

## POWER AND HEALTH AT WORK: ASCRIBING NEW MEANINGS FOR HEALTH AND SAFETY IN DANISH MANUFACTURING FIRMS

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### ABSTRACT

This article's analysis illuminates the internal organisational processes, which constrain or enable changing health and safety (H&S) practices in three Danish organisations. We employ a comparative longitudinal case study approach to demonstrate that changes in how workers understand H&S are fundamental to how H&S practices are upgraded. The article also demonstrates the crucial role played by trade union representatives and educational institutions in processes of change. Through mutual understandings and shared definitions, actors can agree on how to approach H&S best.

### INTRODUCTION

In recent decades, three main regulatory changes in the field of the organisation of health and safety (OHS) have taken place in Denmark. The first change took place in 1997 when a national directive introduced work environment disciplines into the educational curricula of all vocational schools. The second change took place in 2005 when a new national law made it compulsory for skilled workers and special workers to attend courses on measures to prevent cancer when working with toxic materials and substances. One important aspect of this change was the close involvement of the confederation of Danish trade unions in promoting these courses and developing various programs to diffuse information and knowledge. The third change was the introduction of a self-regulatory regime in the form of certified management systems for H&S. The main idea behind this regulatory regime is to move away from a command-and-control policy and strategy, whereby the labour inspectorate visits companies regularly, towards self-regulation (Granerud and Rocha, 2011)

As a result of these three changes, the H&S field has been substantially reorganised. This article evaluates how H&S practices have evolved in the last decade in three Danish companies. It deals with an important issue raised by Robinson and Smallman, (2006), who claimed that *'the key challenge facing both the Government and employers is the weak health and safety culture which prevails in most firms... In no instance do the prevailing OHS consultation and communication mechanisms engage positively with the problem of ill health, and at worst they are associated with higher rates of illness'* (ibid:102). The focus of this article is on H&S practices in three Danish manufacturing organisations. It investigates the evolution, change and reproduction of H&S practices in this organisations over time. The article investigates how mutual understandings and shared definitions develop over time and also their impact on changing H&S practices.

The article is organised into six sections. The next section discusses the institutional approach and the links to Lukes' concept of 'dimensions of power' and Weick's sensemaking approach. Section three briefly informs the reader about the content of the Danish institutional environment, focusing mainly on the collaborative features of relations between employers and trade unions and the up-skilling dynamics of the Danish labour market. This is followed by an outline of the research methods used in the study. The evidence is presented in section five by showing the evolution in H&S practices. The final section discusses the implications of the findings.

## THE POWER OF MEANINGS

The present article analyses how actors through the construction of mutual understandings of health and safety are likely to change what is considered unhealthy or unsafe. The challenge here is to analyse how the views and expectations of actors build the way they seek to respond to the external pressures (suppliers, regulation, customers, etc.) and internal pressures (certified management systems, contradictory meanings) in the maintenance, adaptation or change of H&S practices. In order to address how changing meaning may affect H&S practices, this article combines three theoretical approaches: the institutional perspective, Lukes' three dimensions of power (2005) and the sensemaking approach (Weick, 1995). The article follows a social constructivism approach, which considers that reality is a socially constructed and therefore the result of shared understandings or interpretations (Berger and Luckmann, 1966; Daft and Weick, 1984). This paper follows Berger and Luckman's comment that reads: "It is important to keep in mind that the objectivity of the institutional world, however massive it may appear to the individual, is a humanly produced, constructed objectivity." (1966, p.78)

There is a great variety of conceptualizations of power, not all of which are mutually consistent. We do not intend to provide an exhaustive review of them here. Instead, our aim in this section is to describe how the article utilises Lukes' three dimensions of power (2005) and to show how they can be linked to the concept of historical neo-institutionalism (Whitley, 1999). This link is important when studying organisational change, given its potential to unlock the ways in which different social actors come together and/or dispute organisational change.

Lukes (2005) has delineated three dimensions of power. The first is based on Dahl (1961) and focuses on the domination that takes place when one of the parties has the power to secure its objectives over the others. This first dimension of power is based on the capacity to allocate the distribution of resources, this being the visible and coercive dimension of power. Dahl (1969: 80) defined power in behavioural terms, arguing that 'A has power over B to the extent that he can get B to do something that B would not otherwise do'.

The second dimension concerns the hidden power or the power of 'non-decision' (Bachrach and Baratz, 1963), that is the ability of powerful actors of shaping the negotiating agenda – what must be decided and what is left out or forgotten. Power over others can be exercised in subtle ways, which involve 'the mobilization of bias', which prevents some groups from enhancing their own self-identified interests (Bachrach and Baratz, 1970). For Hardy (1996) the second dimension of power 'resides in organizational decision-making processes which incorporate a variety of procedures and political routines preventing subordinates from participating fully in decision-making' (ibid.: 7). Hidden power can thus be used to exclude the interests of less powerful actors from formal or informal decision-making. Clegg et al. (2006: 210) argue that the second dimension of power comes into play, especially, when choices are made concerning what agenda items are ruled in or ruled out; when it is determined that, strategically, for whatever reasons, some areas remain a zone of non-decision rather than decision. As Foster (2007) demonstrates, the simple act of requesting an adjustment can be interpreted as a challenge to managerial prerogative.

The third dimension – the invisible dimension – concerns how powerful actors exercise domination over others 'by influencing, forming, or determining their own self' (Lukes, 2005: 27). This third dimension of power identifies 'the means through which power influences, shapes or determines conceptions of necessities, possibilities and strategies of challenge in situation of conflict' (Gaventa, 1980: 15). It investigates the power of ideas and meanings, but is potentially the most difficult to observe while also being the most significant because it relates to the creation of interests. This dimension has been criticised because of the difficulty of obtaining invisible information. As Dundon et al. (2014) observe, there are inherent problems with the third dimension of power given the ambiguity of apprehending ideological intent and preference-seeking behaviours. Gaventa (1980) argues that invisible power can be investigated by describing and analysing the changes that take place over time. Hardy (1996) explores the third dimension of power by showing how organisational groups legitimise their own demands and 'delegitimise' those of others by managing the meaning and implementation of symbolic actions. Knights and McCabe (1999) provided an in-depth analysis of power related to the process of introducing TQM in a retail bank and showing how organisational members engaged in significant acts of power by appealing simultaneously to resources, processes and meaning. Knights and McCabe claim that organisational actors are considerably constrained by organisational culture and history and they suggest that, in order to analyse the different dimensions of power, it is necessary to pay more attention to how power is embedded in relationships.

A similar concept to the third dimension of power can be found in Daft and Weick's (1984) notion of organisations as interpretative system. Weick and Sutcliffe (2003) argue that "whatever justifications people voice tend to have considerable tenacity, they tend to influence subsequent perceptions and action, and they focus disproportionately on information that confirms their validity rather than disconfirms it."(ibid:78). However, Weick (1979) also argues that shared meanings may be revised, and even destroyed which makes it possible for new meanings to be created. Changes in the cognitive models and sensemaking capabilities, which can be a result

of both educational as well as technological changes over time, are likely to allow the workers to represent and understand events associated with them under a new lens.

There have been other criticisms of the Lukesian approach. Dundon et al. (2014) argue that one of its limitations is that its key unit of analysis is the individual level and power is in principle something negative and restrictive. Edwards (2006) maintains that the three-dimensional view of power would gain from taking into account the 'positive-sum aspects of power, namely its "productive" and "transformative" aspects'. Therefore, when analysing the dynamics of power, it is important to consider the complex and shifting nature of whatever is defined as interests. The idea of domination needs to be complemented with the possibilities of contestation and change and the positive-sum aspects. The idea is that contradictions are inherent in every system and that for this reason contestations of dominant meanings are possible and even desirable. Dundon et al. (2014) builds an interesting framework to analyse the transposition of the European Union (EU) Employee Information and Consultation (I&C) Directive. The authors combine the concept of a regulatory space with the three faces of power and show that the way employers have occupied spaces in each of the faces of power involves different coalitions of actors fighting for domination, as well as the institutions that frame their competition or cooperation.

We acknowledge the importance of systemic power, the influence of the national institutional context over production as well as maintenance and change in relation to the three dimensions of power. Institutional power is concerned with the support available in any society for particular modes of governance and models of management. Institutional analyses have been used mainly to elucidate the 'second' and 'third' dimensions of power (Hall and Taylor, 1996), although the first dimension is also an important feature of comparative institutionalism. As Whitley (1999) shows, an important aspect of the European institutionalism approach is its emphasis on the varied ways in which social groups are constituted inside and outside organisations as well as their continuous competition for power over resources. Historical institutionalists have played special attention to the way in which institutions distribute power unevenly across social groups (Hall and Taylor, 1996). Fundamentally, institutions are sources of power. Ferner et al. (2012) argue that a critical and direct connection can be perceived between institutional analysis and the different dimensions of power in Lukes' work (2005) 'by illuminating in particular how the cognitive and normative "pillars" of institutional arrangements embody power relations and serve the interests of powerful actors, and how such pillars may be susceptible to contestation rather than being seen as external givens' (ibid.: 166). As institutions facilitate and restrict the actions of different social groups in unequal ways, the effects of institutions on power are not evenly distributed. Institutions such as rules and procedures governing economic activities are not neutral selectors of outcomes (Dowding, 1996), as costs and benefits are not equally allocated and the distribution of power among organisational groups is not the same in different societies. Rules and norms governing property rights, corporate governance, employee participation and co-determination differ significantly as a result of variations in particular political systems and institutions (Whitley, 1999).

Dundon et al. (2014) argue that viewing the governance of work in such multi-dimensional ways requires analysing exchanges of power between institutions and actors. Because institutions frame access to resources and the distribution of the respective outcomes, the resulting distribution might start by being considered as unfair by the less favoured, either in terms of the division of profit, working intensities or outcomes in respect of health and safety. Institutions shape the rules of organisational games by imposing constraints, but they also offer opportunities and tools from which new meanings and new responses can be created. In our view, the power of an actor does not have the same level of influence in the three dimensions of power, since individuals and groups (the corporation, trade unions, the media, etc.) dispute control over the shares of these different dimensions.

This article focuses on practices and analyses the production and negotiation of the meanings that shape those practices. The emergence of new meanings may shape the perception of problems, contributing to what Walton et al. (2000: 54) call the 'desirability of change'. One important theoretical issue is how the different dimensions of power have a direct impact on the institutionalisation of organisational practices, and in turn how institutions have an effect on the different dimensions of power.

## **THE UPSKILLING DYNAMICS OF THE DANISH LABOUR MARKET AND THE PRODUCTION OF MEANING**

The ways in which educational and vocational regimes interact with industrial relations systems in the formation of skills, workers' identity and the creation of career paths display great variations across national borders (Whitley, 1999). The cultivation of a consensus-oriented system is an important characteristic of the Danish institutional environment and industrial relations system (Knudsen, et al., 2011). In Denmark, as in other coordinated market economies, a consensual approach is the norm: once top management has formulated a strategy, the agreement of other stakeholders to implement the strategy has to be negotiated among different work

groups. Shop stewards and conveners occupy an entirely central position in Danish manufacturing plants. They are responsible for horizontal coordination, counteracting forms of hierarchical control (Rocha, 2009; Kristensen and Rocha, 2012).

The Danish Flexicurity (Madsen, 2004) system has been identified as a way in which employers can hire and fire workers easily, making firms more adaptable to changing economic conditions. A complementary feature of the system is that workers can use periods of low demand or unemployment to upgrade their skills through regular training. This dynamic in the labour market enables the workforce to acquire new knowledge and skills continually. The upskilling dynamic of the Danish labour market explains why Denmark presents one of the highest percentages of organisations characterised as learning forms: no less than 60% of Danish employees work in learning organisations (Lorenz and Valeyre, 2005).

Vocational education and training (VET) in Denmark consists of networks of organisations with connections at different levels where ends and means are continually being negotiated and receive inputs from a myriad of workplaces, trade unions and employer associations. The minister of education determines the guidelines for each VET programme based on the recommendations of these groups, which are able to analyse labour market trends and recommend new programmes and changes to existing ones. As a part of this system, work environment disciplines were included in the curriculum of all vocational schools in 1997 and attendance to the latter became obligatory for all students.

There is one single channel for the representation of employees' interests through the trade unions, which is directly linked to collective bargaining at the sectoral level and almost monopolises representation in the workplace. By having a seat on the works councils, shop stewards are able to influence corporate strategy and development (Rocha, 2009). These organisational features reduce the propensity of firms to pursue strategies that downplay workers' interests. Another important characteristic of "the Danish bargaining system" is that trade unions are strongly involved in the governance of vocational and further training institutions.

## METHODOLOGY

The research approach involves in-depth longitudinal case studies describing experiences (Eisenhardt and Graebner, 2007). The use of multiple cases provides rich data and the possibility to uncover patterns across these data, a process that can support the development of theory concerning complex social phenomena and that is appropriate for this exploratory study (Eisenhardt, 1989). This research project is part of and an extension of a large project initiated in 2006 covering thirteen Danish manufacturing companies. The initial project lasted three years and due to several unanswered questions, which emerged during the data analysis, the research was complemented with interviews in a major trade union association and in a vocational training school. The main issue to be addressed with the complementary research was the differences among groups of blue-collar workers concerning their ways of dealing with work environment problems. The analysis of data collected during the first phase clearly showed the contrasting meanings between different groups of blue-collar workers, the intention of the subsequent phase was to collect information, which would help to understand and explain the origin of these differences. In spite of having two separate moments of research, the author considers the second phase as a continuation of the initial project and not as a separated one as the second research phase was used to complement and illuminate the data collected in the manufacturing companies involved. The second phase was not a part of the original design of the project; it emerged as a necessity to clarify pending questions.

The three dimensions of power have been criticised because of the difficulty in studying invisible values. Edwards (2006) argues that one way to solve some of the methodological problems related to investigations based on the three dimensions of power can be addressed by adopting a comparative perspective because this makes it possible to analyse organisations and workers similarly in respect of relevant aspects and see how the same issues are handled. This makes it possible to analyse the different options and outcomes. Our comparative perspective is constructed between different cases viewed over time (the longitudinal perspective).

The data presented here rely on access to multiple data sources: interview data, longitudinal in situ observations and archival material from the companies under investigation. During the first two years, the companies were visited several times, both short visits for one hour to interview managers and OHS representatives and more intense phases where the researchers spent between two and five days with each company, interviewing workers, middle managers, shop stewards and OHS representatives. Some individuals were interviewed more than once and in few cases several times during the research project. Observations were also carried out on the shop floor. The researchers were allowed to conduct in vivo observations of management meetings and shop-floor meetings.

In a second complementary phase, data were also collected at a vocational school and the association of trade unions in order to evaluate changes in the H&S curriculum, the education of the workforce concerning the work environment and the socialization of students at vocational school workshops. The author interviewed two trade-union officials at the confederation for metalworkers who were responsible for work environment education and curricula. A group interview was conducted at the vocational school in order to collect data concerning the changes in the way work environment education was dealt with over time.

During the field studies, we paid special attention to narratives of change, conflict and consent between workers and managers as well as in the education of workers at vocational schools and at the courses provided by the association of trade unions. We looked at how the various actors expressed their meanings and understandings concerning different aspects of health, safety and risk. We investigated the changes in meaning concerning what was considered (un)healthy and risky.

### Data Analysis

Miles and Huberman (1984) suggest that ‘triangulation is a state of mind. If you self-consciously set out to collect and double-check findings, using multiple sources and modes of evidence, the verification process will largely be built into the data-gathering process...’ (p. 235). The collected data were coded and categorized in order to facilitate abstraction and theory construction. Coding proceeded primarily on two levels: 1) using a word list of concrete terms grounded in the data (work environment, risk, safety committees, safety representative, continuous improvement, participation, performance, accidents and education); and 2) using a word list of more abstract terms (power, hidden, invisible, control, management systems, sensemaking, etc.) arising from terms found in the literature (Eisenhardt, 1989). During axial coding, the authors developed further conceptual domains by comparing themes both within and between transcripts (Corbin and Strauss, 1990).

**Table 1** - Organisations and Number of Interviews

Organization	Number of employees*	Industry	Number of interviewees	Interviews conducted
Wing	150	Manufacturing (specialized product)	Managers - 2 Workers - 8	2006/2008
Shore	220	Manufacturing/offshore (highly specialized products)	Managers - 2 Safety Representatives - 2 Workers - 14	2006/2009
Valves	400	Manufacturing (high quality mass production)	Managers - 3 Safety Representatives - 4 Workers - 25	2006/2009
Association of Trade unions	Not relevant	Metal Manufacturing	Responsible for Work Environment Education 2	2011
Training School	Not relevant	Not relevant	Teachers - 4	2012

## THE POWER OF NEW MEANINGS TO CHALLENGE OLD PRACTICES

When the research started, many of the current organisational and regulatory changes had already been under way. However, the changes were so recent that workers and managers could easily relate their current situation to the conditions found in the recent past, and in all three cases the culture of the ‘hard-core’ worker was the dominant one, that is, the image of the strong man as the ideal manufacturing worker (Ajslev et al., 2016; Grill et al, 2015). In one of the companies (Shore), during the initial phase of the research the H&S manager was in the process of introducing changes in OHS in one of the departments. As most departments in the company had already been reorganised, she could easily compare the different departments and the dominant images of the skilled worker. She related her experience with the previous culture surrounding OHS:

*'It was normal and even acceptable for managers and workers not to pay "unnecessary" attention to H&S. It belonged to the realm of small things. There was a nucleus of hard core people with very strong unhealthy and unsafe habits (third dimension), supported by top management...they were very important because they were our best workers ... I did not know how to change their attitude towards H&S. I was afraid that it would never change; it is changing, but I'm struggling.'*

The third dimension is interpreted here: the traditional metal-worker's identity of the 'hard-core man' who was considered tough enough to withstand any hardship, including extremely unhealthy and unsafe working conditions (Ajslev et al., 2016), which run counter to the strong safety procedures. The H&S representative at Valves explained:

*"There was no focus on work environment issues; in our organisation it did not matter. The goal was to make money; there was no attention to safety... workers could bypass security devices in the machines to get the work done. I have seen really ugly accidents taking place here".*

The trade-off between making money and saving time on the one hand and safety on the other was exposed by several workers in the three companies. The characteristics of past safety cultures were clear to both workers and managers.

In the three companies, in the first years of the 2000s, new demands for OHS started being made by both external and internal actors. Understandings of H&S among workers had already started to change and the accumulation of new meanings was strongly challenging the incumbent safety culture. This attitudinal change among young workers was the result of a new law of 1997 that made it obligatory to teach health and safety procedures in all vocational schools and the new ways of socialising them at workshops in schools. During the same period, trade-union campaigns paid increasing attention to health and safety concerns. Gradually, new meanings defining health behaviour started being discussed, and the health culture and risky behaviour started to be brought into discussions and challenged. At Shore, one highly experienced skilled worker recalled the initial conflicts:

*'There were verbal fights on the shop floor where the younger workers scolded their elders when they infringed any safety or health rule. At this point in time, breaking the safety rules became a matter for a severe discussion'.*

At this time, Danish companies participating in international markets were also coming under pressure from their customers to introduce certified management systems for health and safety, and over time, such certification became essential for exporting firms. There was a growing misalignment between traditional H&S practices and the demands of the new employees and customers. The trade-off between making money and safety behaviour could no longer be permitted. The new H&S manager gained a very important ally: the shop stewards and safety representatives, and they started working closely together to change meanings and behaviour among workers.

At Valve and Shore, new collaborative arrangements were created between management and safety representatives, in spite of the different levels of involvement of the groups in the two companies. At Valves, the cooperation progressively included new work groups and individuals and helped to create a new forum in which knowledge and new meanings could be stimulated and applied. Collaborative discussions became part of the new routines across departments and groups.

At Wing, knowledge-exchange groups were not created, challenging meanings were suppressed by management and in general avoided, and external pressure never really materialised. In 2006, dissatisfied workers started leaving the company due to the improved conditions in the labour market where there was a surplus of jobs. The solution the company came up with was to start contracting Polish manpower. This, in turn, made the exchange of knowledge and the creation of safety committees even more difficult. The weak knowledge of the immigrant labour force concerning Danish industrial relations institutions also contributed to a clear decoupling process between the bureaucracy of a certified management system and the practices on the shop floor.

## **CONSOLIDATION OF NEW MEANINGS AND NEW PRACTICES**

Currently, all vocational schools have their own workshops, which makes it possible for them to introduce work environment issues in practice. This is quite different from the past where the school provided a theoretical education but no practice, the latter being reserved for company apprenticeships. The new curriculum implies that the changes in the way students learn and practice H&S have been integrated, not only into theoretical education but also into socialisation on the shop-floor. As a result of what could be called a 'sensemaking' exercise (Weick,

1995) students set a process of interpretation and enactment that results in a reconceptualization of the health and safety. This change plays a quite important role in what is considered an acceptable work environment. At a vocational school, an instructor commented:

*'Today one student told me that he would not like to return as a skilled worker to the same workplace where he did his apprenticeship, the reason being, he told me, the bad work environment: the firm does not have proper ventilation.... H&S is integrated throughout their education and mostly in the way they [the students] must behave at our workshop.'*

As a consequence of the changes in curriculum and training at the vocational school, the future skilled workers are socialised into new meanings of H&S regarding what health is, how it should be achieved and how to preserve it. Valves has institutionalised a scheme enabling workers not only to rotate among different production groups on the shop floor, but also to spend some time in different staff functions. The firm has turned this scheme into a general H&S training programme, which encourages employees from different levels and departments to rotate and learn how other departments solve their H&S problems, as the interviewees made clear in many instances. A skilled worker, who was a team leader, recalled his first experiences at work:

*'If we have an accident or a near miss we work together in the root cause analysis; we verify, discuss, report, learn continuously from any incident. It is not possible to forget the new procedures – we can be fired for that.'*

In two cases (Shore and Valves) new information and the accumulation and diffusion of new knowledge among workers have been an important source over time for changing meanings: what acceptable conditions look like and what should be avoided have changed for most of the workers we interviewed.

In the Wing case, this process did not take place, and the process of transformation never started. Young workers avoid the firm because of its very bad reputation in the labour market regarding working conditions and even the older generation left it because of this. The factory mainly used skilled immigrant workers who would not stay for long and seemed to be more preoccupied with their incomes in the short run than with potential health problems. During our field studies, it was clear that the company never attempted in any serious way to improve the work environment beyond a minimal level. It was clearly seen in the precarious work environment conditions.

The accumulation of new understandings has often been piecemeal rather than revolutionary, but its effects over time are profound. A change in meaning represents a change in the way workers perceive what is acceptable, what is not, what adequate behaviour consists of, and what must be discouraged. Ways of defining work environment problems and how organisations must deal with them have also changed. One skilled worker with many years at Offshore Construction told us about the relationship with safety in the past and how it had been secondary to financial concerns:

*'We had people drinking alcohol and smoking at work...here we have a quite hazardous environment.... Many workers were dissatisfied with this situation.... Because of our pressure some years ago, the alcohol policy changed and now it is forbidden to drink at work and you need to go outside to smoke: it was a victory for us.'*

Over time, the concern to maintain a healthy and safe work environment has become more central to workers. In many situations, the use of safety equipment makes the work more difficult and expensive. However, it is no longer acceptable to bypass security procedures, nor to think first in terms of performance and financial results. Health and safety acquired a new status at Shore and Valves. As new understandings of H&S became dominant, the number of suggestions for improvements increased (in Valves and Shore), meaning that more time needs to be set aside to evaluate these demands and suggestions, to negotiate and implement them. As a result, the safety representatives need to dedicate more of their working hours to H&S issues. In recent years, they have acquired a new and more powerful status. Valves instituted a full-time safety representative.

## CONTEXTUALIZING POWER

The power of management to initiate and control H&S needs to be contextualized. In some cases, there was close collaboration between management and shop stewards and safety representatives. Under the Danish industrial relations system, workers have rights of co-determination. Danish trade-union representatives have the ability to influence management in respect of different aspects of the firm and consequently top management needs to negotiate organisational changes at different levels. A shop steward and safety representative gave an interesting example of both cooperation and the possibilities to influence the agenda:

*'I have been involved with H&S since 93/94... Me, our safety manager and one of our managing directors...we have decided to do it [certification] with the help of a consultancy firm*

*But, you know, not much attention was given to continuous improvement and that kind of thing. Nowadays, both employees and customers demand improvements in the work environment.... We have a very good system now, and I have the key (literally) to the suggestion box, and I participate in the whole process, from collecting suggestions to implementing them.'*

The key to the box is a perfect example of the second dimension of power: the shop steward is able to read and decide which issues are going to be discussed with workers and managers in their weekly general meetings on H&S. It is the key to discussing new meanings and new practices, the forum to which new ideas are brought in and others condemned. One safety representative at Valves explained the changes that had taken place in relation to how health and safety issues are dealt with in her organisation. She pointed to changes in how workers participate in the design and introduction of new technologies as a slow but effective process of acquiring more and more influence on how the organisation deals with health and safety:

*'It slowly started to emerge that safety representatives had to join. Now we are there every time. We are part of all meetings and the talk about new machines and stuff like that. The safety representatives are always there....'*

As the number of suggestions for improvements increases, new organisational forms are created to cope with this demand. It is very important to relate this to the second dimension of power, the power to avoid and effectively prevent issues from even being raised (Lukes, 2005). The new organisational arrangements make it possible for employees to raise a great variety of issues and discuss their suggestions and disagreements. The H&S committee reduces the ability to avoid issues that are only considered important to workers or managers, for it is now exposed to a wider audience.

The external surveillance over the adoption of new practices does not stop when these practices are adopted and implemented: non-compliance with new demands can lead to negative consequences, such as the loss of customers and contracts.

The influence that H&S has acquired at different organisational levels broadly reflects Lukes' (2005) three dimensions of power. The different faces of power were present in the transformation of how H&S was seen (meanings) and dealt with (decision to incorporate or not H&S into the internal discussions) in the two organisations. One skilled worker explained how the system has been evolving:

*'We did not have any system for suggestions previously; no one paid attention to H&S issues; it was not considered an important issue (second dimension). Really, you know, a metalworker needed to be a tough guy (third dimension). The picture is completely different now: the new employees, the young guys, they don't accept all kind of conditions anymore (third dimension). The old people changed their way of working (by acquiring new knowledge/meanings) or were forced to do that (the first dimension).'*

The power to define what H&S problems are and which ones should be addressed has moved closer to the shop floor and the safety committees, which is a clear change in the second dimension of power: the power to decide what is in the agenda. When institutionalised practices are contested by a number of actors (new employees, H&S managers, customers, certification bureaus) and start being discussed and taken for granted, behaviour and assumptions are made 'visible' by the collision of different sets of rationalities (Ferner et al., 2012). A skilled metalworker with several decades of experience understood the changes in procedures as a change in identity, a new way of framing problems:

*'You really need to change yourself. When at sea assembling some equipment, it is difficult and can be dangerous because of the conditions or lack of space, but we thought first how to solve this problem, get things done. Now we think how to be safe and solve the problem, which safety procedures need to be taken into consideration. We may need to use more time and resources, but we do not bypass security procedures... before, the main focus was to get things done.'*

The two cases, which moved to a new constellation of H&S practices and meanings are similar in four respects: (1) the companies had been under pressure to introduce new procedures for dealing with health and safety issues; (2) they had two contesting groups in the recent past: those who advocated health and safety as the essential issue and those who prescribed a very subordinated role to H&S; (3) changes over time in the meanings of H&S among both managers and the workforce formed a different coalition to support the upgrading of H&S practices; and (4) over time, actors located at different levels converged in support of healthier and safer organisations and managers and workers developed a foundation of shared meanings for building a safer and healthier workplace. In the third case, which did not change much in relation to H&S, the contending groups never created a new coalition because those who were dissatisfied left the company. There was no indication that

new employees were bringing any new meanings to H&S issues, management never engaged in attempts to improve H&S and there was no pressure from the industry or customers to upgrade H&S (see Table 2 for an overview).

**Table 2** – Three companies compared

	Valves	Shore	Wing
Coercion/control over H&S resources	<p>From centralized decision making to decentralized</p> <p>Decision-making moving down to middle management at different departments</p> <p>Limited pressure from the industry to upgrade</p>	<p>Decision-making moving down to safety committees</p> <p>Strong pressure from the industry to upgrade</p>	<p>Centralized and top down</p> <p>No pressure from the industry to upgrade</p>
Hidden/Process	<p>From weak to strong participation, slow process of change</p> <p>H&amp;S coordinate mostly by management</p> <p>Currently weak avoidance of H&amp;S issues</p> <p>-Strong meaning creation and exchange at H&amp;S groups</p>	<p>From weak participation to conflict and then to strong participation</p> <p>Coordinate by management and safety representatives-</p> <p>Weak avoidance of H&amp;S issues</p>	<p>Strong avoidance of participative process led to exit</p> <p>Strong avoidance of H&amp;S issues</p> <p>Strong non-decision</p> <p>Immigrant Labour with weak participation</p>
Invisible/Meaning	<p>Meaning changing was supported by middle management</p> <p>External training and internal knowledge exchange</p> <p>Legitimizing new meanings</p>	<p>Strong role of new employees in the meaning changing process</p> <p>H&amp;S committees strongly cooperate with management has facilitated change</p> <p>Legitimizing new meanings</p>	<p>Evolving meanings were suppressed by exit and immigrant labour</p> <p>Unchanging dominant meanings</p>

<p>Institutional Environment</p>	<p>Facilitated participation and cooperation</p> <p>Continuous upgrading of skills bringing new meanings</p>	<p>Facilitated participation and cooperation</p> <p>Strong influence due to the majority workforce composed by skilled workers bringing new meanings</p>	<p>Weak influence due to exit of Danish skilled workers</p> <p>Weak influence of educational institutions due to high percentage of immigrant labour</p>
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## DISCUSSION AND CONCLUSIONS

This article has analysed the changing organisational practices associated with H&S. The shared meanings of H&S among workers and managers in the recent past was an unimportant issue that reinforced the subordination of H&S to immediate productive and financial success. Managers as well as workers took on the values that justified this behaviour and supported the value system without serious criticisms regarding the unhealthy and unsafe ways in which tasks might be performed. Questioning these unhealthy strategies was not part of the whole system of values that workers and managers subscribed to and H&S was certainly a subordinate issue for both groups. In the terms used by Berger and Luckmann (1966), most health and safety behaviour in our cases was habitualized action and as such had turned into institutionalised behaviour.

Over time, meanings and values have changed and their impact on practices shows that an institutional actor (vocational institutions) not directly related to employers or employees can have an impact on the production of meanings, indicating that the foundations of the third face of power may rest outside a direct relationship. The educational and vocational institutions provided meanings of H&S, which were used by new entrants in organisational arenas to legitimise their own values and ‘delegitimise’ those of others through the management of meaning and the deployment of symbolic actions (Ferner et al., 2012).

Over time, in two cases, the organisations have changed incrementally the way they dealt with H&S. Education and the dissemination of knowledge had a direct impact on the transformations of meaning, bringing to the surface demands, which had previously been suppressed. Educational institutions challenged a central assumption, namely that health and safety issues should be subordinated to financial rewards and productivity. These new meanings were initially brought into the organisation by younger workers who had acquired greater knowledge and information about health and safety in the vocational schools, thus challenging the dominant meanings and interpretations concerning work environments. Eventually, over time, and through processes of re-education, older workers also started challenging their own established organisational meanings concerning H&S.

The emergence of new meanings triggered the ‘problematism’ of old practices and was made possible by the industrial relations framework (co-determination at the organisational level), while the strong influence of trade unions over the vocational system played an important role in the process of change. Here, the more egalitarian division of power between employers and trade unions greatly affected the possibility of the two groups to set the agenda for discussions and deciding what needed to be discussed. The ability and strong influence of shop stewards and H&S representatives to bring the new meanings into the discussion was quite important in diffusing these meanings. The participatory decision-making process, both as a characteristic of Danish industrial relations and as a new model of health management, reduces the ability of a simple actor to leave aside the demands that have been brought to the negotiating table (second dimension). The lack of direct and total control by any specific group of the formation of meaning is revealed in the transformation that occurred in how health and safety issues are understood by both workers and managers.

The article has shown how national institutions may be a source of change and not only in the reproduction of institutionalised practices. Different generations of workers had established patterns for what was considered (un)healthy, (un)safe and risky, so changes in practices were necessarily related to changes in the dominant understandings of each of these elements. This analysis corroborates the complex and shifting nature of ‘interests’ (Edwards, 2006) and meanings and the ways in which Lukes’ three-dimensional view of power and Weick’s concept of sensemaking need to be seen as embedded in institutional frames and their evolution over time. In two

of the cases discussed here, the institutionalised practices of the ‘macho man’ or ‘hard-core’ culture were deinstitutionalised by those demanding healthier and safer practices.

The comparison of continuity and change in the different cases is interesting in that it sheds light on how the different dimensions of power interact to sustain organisational models or trigger changes. The changes occurred when the understandings of H&S among workers and managers were aligned to support healthier and safer practices. When divergent understandings and meanings predominated – as in the Wing example where dissatisfied workers with different understandings that challenged current practices left the company – changes in the organisation of H&S did not take place.

We show that currently a company can hire immigrant European labour and start employing less organised and less demanding workers in order to avoid the greater demands of local workers. Other companies may engage in strategies to make sure they are always working above local standards and institutional requirements in order to attract the best local workers and keep their reputations with demanding customers. Even under the same self-regulatory framework, organisations may present quite different ways of coping with the imposed demands.

Weick (1988) argued that commitment to specific patterns of action and the resolute justifications that support them are likely to generate blind spots among organisational actors. Weick (1995) discusses the effect of the strong pre-statement and pre-construction of a given situation is likely to provide a powerful frame of reference blinding organisational actors to emerging factors pointing to the contrary. Actors who commit to a specific frame are likely to seek confirmatory and avoid disconfirmatory evidence (Weick and Sutcliffe, 2003; Maitlis and Sonenshein, 2010). Therefore, changes in the way workers and managers understand H&S can take years to solidify. However, as we show, over time, the introduction of health and safety courses in the curricula of vocational schools caused embryonic changes in the meanings of health and safety among both workers and managers. With the introduction of policies of self-regulation, these new meanings gained space and had a positive effect on the pursuit of healthier and safer workplaces. The diffusion of new meanings at different organisational levels accumulated over time, supporting new dominant collective understandings of OHS practices. When actors acquire new knowledge and construct new critical understandings of current practices, they are likely to start asking for new alternatives of action, challenging taken-for-granted assumptions and working to delegitimise previously established understandings and practices. In our cases, it affected how health was understood, how it should be pursued and who was responsible for doing so.

This study has also extended the empirical application of Lukes’ theory of power by addressing some of the methodological weaknesses that have previously been identified in its use. The article has linked the institutional sources of power to the different dimensions of power. Future research might compare how local institutions translate participation into practice (see Dundon et al., 2014) and how work-force education and socialisation might affect the management of H&S in different countries in a cross-national perspective. This would shed light on how differences in educational backgrounds and industrial relations systems can affect H&S outcomes.

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