, and relations among firms and with stakeholders change frequently (Allwin and Aronsson 2003), government control and inspection, as well as employee representatives in SCs, would easily become overburdened, as indeed they are in most cases. This would lead to highly formal, ritualistic, legalistic and very bureaucratic OHS management (OHSM) systems reinforcing the side-car positions of SCs and employee participation.

Where they are in place, existing participatory systems of shop stewards, convenors and work councils (WC-related participatory systems) under the new economy are urgently needed to deal with constantly changing and novel competitive situations, while SC-related participatory systems may stick to bureaucratically ordained tasks that are repetitive and easily ignored. This may happen despite the new forms of work organization that call for much more attention from employee representatives in SCs. In this way the existing participatory and negotiating system has reached its limits and is in need of reform.

Rethinking and studying promising cases of a new division of labour in participatory systems in relation to OHS certification offers a chance to answer the following questions: 1) how can the participatory influence of employees be reformed and strengthened by working with OHS certification?; and 2) how may new ways of participation co-evolve with new forms of work organization and constitute a new negotiation regime within the constitution of firms?

The chosen analytical strategy is not normative and deductive. Rather, it analyzes a case where certification has led to an advanced form of OHSM with a high degree of participation in order to discover inductively how it could take the next steps in constituting itself in a novel way. Before doing this, the second section will answer the question: can OHS certification be seen as a suitable form of regulation in the new economy? Then the third section aims at mapping out how negotiating regimes have gradually changed from distributive to integrative bargaining. Then the ground is ready for the fourth section to examine an extreme case of certified OHSM (Flyvbjerg, 2001), where the next steps for reform becomes visible. We show how a new division of labour

among participatory bodies and engagement in bottom-up formulations of OHS benchmarks could lead to cumulative advances in both OHS certification and general participation.

2. New ways of organizing firms and the role of OHS certification

Since the 1980s, the discourse on industrial firms has undergone profound changes. Globalization is said to have forced firms in the Western hemisphere to look constantly for novel ways to reduce costs, improve and innovate by taking advantage of constantly changing global value chains and open and internationally dispersed innovation networks (Chesbrough 2003, Herrigel 2007; Herrigel and Zeitlin 2010). Multinationals are said to have evolved into transnationals (Bartlett and Ghoshal 1998) engaged in endemic internal and external searches for ways to combine novel sources of both cost reductions and innovation cross-nationally in order to position themselves strongly in the eyes of financial communities by organizing competition and bargaining over investments and concessions among their subsidiaries (Kristensen and Zeitlin 2005), work teams and suppliers.

Pressure from an increasingly complex context has created a situation in which firms must constantly change their roles in relation to other firms, and where the rules of the game are constantly shifting.

The need to make frequent shifts of roles in relation to customers, suppliers and other partners and adversaries has reinforced the pressure for reforms of the internal work organization (Boltanski and Chiapello 2005) and transformation towards high-performance work organization (HPWO) in which jobs and technology are undergoing permanent re-structuring. In itself this often provides leeway for old aspirations for greater employee participation (Whitfield 1997; Heller et al. 1998; Ramsay et al. 2000; Harley et al. 2006), which is simply necessary for firms to be capable of reacting quickly to external changes and earn profits from investments. In this way firms are experimentally searching for a new constitutional order, engaging employees in an increasingly collaborative community (Heckscher and Adler, 2006; Kristensen and Zeitlin, 2005; Lotz, 2009) while at the same time circumscribing a complex set of constituent, continuous and ad hoc teams held together by competition and cooperation, information and knowledge-sharing, participatory processes of negotiation, etc.

Combining the former OHS system of government regulation and inspection with SCs cannot cope with the pace of changes in the new economy, as this way og regulating was much better adapted to firms with fairly fixed forms of work organization and where inspection and rules could be imposed on slowly changing production processes. In the frequently changing HPWOs self-inspection and regulation become necessary; certification is a way of guiding this new way of doing things.

But certification is also needed because firms today are increasingly dependent on making use of other firms and on being used by others in unpredictable ways. This has in many cases led to certification and a setting of standards that makes it possible to assess a potential partner company before one links up with it. In distributed value chains, firms looking for suppliers need information about how suppliers perform financially, control quality, keep promises in relation to delivery times, etc., etc. Furthermore a number of difficult cases (e.g. Nike) have made clear to employers the importance of ensuring that suppliers' working conditions, environmental impacts and corporate social responsibilities will not undermine the reputation of the outsourcing firm. Thus the new production regime has increased the need for mutual transparency among firms, and systems of certification and benchmarking both within traditional fields of corporate governance, quality, guarantees etc. and such novel areas as environmental management (ISO 14001), working conditions (SA 8000) and corporate social responsibility (ISO 26000).

Seen in this perspective, OHS certification is just another element in the swarm of novel demands being imposed on firms by external stakeholders, and in some cases an OHSAS 18001 certification could be conditional for winning contracts from leading firms or for recruiting employees who are in high demand in the general labour market. Some firms even take the next step and deliberately enter competitions to be nominated as the Best Workplace of the Year, best place for apprenticeship, etc., just as they compete to win a quality or design prize.

The shift in how firms are organized and the turn to a system of transparency and benchmarking in relation to external stakeholders seems to have totally recast the issue of employee participation in industrial relations. On the one hand, cultivating the international ability to make role shifts and move towards HPWOs can in many ways be seen as undermining the legacy of hierarchy and bureaucracy as a means of rationalization, given that work teams become better informed about current practices and their possibilities for improvement than their principals. The operatives that change working routines are also the first to discover OHS problems. Thus under certain conditions the participation of employees simply becomes a must rather than a benign opportunity. On the

other hand, the constant changes in the rules of the game in the form of waves of novel benchmarks seem to reaffirm and consolidate company hierarchies at the apex, since they must ordain novel measures, lay down procedures for reporting, evaluate reports, diagnose why benchmarks are not being met and design novel interventions to respond to increasing external pressures. Thus it seems as if managers need to take strong control of their companies. But for this to be timely they need to engage employees, as it is the latter who have the knowledge that makes it possible diagnose problems and design new forms of intervention.

In most case studies of reformed corporations, experimental processes are said to have led to a decline in the power and influence of middle- and line-managers (Heller et al., 1998; Harley et al. 2006), creating a 'hole in the middle' between the top layer of the organization, which nonetheless looks similar to the old hierarchy and bureaucracy, and the bottom of the organization, which is often composed of a shifting ecology of relatively continuous and ad hoc teams. This hole is occupied either by a new constituency of HRM officers, coaches and supervisors, or by a dense network of shop stewards and convenors or both. New managerial techniques that are intended to help employees search for continuous improvements such as root cause analysis, appreciative enquiry, simultaneous engineering and heuristic design (Helper et al. 2000) constitute the armoury of the populace of this new no-man's-land, which works under a regime of benchmarking and performance assessment. Finding ordering principles for this no-man's-land seems to be one of the greatest challenges in HPWOs.

To complicate matters still further, in some, primarily Anglo-Saxon countries the transformation towards new types of firms has primarily come in the form of management reforms (JIT, TQM, TPM, Lean, etc.), i.e. top-down reforms imposing a new system and giving teams a predesigned role in a preset role matrix. In other countries, such as Scandinavia, Austria and the Netherlands, changes have become bottom-up, taking the form of experiments with novel forms of autonomy at work, and creating a highly autonomous work organization that has learned to search for continuous improvements and innovation, including searching for novel ways of managing (Lorenz and Valeyre 2003). In both variants of the emerging new constitutional order of the company, the road so far has been full of problems and surprises (see e.g. Heller et al. 1998; Vallas 2003; Minssen 2006) and has failed in terms of participation, commitment and performance – in particular when reforms became top-down. To these observers , this is partly because no one seems to have had a comprehensive view of what the new constitution would look like, and they simultaneously show

that the bundling of new principles of HRM, teamed forms of organization, communication and negotiations etc. produces better performance than when only a few elements of reform are found in firms. Whereas bureaucracy had a form that made it possible for agents to work continuously on its improvement, the new heterarchy (Stark 2009) has not yet become so visible that systematic improvements of an 'ideal type' are possible, whether in terms of lasting principles of organization or of new participatory principles and procedures. However, there seems to be increasing evidence that, in order to achieve the promised gains in terms of performance, firms must move towards a more comprehensive system. This only seems to happen where participation and negotiation take place between employees and managers (Vallas, 2003; Minssen 2006).

Although often seen as an iron cage, bureaucracy too was never a fixed entity. In itself it paved its way into the corpus of society as a means to rationalize and civilize organizational forms that were often characterized by nepotism and clientelism. But soon it became clear that bureaucracy itself was not a stable state. As Anselm Strauss (1978) pointed out long ago, in itself bureaucracy is a negotiated order, where novel situations, unintended consequences, etc. constantly have to be dealt with by parties engaged in negotiations over reforms, revisions and the bending of rules, if not over the invention of new rules. And certainly even the most advanced form of earlier bureaucracies – the multidivisional form – was as riddled with problems as are the new forms of organization (Jackall 1988, Chandler 1984). But whereas bureaucracy might be seen as a 'negotiated order', the new regime might be regarded as a 'processual ordering' that takes place within a constitution of negotiation fields (Strauss 1998). This does indeed recast questions of participation radically.

In this article, I argue that the new form of organization and the procedures and processes that it organizes can be seen as offering increasing space for the participatory influence of employees, and that OHS certification may be embedded in these new forms of organizations in such a way that it not only leads to improved working conditions, but also indicates a path towards a new regime of enterprise negotiation.

3. Towards a New Negotiating Regime in Work Organizations and the Role of OHS

OHS is an obvious place to start if employees are to begin to learn to make creative use of the novel language of benchmarking that comes from financial institutions, certification bureaux, government

bodies, NGOs etc. With fierce competition and an increasing number of external benchmarks to be met, the novel forms of firms could easily become 'over-determined' by their socio-economic environments. There are therefore good reasons why local managers and employees should engage in integrative bargaining based on endogenously developed benchmarks so that they recapture a say in the creative construction of the destiny of the firm and might be able to transform the current, confused organizational configuration of firms into a new, more fully fledged constitutional order (e.g. a collaborative community (Heckscher and Adler 2006)).

For this to happen, a transformation from the traditional negotiation regime of distributive bargaining to one of integrative bargaining (Sisson and Marginson 2000), where managers and employees alike further their own interests while taking into consideration the interests of their 'distributional adversaries', is very productive.

Up to the 1980s distributive bargaining was the norm, and local union activists looked in particular at how effectively individual firms observed the rules and regulations that were established in central negotiations and general agreements. In many continental European countries, however, central agreements were preparing the ground for integrative and more operational issues at the firm level. In covering enterprise constitutional issues, such as local bargaining rights and worker representation on firm-level bodies such as boards, works councils and OHS councils, and in mandating local employee-representatives to make local wage-, welfare-, technology- and further training agreements, the negotiating order was in flux.

In many countries the education of shop stewards and OHS representatives improved considerably, and the more they engaged in negotiating and striking local agreements, the more proficient convenors, shop-stewards and board representatives became (Scheuer 2003). This institutionalized increased local capabilities for local negotiations in many ways, and in retrospect the diffusion of bargaining over wages, flexible working hours, technology and training agreements, etc. to local levels shifted the balance of the negotiation regime towards the sector or firm level in many countries (European Commission 2004).

In this way local union activists were being prepared for the *Sturm und Drang* period of 1990, which saw a simultaneous quantum leap in foreign direct investments, intensified experiments with novel ways of organizing work, intensified further training of workers and the diffusion of computer literacy. In many ways economic organization mutated and created novel circles of

reinforcement with both the industrial relations (IR) regime and the larger welfare state, most obviously through more active labour market policies (ibid.). But progress in this direction came in very different ways in different countries due to differences in IR regimes. In Denmark workers were and still are organized in many craft or professional unions, but not being separated into unions representing different political/religious orientation. In firms each craft section elects its own shop steward so that the community of shop stewards becomes a field for integrative bargaining among a multiplicity of diverging employee interests. This community in turn elects a convenor to speak on its behalf to management, whether this happens in work councils (WCs) or on boards. Because the ideological divisions among unions and the local union representatives are minor, this system does not tend to reproduce the social partners at firm level as adversaries, but rather as a partnership that jointly solves problems.

Studies of Danish firms during the 1990s (Kristensen and Zeitlin 2005; Kristensen 2003; Kristensen and Lilja 2009) show that convenors and shop stewards engaged heavily in partnerships with top managers in experimenting with shifting forms of work organization, meeting shifting benchmarks, often developing model factories to be diffused internationally and engaging even blue-collar workers in international activities. This was done primarily to protect jobs, but also to ensure that employees would systematically improve their skills while being employed in a certain plant by training and by moving up in the hierarchy of challenges on the internal labour markets of firms. During that decade local activists often found themselves isolated from the central hierarchy of the union, which proved unable to provide answers and advice when local activists were dealing with the foreign headquarters of multinationals, searching for ways to meet novel benchmarks, etc. Local union branches often had more to offer as they engaged locally with the boards of vocational schools, employment agencies, municipal welfare services, etc. and combined public institutions in shifting polyarchies (Dorf and Sabel 1998) to solve transitional problems within both firms and local labour markets simultaneously as they sought novel ways of working. Connecting neo-corporatist bodies at the local level that could combine traditional services in innovative ways and negotiating internal transformations of the workplace gave local union activists a very strong position, one never seen before in Danish history. In many ways local union activists transformed negotiations in the direction of an integrative regime in which managers and unions jointly sought novel ways of integrating their changing interests instead of simply representing them repeatedly in the same way (Mary Parker Follett 1951).

But union activists creating this nexus of representation, participation and negotiation between the lean hierarchy at the top and the ecology of teams at the bottom also started to fill the 'hole in the middle' of the new HPWOs. In this hole, misunderstandings, uncertain role profiles for middle managers and the destruction of trust between middle managers and employees proliferated. To reconcile problems, local union activists became permanent negotiators, trying to find compromises between adversaries and acting against the tendency to seek sub-optimal solutions in individual departments and teams, as they tried to comply with novel but badly understood benchmarks etc. The case studies bear witness to this more generally, as shop stewards and convenors frequently tried to coordinate horizontally (cooperation) when middle managers were in rivalry along vertical axes (competition). Instead of hierarchical coordination, horizontal negotiations were aligning the organization with shifting situations.

However, negotiations as a form of 'processual ordering' (Strauss, 1993) carried out as one moves along did not become a monopoly for union activists. Rather, this new negotiating behaviour spread from a few representatives to penetrate the larger social fabric of organizations. Most often workers involved in operational teams are deliberating over daily work, rotation among workplaces, recruitment and vacancies, the allocation of holidays, etc. Furthermore, innovation is often organized in ad hoc teams that assemble people from a variety of operational teams to solve a temporary problem, often headed by members from a lean R&D department. Negotiating the rules of the game for such ad hoc teams is situational and often very complicated, as it involves some form of 'contractual' arrangement among operational teams, who experience disturbances in both their operational routines and improvement procedures. Outside formalized bodies, new and underexplored issues, such as seniority policy, novel ways of recruiting people, ways of dealing with stress, improvements in the health profiles of cafeterias, etc. are dealt with within committees where managers and employee members come up with suggestions to be approved by the WC etc. In nearly all these forums, committees and teams, deliberation takes place over both role identities and role shifts, as well as over how the frequently changing units of the organization may improve their interaction and collaboration. Thus negotiations and deliberations have diffused to become the way in which processual ordering takes place, instead of being ordered by a fixed bureaucratic structure of offices operating with a fixed set of standard procedures. In Denmark, where the change to HPWOs most often happened bottom up and was based on fairly autonomous teams, the rest of the organization was constructed as quite chaotic responses to unforeseen situations, where negotiating partners had to deliberate experimentally about solutions. Obviously, this organizational

'form' is not very streamlined when it comes to responding to novel benchmarks and performance standards that come from certification bureaux, customers, etc. Therefore, an increasing number of Danish firms have tried to 'work towards lean' since 2000. This has happened by adding two new types of 'elements' to the already quite complex organizational setting described above. First, a growing number of task forces have been formed to collect data responding to externally imposed benchmarks and to assess whether the firm is living up to the criteria set by financial institutions, certification bureaux, government bodies, etc. Secondly, an increasing number of firms have created monitoring teams to look after benchmarks across operational teams. In each operational team, members have been allocated a management responsibility, such as looking after reductions in failures and costs, the size of stores, environmental damage, improvements in meeting delivery deadlines and logistics, upgrading team skills, improving occupational health and safety, etc. Then across operational teams, employees with similar managerial responsibilities meet in monitoring teams to discuss, diagnose and negotiate how to understand varieties in performance outcomes, learn across primary teams and deliberate over initiating new searches for improvements. These monitoring teams meet with the relevant task forces, which provide them with the data that make it possible to diagnose problems and search for solutions that can assist in the search for improvements within operational teams.

Had the two last mentioned 'elements' been introduced in a normal bureaucracy, they could easily have been aligned with the hierarchy, as they often are in Anglo-Saxon countries. But in countries where 'learning forms of organization' with decentralization of responsibilities has already been widely diffused, as in the Nordic countries, the Netherlands and Austria (Lorenz and Valeyre 2003), the destiny is determined by how the negotiation regime merges with monitoring teams, of which OHS is one.

Currently monitoring teams, such as those within OHS, take their main point of departure in, and act in response to, the benchmarks and metrics that trickle down from financial institutions, government bodies, certification bureaux, NGOs and other potential or actual stakeholders, which in a way generates a flow of hierarchically ordered 'score cards'. This does not mean that the 'processual ordering' within this field of the organization is simply accommodated to externally given and ranked benchmarks. Often there are a multiplicity of conflicts among divergent benchmarks: for example, it may be difficult to deliver JIT, increase quality, reduce costs and make gradual innovations in a product simultaneously, in which case shop stewards and convenors step in

and negotiate a temporary scale of priorities among benchmarks. But benchmarks seem almost to be given by God, like the Ten Commandments, in the way negotiators take them for granted.

By taking part in the monitoring teams in interaction with the data-processing task forces within fields of continuous improvement, a potentially new space for participation (monitoring participation) has emerged. However, the strength and importance of this new participatory role is strongly influenced by how the old system of representation (shop stewards, convenors, WCs, boards and OHS councils, i.e. representative participation) uses its newly won position in integrative bargaining to ensure that monitoring participation becomes involved in data collection, analyses of why benchmarks are not being met and what interventions should be designed, so that certification does not simply become a new managerial toy. Whereas monitoring participation is set up to respond to external or hierarchically given benchmarks in an effective and mechanical way, representative participation operates very situationally, is often overburdened by recurrent problems and is frequently called on to solve conflicts of coordination so that representatives burn out.

In the firms studied, consequently, there exists an very unstable organizational figuration, which could be solved if overburdened representative participation hands over recurrent tasks to monitoring participation, which in turn can only start to work for the endogenous aims of the firm by being assisted by the old structures of representative participation. A next step in participatory influence is to translate employee aspirations into the language of benchmarks and to enter into the negotiations of bottom-up formulations of performance goals that reflect employee aspirations and enter them into the game of integrative bargaining.

The next section analyses an example illustrating the conviction that OHS certification constitutes a point at which the novel form of work organization, the new managerial processes and the newly negotiated processes of ordering intersect, and where new lessons of how to proceed might be learned.

4. Lessons from a case study of OHS management

4.1 Case methodology

In a recent study of the effects of certification on OHS and OHS management (OHSM) systems involving twelve firms (Rocha and Hohnen 2010), one firm constituted an extreme case of how certification may lead to advanced and sophisticated forms of OHS participation and that, when this

does take place, opportunities advance further for the creation of processual ordering. It will become clear in this case that the OHSM system has reached a limit concerning improvements according to given benchmarks. However, to take a new step, it is necessary not only to formulate new benchmarks, but also to create an agency that can improve on the OHSM system and fuel into it new benchmarks for future improvements.

In general the larger study consisted in six steps. First, from databases of OHS-certified firms we chose three types of cases: firms with falling, with stable and with increasing number of accidents after certification. The case we shall study (PP) fell within the last category, having had a short period after certification with a falling number of accidents, which then again increased – which proved to be a paradox. Second, a small group of researchers visited the firms for one day each to assess their willingness to take part in the study and their suitability for being part of the sample, to create relationships of trust and to gather all the written material available that was relevant to the study. PP was very interested in participating from the outset. Third, an OHS auditing group from a consulting firm was sent to the selected sample of firms to make a professional assessment of the state of both OHS and OHSM in each firm. PP proved to be best on most issues covered in the reports, despite the increasing number of accidents. These reports then served as a preparation for the fourth step, where a larger group from our research team planned and organized a 'History Lab' in each firm, where all the relevant parties from many levels of the firm participated in creating history lines for 1) how the firms' work organization and general management system had changed over the last twenty years; 2) how representative participation had changed; 3) how OHS had evolved: had it improved or not; 4) how OHSM had changed in relation to certification; 5) how OHS council members had changed roles and spaces on the site; and 6) what the current challenges were.

Fifth, based on a comparison of the materials from the OHS audits and History Labs across the sample of firms, PP was chosen for careful investigation (mini-ethnography) over five days, interviewing workers, SC members, the wider SO, OHS task force representatives, shop stewards, the convenor, production managers, R&D staff and managers working with CSR and sustainability reporting. This step was finalized by writing a case report for discussion in the research group and drawn up in a form suitable for entering the comparative typologies of the final research publication (ibid.).

The sixth step was a seminar at the firm's location (with the representatives who had been present in the History Lab and other interested parties) to verify the findings, make corrections and discuss the implications of the findings for the future of OHSM and for ways of making better use of certification.

4.2 The Case Study

The firm that is analysed here is a machine-producer called PP, which grew in size after World War II when it adopted a number of typical mass-production techniques. However, being very development-oriented, it achieved a worldwide reputation for high quality and reliability, and was soon producing both large series and customer-specified products. Though it is located in a small rural railway town in Jutland, its facilities and buildings are modern, and at the entrance visitors are greeted by a gallery of diplomas and honours from competitions it has won over benchmarks in product design, quality, 'Workplace of the year', etc. Being owned by a family foundation, its participation in these contests has been voluntary, and interviews confirmed that since the beginning of the 1990s the firm has deliberately entered contests, certifications, etc. in order to generate self-reflection and self-assessment.

Until the latter part of the 1990s, OHS was not one of the highest priorities in these self-assessments. Rather, although the SC may have been known for its radical views, it also displayed a lack of clear mandates when it came to assessing working conditions, new technologies or buildings. SRs clearly ranked lower than shop stewards and convenors, and the organization of participation primarily took place through the WC. Up to this period, OHS initiatives came primarily from government regulations specifying a number of threshold values, prohibiting a number of chemicals, etc.

But change was under way from the beginning of the 1990s, as in many other Danish manufacturing firms. A task force was organized to prepare for certification of the environmental impact of PP after a successful certification of quality standards had been achieved. Experiments continued with semi-autonomous teams and Total Quality Management (TQM). Appraisal interviews were introduced. To navigate in these new fields, PP welcomed the inspections of certifying bureaux and standard-setters and started systematically to take measurements on a whole number of new benchmarks, all of which were basically externally defined.

By the end of the decade this movement finally reached OHS, for two reasons. First, environmental certification having been achieved, the task force on the environment was looking for new tasks to add to its established monitoring function. Secondly, PP learned from the press that it was listed among the Danish enterprises with the highest frequencies of work accidents, figures that completely contradicted the self-image of the company's owners.

On a broad scale, Work Place Assessments (WPAs) were organized to eliminate factors that could cause accidents or damage to workers. Some of the most dangerous work processes were outsourced. Managers in general were mobilized and allocated to all three work shifts in order to be able to monitor the working environment. Simultaneously, the organization of shop stewards, convenors and safety representatives underwent an important professionalization. Instead of many working part-time, a lesser number were elected for full-time positions so they could work more continuously on issues related to working conditions and safety problems. A jump in educational levels took place among employee representatives, and the safety organization came to play a much more prominent role within the plant's institutions of participatory democracy. Together employee representatives and managers organized OHS campaigns to raise employee awareness, and in 2000 the focus was on reducing accidents, with every team on the shop floor measuring and announcing the number of days without accidents in a very visible way. Instead of simply measuring various risks, WPAs became a very systematic tool with which to make continuous improvements to work places with heavy lifting and repetitive or stressful routines.

In a change from TQM to TPM (Total Production Management), in addition to their operational duties, all members of operational teams became responsible for a managerial task such as looking after stock, external logistics, communication, the environment, OHS, etc., and for making continuous improvements in each of them. In addition, employees became the focus of HR managers making health interviews, carrying out certifications of qualifications and programs for systematic further training, etc.

By 2001 certification in accordance with OHSAS 18001(x2) was in place, and the staff task force for the environment and OHS started recording all accidents and near-accidents and following them up in a speedy and systematic way. SRs and the SO were placed in offices in close contact with all parts of the shop floor, organized a number of awareness campaigns and furthermore started to work across teams, sections and factories to diffuse improvements. From being radical voices, the SO and SRs had been transformed into consultants who were frequently addressed by both

employees and managers seeking advice, commentaries on plans for new machines, changes in factory design or new buildings, etc. All of this happened simultaneously with organizing lean dataflow in production.

From then on, OHS initiatives did not originate with external governmental regulations but with the internal system of data-registration, employee suggestions, reports, meetings and cross-sectional visitations. Along with this, frequency in the innovation of new products and the restructuring of production teams and factories increased. Whereas PP used to be a quite predictable workplace, jobs were now continually being changed, opening up novel challenges, including skills upgrading, but also putting employees under a lot of conflicting pressures and stress.

OHS in a multilayered governance system

The OHSM system in PP operates on four interlinked levels:

1. The first level is teams of operators, settlers and repairmen. This level is not simply the level of intervention and implementation of what has been decided from the top. On the contrary, it is on this level that both information and suggestions originate. If this level was not on its toes in reporting data and suggestions, the other parts of the system would seize up. On the one hand there have been awareness campaigns to stimulate the reporting of all accidents and near accidents, while on the other hand every team has a signpost showing in a very visible way how many days they have been working without accidents. The team members who are responsible for monitoring OHS ensures that reports, suggestions and measurements from the team are brought to the second layer of the SO, but all members of a team may simply make reports or suggestions on the ITC system that can be operated by any team member. The team is also very active. The number of accidents and near-accidents has been increasing to such an extent that the upper levels of the OHSM are unsure whether accidents are really increasing or whether a strong reporting and ITC discipline is having this effect. It is significant that in 2006 employee suggestions for all types of improvements reached a preliminary maximum of 29,111 or 2.9 suggestions per employee. Of these, 21,170 were implemented or 2.1 suggestions per employee. Within the field of the environment and OHS, in 2006 it was obvious that the upper levels of the management system were lagging behind, only taking action on 30% of the suggestions that year. By 2007 things had improved, as action was being taken on 50% of the 6,701

suggestions within the OHS/environmental fields. This high level of suggesting and reporting by the operational levels cannot be explained by the system of remuneration. Though teams compete to come up with 'the suggestion of the month or the year', they are not rewarded personally but with a sum of money to be spent on a joint celebration for the team. Making team members responsible for the constant search for improvements within different monitoring areas probably institutionalizes a permanent discourse on the issues that are being benchmarked and furnish the larger system with a constant flow of inputs. These are not minor issues. Settlers and repairmen told us that since the change to certification they initiate practical safety-improvements whenever they discovered a need to do so, and they had not yet been confronted with budgetary constraints when collaborating with one of the SRs.

2. The next level of the OHSM system is the level of factory SO and of elected SRs. These may be organized in different ways in different factories. In the factory being investigated here, two SRs elected by the workers were doing the core task. One was focusing on reporting procedures, collecting data from teams and helping employees fill in forms and write suggestions if employees had difficulties in doing so, but also registering absenteeism and other employee data to fill up the workload to make a full task. The other SR was working in the factory, making practical OHS interventions and being called to solve practical problems with operators, settlers and repairmen. He had to be consulted before buying new machines and equipment, etc. Whereas the latter focuses on direct action in cooperation with operational teams, the former provides the organizational link to the larger OHSM system, organizes and participates in meetings in the OHS monitoring team, the factory SC and cross-factory visitations, and prepares new initiatives and campaigns. SRs share offices with shop stewards, enabling them to communicate across the divide between the WC and SC participatory systems of negotiation. This tight interplay makes it possible to react in a very efficient and timely fashion in cases of accidents and near-accidents and to discuss the causes if a certain section suddenly has a high level of absenteeism due to illness. In this way the SRs becomes a centre of gravity linked directly to operational teams, practical problem-solving, production management and the staff task force on OHS, which it is also formally related to, as both levels are represented in the head SC. Obviously the SO and the SRs had moved away from being in a side-car position to become highly

respected nodes in a network, where they acted as very active consultants, binding the levels together.

3. The task force on OHS and the environment (STF) collects data on accidents, near-accidents, absences due to illness and progress in terms of improving workplaces (WPA) from across teams and factories, and receives and takes action on the large number of employee suggestions for improvements. The STF has a strong tie of informal collaboration to the SRs and SOs in the individual factories, as it collects experiences, compares data across factories and identifies the more general problems that a factory might have compared to the rest. These day-to-day consultations with local SRs are probably the main coordination mechanism between bureaucratic rulings and employee participation, creating processual ordering on a day-to-day basis. The head of the STF chaired the head SC, where SRs from all factories were represented to take decisions and make more system-wide interventions based on participatory diagnoses of problems and assessment of solutions. On the basis of data-collection compared with benchmarks, participatory consultation on problems and diagnoses, the STF makes an annual report on progress, set-backs, problems and suggestions for the top-management team, a report simultaneously drawn up in accordance with the needs of the annual corporate CSR and sustainability reporting.

4. The top management level of PP follows up on OHS issues in a yearly meeting with the head of the STF. Here the report mentioned above is discussed, benchmarks are compared with achievements and causes are sought for why some goals have not been met, why others seems saturated and whether current aspirations are the right ones. In this way preparations are made for the annual 'public sustainability report', which is surprisingly detailed and open in its criticisms of where PP has failed and of course very proud of the dimensions along which it has won prizes for extraordinary achievements. But it is also a meeting during which blame and recognition are allocated to the OHSM system in total.

4.3 OHS as a system of learning by monitoring

Reflecting on the above levels, it is obvious that in total they constitute a quite powerful system of learning by monitoring (Helper et al. 2000). First, there is a systematic way of reporting critical incidents (accidents, near-accidents, absenteeism due to illness, etc.) and of registering continuous improvements (WPA, reductions in repetitive work, dangers for pregnant employees, heavy lifts, etc.). Secondly, there is a continuous effort to detect problems and sudden improvements, and a

diagnostic capacity is being developed to make it possible to explain and understand the causes of both failures and successes, both to justify differences from planned benchmarks to top managers and to design new interventions on the shop floor. Thirdly, there is a systemic way of following up on incidents and conducting root-cause analyses, as well as a number of ways to diffuse lessons across teams, sections and factories. Concerning the latter, there is simultaneously a general awareness that this diffusion needs to become more efficient, which is one of the reasons why some of the elected SRs have been appointed 'drivers' to ensure that what has been decided is also implemented.

However, in one respect the learning by monitoring system fails. The above description of the system was not visible to its participants but had to be discovered by the field researcher. This means that the participants were working within a system they had not depicted, and for that reason they could not improve it deliberately or by design. The way the firm was constituted, it lacked an organ to work on deliberate changes to the constitution.

4.4 The evolutionary legacy of the monitoring system

Up to this point, the OHSM system has not emerged out of a single significant reform or design process. At one moment, elements have been added due to reforms to improve on quality. In others, the focus has been on the reform of and new agreements concerning the representative structure of SRs and shop stewards. Various OHS campaigns have added new features such as measuring the number of days with no accidents, the number of workplaces with no repetitive work, workplaces suitable for pregnant women, etc. One might say that new issues have been added as they became issues in the wider society, as new management fads emerged and as the SO reached saturation regarding past priorities and added new ones to those that were already being looked after. In many ways this evolution can be seen as parallel to the growth and sophistication of local agreements concerning technology, education, appraisal interviewing, etc. within the process of ordering that took place in relation to WCs, convenors and shop stewards, as mentioned above. However, with the turn to lean management, systematically measuring improvements, decentralizing managerial responsibilities to the monitoring teams and introducing IT-based suggestion and reporting procedures, the traditional negotiated ordering took on a different shape and became a system for learning by monitoring. However, it is a system that still seems dependent on the processual ordering that takes place in the WC system.

4.5 The participatory dimensions of the OHSM system

This defect can certainly not be ascribed to a lack of channels for participation within the SC part. The four levels of the OHSM system are penetrated by participatory channels and are closely related to ongoing processes that are central to the evolution of the firm. No side-car here!

And yet the system seems unable to reflect on and improve on itself as a system. The following example is illustrative. The STF raised the question of whether new benchmarks should be formulated bottom-up or top-down in an annual meeting with top management, but instead of being given an answer, it was itself asked to come up with one. But to find an answer is not easy. The current OHSM system has become structured so as to achieve effectiveness in attaining the given benchmarks so that any attempts to criticize the current benchmarks by the OHSM itself will be and should be seen by top managers to be bad excuses. Otherwise there is no way to curb the opportunistic games of middle managers. Thus the mandate to think and reflect on new benchmarks within OHS is without a social space. At the fourth level of the OHSM system it is simply not possible to work with these issues because top managers only know what they learn from the reporting mentioned earlier and have no chance to invent new, more appropriate benchmarks reflecting what has been learned in the internal experimental processes.

The need for new benchmarks, seen from the STF, is probably triggered primarily by its work on the current benchmarks. After certification came into place in 2001 and until 2006 accidents dropped very impressively, but then they started to increase again year after year. Working with a soft version of root-cause analysis (Helper et al. 2000) to diagnose possible causes not only led to identification of these but also indicated that something was wrong with the current benchmarks. For instance, in 2007 the STF diagnosed a sudden increase in accidents as being caused by an increase in the frequency in accidents within an increasing group of newly recruited employees. As a solution, a series of new introductory courses for new employees was implemented. In 2008 this had the effect of bringing down accidents quite dramatically for new recruits, yet the frequency of accidents still increased, but now among employees with a long career within PP. At the time of interviewing, the STF was finding it impossible to tell whether this situation was being caused by 1) the frequency of accidents per employee increasing automatically due to automation and increasing capital intensities; 2) continuous improvements in reporting discipline so that employees were reporting more and more of less important accidents, thus raising the figures, even though

improvements may be significant; or 3) workers were opportunistically causing minor accidents (especially on Thursdays) to get a day off before the weekend.

Interestingly enough the STF, the SO and the SRs were not in strong disagreement about these very different explanations for why the frequency of accidents was not being brought down, but saw them all as plausible alternative explanations. Jointly they felt under pressure as they had difficulties in explaining the data to top managers, but the existence of three alternative explanations makes it very difficult to take new actions. To improve the foundations for taking action, it became evident that the best way out of current problems was to find new ways to calibrate the benchmarks, for instance, by discriminating between more and less serious accidents, measuring the days they happen and creating a novel frequency definition (e.g. including a measure of capital intensity), as well as setting up a metric of their causes, whereas now they only measure the consequences (e.g. number of sickness days). In deciding which route to take, the matrix of security agents seemed confused and unable to identify an agency from which to seek help.

Another good example is when absence due to illness suddenly increases in a single department when compared both over time and with other departments. If investigations prove that it is not caused by either OHS or an infection, the diagnosis might point towards either mutual harassment among employees or bad leadership. In that case the STF enters a no-man's-land, where there is a large but unfulfilled need for data to make diagnosis possible and initiate improvements. In PP as in most other Danish enterprises such problems fall under the auspices of HR managers, shop stewards and WCs, which have not started to work since the systematic procedures of learning by monitoring made possible by the OHSM system were introduced. Within the HR/WC system such problems are usually treated as individualistic, psychological problems, and employees would probably go to shop stewards, who would treat each event in isolation. With no systematic data-collection surrounding such events, neither root cause analysis nor learning is possible. However, such events make it possible to see that two very strong participatory systems – one WC-related, the other SC-related – compete and undermine each other instead of being complementary and mutually self-correcting.

But why not then reform the WC-related system along the lines of the templates of the SC-related system? The answer is quite obvious: in such a case, the WC-related system would be exactly as self-limiting in its actions as the SC-related system. The great advantage of the WC-related

participatory system is that it is free from following fixed benchmarks and able to act situationally and independently of managements' opportunistic games.

5 Creating a space for the re-ordering of OHS monitoring systems

The reason why top managers cannot and should not simply take on the responsibility of improving the OHSM, its benchmarks and metrics and the way it learns by monitoring is, first, that, if top managers accept that unsatisfied benchmarks may be attributed to their wrong formulation, the hierarchical pressure for improvements may simply falter and create a space for opportunistic games of shirking and misinformation that could jeopardize the very foundations of OHS certification. Secondly, top managers are not in a position to see and discover the deep needs for improvements. Talking to employees, it is quite obvious that a number of problems can only be detected from practice as an employee. For instance, the fact that the combination of night shifts with team organization was causing problems was for a long time neglected by top managers. Because night shifts were run without managers, mutual harassment developed into vicious circles, turning the autonomous teams into veritable jungles. The chosen solution to the problem was simply to put managers on night shifts, though it was made without any root-cause analysis. But it is possible to imagine that a methodology continuously to civilize and improve on social relations among team members could have constituted an alternative, that benchmarks for measuring improvements could have been heuristically designed, and that these could have been assigned to the monitoring teams as new monitoring responsibilities.

The same goes for stress and psychological diseases. Instead of the shop stewards and HR managers dealing with these as individual cases only, a systemic way of analysing causes, registering near-stress symptoms, etc. could be used first to design a heuristic set of benchmarks to make learning by monitoring possible, and then start a search for better calibrated benchmarks to guide interventions.

Up to now only benchmarks that reflect very basic, externally defined, potential problems, accidents or disasters have been stressed in continuous improvement efforts at PP. But it is easy to imagine more aggressive searches to improve the workplace in terms of human growth and elevation. Interviews with groups of workers revealed that much has been done to take into special consideration the needs of pregnant women. But a life-course perspective on an entire working career would also make it possible to develop benchmarks for the suitability of some workplaces

for, for example, single mothers with small children, elderly workers with minor mental handicaps, etc. Especially young single people saw the workplace as a surprisingly open space for endemic streams of challenges and projects – even for de jure unskilled workers – but felt that they lacked the necessary transparency to plan a career going from minor to more sophisticated challenges and projects, and combining this with a progressive ladder of further training schemes. Obviously PP could gain much from systematizing career patterns for workers in different life-course situations and by devising benchmarks measuring the extent to which progress in different situations happens annually. Surely these progressions should be linked to how the search for a still more advanced strategic identity for PP in relation to its customers and suppliers has progressed in its totality.

Reasoning along these lines, it becomes obvious that PP is in need of a novel patterning of the negotiating order and the management structure. The lean system at the core and the OHS system linked to it together constitute a powerful machine for learning by monitoring and for perfecting and calibrating existing benchmarks, but an inbuilt ability to widen and reform its operational range is lacking. Top managers have the power to do this, but if they do so they risk opening up the field for opportunistic games, and they lack the familiarity with problems and aspirations that need to be taken into consideration in improving the system.

Conversely, the much more ad hoc and flexible participatory system for negotiation constituted by HR managers, shop stewards, convenors, works councils and their sub-committees is ideally placed to capture new issues, problems and aspirations. However, instead of dealing directly with unusual problems in an situational way, this HR/WC system should react to such problems by creating ad hoc task forces that could investigate new needs for coping with stress, the causes of harassment, the need for calibrating existing benchmarks, how to make career ladders visible, etc. more systematically. Organizing negotiations on such issues with top managers – the fourth level in the OHSM – would constitute an ideal space, much less infiltrated by middle-managers engaged in real or imagined opportunistic games. This is particularly the case where the WC-related participatory system is not trying to capture new mandates for itself, but aims at institutionalizing new mandates or ways of monitoring them for other bodies, such as the SC-related participatory monitoring system.

Following its refinements since the early 1990s, the traditional WC participatory system no doubt sees itself as much more capable than the SC participatory system in dealing with unpredicted problems. Often its elected representatives have followed very advanced courses and are linked to

similarly wise activists in other companies with a feel for how businesses are shifting under globalization. This constitutional part of the firm therefore has a propensity to keep issues under the control of its own circles in order to make sure that things are being handled competently. As a consequence, it often becomes overburdened and highly stressed and tends to work on issues in a very situational way. On the other hand, the SC-related participatory system is much more efficient in operating within given mandates and is better placed to produce rapid and more efficient progress once the dimensions which require continuous improvements have been identified.

Both the WC- and SC-related participatory systems have been established according to rules of law or by central agreements among the social partners. As already indicated they have both changed in terms of task and importance because of general managerial reforms (especially the change towards lean), new forms of work organization and a different pace in innovation. But both are encapsulated mutually by a division of labour that belongs to the old economy. To work much more effectively to the benefit of both managers and employees, the entire participatory system should be recast so that the WC arm takes care of organizing ad hoc development, while the SC arm takes on the responsibility of making improvements effective on a much more broad range of issues needed for constructing better forms of work organization.

Simultaneously it would probably be of great help to both participatory arms if institutions in society were set up that could create imaginative new benchmarks of a new, more offensive type so that these could become heuristic devices for the labour movement in its search for promising new forms of work organization and working careers among a constituency that is becoming increasingly differentiated.

6. Final Discussion

A cynic might see the current swarms of new benchmarks, certifications and de-regulation of government inspection as a way for employers and shareholders to increase their authority over wage-earners, an authority that many observers saw being eroded during the late 1970s, when wage increases, worker militancy, wage-earner funds, public ownership, etc. were limiting the influence of both shareholders and managers. The new regime, on the contrary, has made it easier for managers in the headquarters of multinational companies to exert pressure on rival subsidiaries, and for subsidiary managers to put pressure on rival departments and teams, as well as on rival suppliers. This game of imposing constantly changing benchmarks seems to have made it almost

impossible for lower units in the 'hierarchy' to define a coherent long-term strategy for and by itself, as the survival of teams and subsidiaries, like the promotion of individual managers within a corporate hierarchy, is determined by how well they measure against these benchmarks rather than on how well they are developing the firm unit, both in the long term and for its constituency of workers and managers.

In this respect, OHS certification and an associated benchmarking system constitute both a continuation and a possible transformation of a trend. OHS focuses its benchmarks on improvements in the conditions of and prospects for the constituents of the firm unit and works with initial measures assessing whether a firm is following a path that works to the advantage or disadvantage of its workers.

Within this framework, workers, their representatives and unions may gradually learn that they should themselves begin to formulate, negotiate and set new benchmarks for what they see as improvements and what they consider to be setbacks. Working conditions, both physical and psychological, are an important first step. The degree of human development and learning that a firm's evolution brings about could be the next step. But this involves a whole new set of questions. Which benchmarks should be used to evaluate whether the 'we' of workers, such as a firm unit within a corporation, are progressing towards a more or less advantageous situation in terms of 'our' relations with customers and suppliers, as well as with the larger labour market?

As workers start to pose these questions, and to the degree they are able to translate them into benchmarks, the potential to move from a regime that is distributive to one involving integrative bargaining will increase. Institutionalizing the novel benchmarks of this regime into 'learning by monitoring', novel managerial techniques and negotiating orders will force micro-agencies to search for compromises between externally imposed and internally evoked prerogatives and benchmarks. In a world where managers are continually on the move between business units and positions, the work of workers in refining benchmarking, finding novel ways of negotiating them and improving systems of learning by monitoring could turn into a search for the long-term identity of the enterprise, whereas those benchmarks that frequently change and are externally imposed would simply help to question, doubt and inspire the search for endogenous and still more ambitious and relevant benchmarks.

The certification of OHS is creating a much more open field in which such an evolution could take place. In Denmark, such an evolution seems to be possible in some of the advanced versions of certified OHSM systems, but that is greatly dependent on the old negotiating order of shop stewards, convenors and WCs playing a novel role and preparing action to expand the scope of the SC participatory system. However, it is obvious that in learning organizations such as those present in the Nordic countries, the Netherlands and Austria, the introduction of lean managerial principles can best co-evolve with highly decentralized forms of work organization provided there is one participatory system that can organize improvements and another to reform the first and to identify novel issues to renew the firm in accordance with endogenous aspirations.

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