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Special Issue

Working without limits ? Re-organising work and reconsidering workers' health

TUTB-SALTSA Conference

SPECIAL ISSUE PRODUCED IN ASSOCIATION WITH THE SALTSA PROGRAMME

editorial

The reason why the TUTB set up a joint conference on "Working without limits? Reorganizing work and reconsidering workers' health" with the Swedish SALTSA programme was our belief that the organization of workplace safety and health have to be tackled together to address what are growing realities of workplace health and working conditions for millions of European workers, like stress, bullying, work intensification and workforce fragmentation.

That is also a challenge to the trade union movement, because work organization is central to trade union activity and collective bargaining. A combined approach to work organization and health at work issues means debating the linkages between legislation and collective bargaining, but also where the facts on work organization and workplace health fit into collective bargaining and the legislative process.

The TUTB and the SALTSA programme put together a conference with this in mind to throw up a bridge between researchers and trade unionists and highlight the interconnections across the different fields of study and trade union experiences. The conference was split into full session discussions and workshops with three European industry federations based on European reports looking closely at changes in work organization and health at work trends.

The focal sectors - business services (road transport), personal services (hospitals and health care) and the manufacturing industry (motor vehicle subcontracting) - are all ones where work organization has changed significantly and where health at work issues have come onto the European agenda. The papers given in each workshop showed how far work intensification has become a fact of life in each sector. Rush jobs, the ceaseless winkling-out of 'non-productive' time and juggling the competing demands of customers, patients, management - all conflicting demands, often dealt with at the front-line by workers regardless of whether they are able to or not - are pointers to how we are now working without limits ! The workshop reports also emphasized the gender dimension : there are distinctive gender issues in all the sectors looked at, which clearly highlight the failings and loopholes of current law on such things as musculoskeletal disorders, for example.

The Dublin Foundation's presentation of the findings of the 3rd survey on working conditions confirmed the trend reported in the previous 1995 survey : increasing time-pressure of work for most workers, and physical health complaints unchanged or rising. Above all, the report confirms that two indicators used at European level (the number of accidents involving more than three days off work and the number of fatal accidents) are not adequate markers for working environment quality.

Working without limits ?
Re-organising work and reconsidering workers' health

TUTB-SALTSA Conference
25-27 September 2000

Photos : Etienne Bernard

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The closing panel discussion and the two rapporteurs' reports on the conference proceedings also pointed up the widening gap between the paper rules and their application, and the failure to properly implement the principles of the 1989 framework directive : the participation rights of workers and their representatives, and a risk assessment covering not just the physical aspects of the working environment, but the organizational ones, too.

More than one contributor pointed out how employer's liability - a pivotal concept in the framework directive - is being watered down by the growing number of SMEs, where working conditions are increasingly customer-driven, and decentralization of responsibilities within the corporate structure.

Even as the debate on the Commission's forthcoming health and safety at work programme is gearing up, the European context is "supportive" in words at least. There has never been more talk of the need for quality jobs and compliance with existing legislation in the matter; but at the same time, there is also talk of simplification and the need for changes to work organization.

The conference proceedings gave a stark warning that a regulatory strategy was clearly needed, but had to be broader-fronted to cover a wider range of measures, each with its own specific limits, like collective bargaining, economic incentives, and so on.

At European level, legislation is, and must clearly stay, the cornerstone of public action on workplace health protection. That means that the framework directive's principles must be properly followed through to address the changes, but even more so, that the essential job of the European regulatory authorities, the area where their writ runs most effectively in their rightful sphere, is to ensure that these principles are applied to the widest possible range of workers and firms, otherwise the effort is all for nothing.

In the conference conclusions, the TUTB vowed to continue working with the SALTSA programme to build bridges between research and trade unions. Relations between work, work organization and health are full of complexities. That means bringing analysis to bear, but also marshalling knowledge about what life is like on the shop floor !

We owe a debt of thanks to our SALTSA colleagues with whom we staged this conference, as well as everyone - speakers, researchers, rapporteurs and publishers - who helped make it a success.

Marc Sapir,
Director of the TUTB

introduction

Work itself and work conditions have changed rapidly during the latter part of the 20th century. Many traditional forms of production, work procedures and tasks have vanished while many new ones have been introduced and developed further. As a result, the spectrum of work-related morbidity has changed drastically.

In an eve-of-millennium editorial[1], Professor Sven Hernberg wrote in general terms: "In the developed world, many chemical and physical occupational hazards have been controlled, with the result that many classical occupational diseases have almost disappeared or at least become milder. Long-term non-specific effects, such as cancer and adverse pregnancy outcome, have certainly existed for a long time, but modern epidemiological research has been able to link some of them to the work environment, the first requirement for successful prevention. General morbidity, such as cardiovascular diseases, allergies, musculoskeletal disorders, as well as mental ill health, has also been shown to be work-related in many instances. These categories of morbidity have substituted clinical occupational diseases as the number one problem in occupational health. Especially psychosocial problems and their health effects have received much attention lately".

This description certainly holds true also for Sweden. Furthermore, during the 1980s and the early 1990s the labour market in Sweden underwent major, interlinked changes, partly related to the globalisation of the economy. A rapid and drastic increase in the unemployment rate resulted from the continued rationalisation of heavy industry, deep cuts in the public sector and substantial immigration. Employment and training for new jobs became the prime issue for labour market policy. Part-time and temporary jobs, as well as "self employment" and overtime increased, with adverse health effects[2]. Women achieved roughly the same employment rate as men during the 80s, and pay and position gaps highlighted gender issues. The costs of sick-leave, early retirement, and worker's compensation increased dramatically when people with drawbacks like reaching older ages, ceased to be as attractive as they had been during the 1980s.

There was also disappointment with the fact that early retirements and exits from the labour market increased rather than decreased in spite of the major expansion of occupational safety and health resources during the 70s and 80s. New approaches to prevention were required, with a greater focus on the integration of work environment management with planning, work organisation and production management.

Developments during the 90s had certainly not made occupational safety and health research into chemical, physical and ergonomic factors unnecessary, but it became clear that additional new questions had to be asked, like :

- How can work environment aspects be integrated into companies' and organizations' development processes ?
- What health effects do short- and long-term unemployment, or non-permanent employment, have on different groups, ages and sectors ?
- What health effects may different work schedules have, and how will they affect tiredness, recovery and sleep quality ?

[1] Hernberg S. Editorial. Towards a new millennium. *Scand J Work Environ Health* 25:465-469, 1999.

[2] Isaksson K, Hogstedt C, Eriksson C, Theorell T (eds). *Health Effects of the New Labour Market.* New York, Kluwer Academic/Plenum Publishers, 2000.

What knowledge and research is needed for healthy work in the New Century ?

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- What are the combined health effects of work environment, living conditions and lifestyle factors ?
- How much of the increasing health inequity can be explained by work-related factors ?
- How does the work environment influence ageing ?
- Which types of work organisation support, and conversely threaten, sustainable work ability ?
- What obstructs preventive measures to create a safe work environment when the necessary knowledge is available ?
- What remit and organisation should occupational health services have with the growing prevalence of temporary and multiple work places ?
- Are laws, internal control, quality control or "continuous improvement" the best procedures for work environment management ?
- How are health and health behaviour affected by different social insurance and workers compensation systems ?
- What savings does a good or bad work environment achieve for business and for society ?

The Swedish research agenda

Those changes and knowledge needs in the society have influenced the working life research agenda in Sweden. In 1995, a new research institute was created under the Ministry of Labour, called The National Institute for Working Life. This new institute was formed from the merger of the former National Institute of Occupational Health, NIOH, some parts of the Work Environment Fund and a smaller institute, known as The Working Life Center, WLC.

The NIOH had mainly researched into traditional occupational safety and health fields, although including ergonomics and the psycho-social issues, with a staff of 300. The WLC had about 75 staff studying industrial relations, work organisation and gender issues, learning at the workplace and labour development processes.

The new institute's remit was to examine Swedish labour market policy, and how labour market conditions and opportunities have changed since Sweden joined the European Union (EU). Work organisation and marginalisation of groups on the Swedish labour market were included in the Institute's broadened terms of reference. Occupational health remained the priority area, but it was clearly parliament and government's intention to shift resources towards labour market and work organisation research, but also to promote multilevel and multidisciplinary research.

The Institute has now a staff of over 500, including 35 full professors, 35 associate professors, another 100 post-doctoral researchers and 140 doctoral students tutored by Institute researchers (70 of whom are employed at the Institute). Most are situated in and around Stockholm, and 90 people are employed at a regional institute in Umeå, northern Sweden. A further four regional institutes opened in 1999 have 10 - 20 employees to date, but are expected to expand to 20 - 30 staff each. The institute has a research, development and training budget of 40 million euros for 2001. The institute runs what is known as the SALTSA program for research on working life issues from a European perspective and in the interests of the employees together with the three Swedish trade union confederations.

Concluding remarks

The shift in direction for the NIWL has meant new resources for labour market and regional development research as well as some multidisciplinary programmes for work organisation research issues. Ergonomics and musculoskeletal disorders have been prioritised. The new regional institutes will facilitate the integration between research and various development projects. The large number of positions for doctoral students will provide an excellent basis for future recruitment of working life researchers.

Research findings, and the researchers themselves, now have a much higher media profile in Sweden. Their appearances have probably quadrupled between 1995 and 1999 due to increased relevance and expertise in contemporary issues, e.g. stress, new forms of labour contracts, call centres, electromagnetic fields, computer ergonomics and skin disorders.

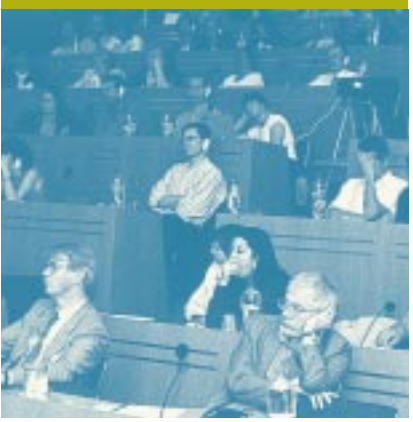
A comprehensive assessment of how successful the integration between the former institutes has been remains to be made. It will embrace the quality of research, but also political priorities, the need for independent knowledge in the different areas and the Institute's ability to deliver the right knowledge at the right time.

There is a danger of resources being drained away from work-related health issues towards the new focus on other areas in working life research. So extra resources must be found within the public health research sector if occupational health research, including work environment management, is not lose out.

Other occupational health institutes, particularly the Finnish Institute of Occupational Health[3], have also broadened their research scope to include work organisation issues, work ability and the health effects of labour market changes as discussed in the recent workshop on "Strategies for Occupational Health Research in a Changing Europe"[4]. However, the Swedish institute seems to have the widest span of research areas from molecular biology to labour law and research on regional development process. The strategy workshop concluded that :

- Occupational health research is a basic tool to achieve healthy work for all.
- Healthy work embraces a vision on a healthy work environment, healthy organisations and conditions which promote health and development for the individual worker.
- Occupational health research addresses the social issues of healthy work, and so is a field of social science and public health science research.
- The role of occupational health research institutions is to produce action-relevant scientific knowledge, and to implement knowledge that creates healthy work for all.
- Occupational health research institutions are centres of scientific excellence and centres for the education of research staff and occupational health practitioners.
- Occupational health research institutions should collaborate between themselves and with private and public stakeholders to pursue practicable and cost-efficient research.
- Occupational health research institutions must develop communication skills in dealing with a multiplicity of stakeholders with a view to implementing scientific knowledge in practical workplace interventions.
- Occupational health research institutes must pay particular attention to vulnerable groups and to negative developments in terms of work-related health and quality of life.
- The European Union should allocate discrete funds for European occupational health research and research co-operation.

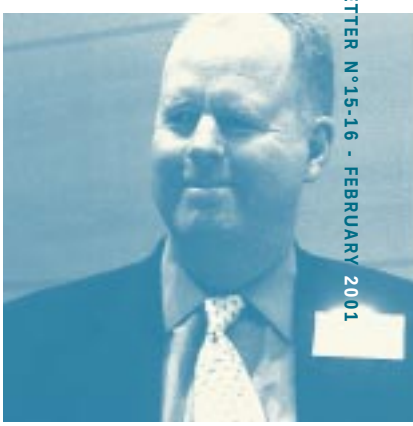
Christer Hogstedt



[3] Rantanen J. Research challenges arising from changes in worklife. *Scand J Work Environ Health* 25:473-483, 1999.

[4] Westerholm P, Marklund S (eds), *Strategies for Occupational Health Research in a Changing Europe.* Stockholm, National Institute for Working Life, 2000:12.

1. Labour Market and Work Organization Trends



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Changing work organization in Europe

Abstract

In increasingly fierce global markets there is a continuous pressure to deliver faster and better products and services at lower prices. But quality, speed and flexibility will, in the long term, not be enough to create growth and employment in European regions. They have become, in Porter's words, “entrance factors” in the market place: conditions which must be met simply in order to stay in the game. The real source of competitive advantage, whether at European, regional or enterprise level, is to found in the capacity for innovation - the ability to 'do things differently' and to continuously reinvent products and services.

An innovation-based model of regional competitiveness implies the need for a more radical approach to the workplace. We can therefore differentiate between a *high road* and a *low road* of innovation - the low road driven by cost cutting and the high road by liberation of human creativity in ways which achieve a dynamic balance between product and process innovations. An overview of research on leading edge companies in Europe identifies a series of trends in the design and implementation of new forms of work organization which challenge traditional organizational structures and practices. However, despite increasingly well-documented advantages, the spread of new approaches to work organization and culture remains limited in Europe, especially amongst SMEs. Inertia, a poor knowledge base and short-term approaches to productivity and investment inhibit the pace of innovation.

The individual firm is too weak an instrument around which to build change. Innovation is intimately related to the firm's external context, the semi-public sphere which determines access to knowledge, exchange of experience and shared resources. In short this environment defines firms' ability to overcome internal limitations by developing collective solutions to common problems. Given the rapid evolution of new approaches to work organization it is vital to build a public sphere of knowledge in which collective learning can take place, and which explodes the traditional one-dimensional consultancy relationship between 'expert' and 'client'.

Learning and innovation are often very localized. It is therefore important to discover and to strengthen the characteristics of effective and dynamic innovation systems at regional level - for example the types of bridge that can be built between academic research, social partners, business support organizations and the individual firm, with particular emphasis on the needs of SMEs. Public policy must promote a wide range of opportunities for collective learning about the design and implementation of new approaches to work organization, building broad communities of expertise at local and sectoral levels and creating new technical resources to support change.

Towards innovation-based regional development

In increasingly fierce global markets there is a continuous pressure to deliver faster and better products and services at lower prices. But quality, speed and flexibility will, in the long term, not be enough to create growth and employment in European regions. They have become “entrance factors” (Porter 1985) in the market place: conditions which must be met simply in order to stay in the game. At present the fulfilment of these conditions is the dominant concern of most managers and policy makers. But from a long-term perspective this strategy will not prove sufficient to realise growth and employment. Rather it can only be regarded as a defensive answer to competition from outside Europe.

The real source of Europe's competitive advantage lies elsewhere. It is to found in the capacity : *"to do things differently, in a way that cannot be easily imitated by our competitors outside the European Union. During the last years we have come to understand that this challenge can be realised by using the rich European potential of knowledge, skills and experience in a more effective way"* (Andreasen *et al*, 1995).

If this is true at European level, then it suggests that the competitiveness of regions needs to be defined in terms of their capacity for innovation - their ability to 'do things differently' and to continuously reinvent products and services.

An innovation-based model of regional competitiveness implies the need for a more radical approach to the workplace. Alternative approaches to competitiveness generate different models of work organization which, in turn, have quite different implications for regional development and employment. To understand this we must focus on the types of *innovation strategies* adopted by firms in responding to a changing market environment. On the one hand strategies for workplace flexibility which are motivated principally by cost-cutting will certainly decrease the demand for labour; as several studies of lean production methods suggest they are also likely to reduce quality of working life ('job enlargement without job enrichment'). However strategies for flexibility which are geared towards the creation of new products or services, exploring new business activities and building new markets may have quite the opposite effect. We can therefore differentiate between a *high road* and a *low road* of innovation, built on quite distinctive approaches to the organization of work. The defining characteristics of the high road are the creation of organizational spaces and the liberation of human creativity *in ways which achieve a dynamic balance between product and process innovations*. But the high road must be grounded in a social infrastructure which values dialogue and collaboration between social partners, policy makers and researchers as a necessary precondition for a culture of innovation (European Work & Technology Consortium, 1998).

Particular attention must be paid to the role of SMEs in building and sustaining the competitiveness of regions :

- as sources of innovation and new economic activity in their own right: the leading edge in the emergence of new sectors such as the creative industries and the focal point for the regeneration of traditional sectors such as fashion;
- in the flexible production of specialized goods and services within supply chains, which in many cases are adding an increasing proportion of value to the final product.

Clearly SMEs do not always succeed in fulfilling this potential. It is clear that a high proportion of smaller firms in Europe lack adequate management capacity, while the rate of diffusion of product or process innovations is unacceptably slow. However marked regional variations exist in the competitive strength of SMEs, suggesting that the local environment in which smaller companies exist plays a key role in determining their opportunities for growth. This poses a particular challenge for policy makers, who must create new ways of widening the distribution of knowledge and of facilitating collective solutions to common problems. The need is to discover and to strengthen the characteristics of effective and dynamic innovation systems at regional level - for example the types of bridges that can be built between academic research, social partners, business support organizations and the individual firm.

Towards the high road

A great deal of research has been undertaken throughout Europe (for example: European Work & Technology Consortium, 1998; Business Decisions Ltd, 1998) to define the types of work organization associated with the high road of innovation. We can summaries the broad conclusions as follows :

Drivers for change

A high percentage of companies attempting to build new forms of work organization are driven by crisis and/or by pressure from customers. In many cases these circumstances limit both the scope and sustainability of change. In such cases change is typically cost driven and fails to expand the full capacity of the company to innovate and to build new markets. Change may also fail to win the full commitment of employees and may fail to become embedded in company practice and culture.

Successful change, however, is likely to be driven by strategic commitment to a combination of the following :

- Improving competitiveness through, for example, faster development cycles, customization, adding value to existing products and services, etc.
- Improving agility through reduced cycle times, reductions in work-in-progress, effective partnerships with suppliers etc.
- Enhancing quality both through the adoption of formal standards and through changes in organizational culture.
- Increasing innovative capacity by fostering human competencies and by ensuring that work organization and technology are designed to enhance skills and creativity.
- Reducing labour recruitment, retention and absenteeism problems by enhancing quality of working life, workplace partnership, more effective dialogue between management and employees, etc.
- Improving industrial relations by building effective dialogue structures and development coalitions, including intermediary organizations and research institutes.

The nature of change

What changes are actually happening in the workplace to achieve these strategic commitments ? Overviews of research on leading-edge companies in Europe (European Work & Technology Consortium, 1998; Business Decisions Ltd, 1998) identify the following trends :

- **Workplace partnership as organizational development**. Traditional approaches to change have often been recipe driven. Companies are offered solutions (often consultancy driven) based on alleged 'best practice' models; the success of implementation is measured in relation to its conformity with the benchmark standard. However employees find it hard to 'own' solutions they have little part in designing or planning, and necessary culture change can be slow to achieve. More sophisticated approaches build workplace partnership as a precondition for organizational change. These vary widely in content, but are typically based on formal agreements between management, trade unions and workforces on the creation of structures and processes designed to build trust and dialogue. This dialogue itself becomes the motor for innovation in work organization.

- **Knowledge management**. Both during change processes and in resolving day-to-day issues the aim must be to unlock the full range of knowledge and experience available at all levels of the workforce, drawing on a strong sense of employee well-being and sustained motivation. This is a valuable collective resource for change and innovation.

- **Business units and divisions which reflect key market segments or production processes**. In other words the organizational structure should follow the client or product rather than traditional functional demarcations such as design, marketing, finance, etc. In particular this means the creation of multifunctional management teams which emphasize the interconnections between functional specialisms.

- **Semi-autonomous group working**. Multiskilled teams can have high levels of discretion for the day-to-day production of goods and services including scheduling, meeting targets, liaison with customers and suppliers and team development. Typically this will lead to a reduction in the layers of management.

- **Reduction in job demarcations**. Especially within the context of teamworking, demarcations

between jobs are reduced as much as possible to ensure greater versatility, the self-regulation of work groups and possibilities for learning.

■ **Balancing individual competence with organizational development**. Improving workforce skills is insufficient if employees remain in tightly defined jobs with insufficient opportunities for discretion and versatility. Likewise new organizational structures can fail if they place demands which exceed the skill levels of individual workers. Skills enhancement and lifelong learning, which are often increased significantly, nonetheless need to be developed in balance with organizational change.

■ **Rethinking the role of middle and front-line managers**. Semi-autonomous teams fail to achieve their full potential where the role of middle and front line managers remains unchanged. Managers accustomed to playing a policing role feel threatened by empowerment, and can consciously or unconsciously subvert change. However the redeployment of these staff in team development and continuous improvement, as well as in overall support and longer-term planning roles, can have lasting benefits.

■ **Innovation as a core task**. Traditionally the development of new products and processes was undertaken by specialist R&D teams, often remote from the point of production and consumption. Increasingly however production teams are involved in the process of innovation by integrating R&D staff within the production environment, through continuous improvement programmes, by other forms of workplace partnership and by liaising directly with buyers and customers.

■ **Strengthening partnerships across organizational boundaries**. New forms of work practices and cultures enhance the potential for innovation and improvement not just within organizations but by enhancing multi-level collaboration between organizations. This challenge needs to be met both through formal planning and through innovative organizational solutions such as virtual teamworking and inter-agency approaches to continuous improvement.

■ **Mainstreaming quality**. Introducing quality as a performance measure for semi-autonomous work groups help to create a 'quality culture' rather than 'quality control'.

■ **Adding human and organizational dimensions to the design, selection and implementation of new technologies**. Technologies must operate within a specific context based on organizational structures, cultures and work practices. Ensuring an effective 'fit' means that the design and implementation of technological systems has to reflect the organizational principles of the company and to recognize the human factors involved in their operation.

■ **Rethinking performance measures**. Measuring the performance of managers and employees purely against short-term productivity targets is destructive of teamworking, innovation and quality. Other measures such as customer satisfaction, organizational learning, innovation and waste reduction also constitute critical dimensions of competitiveness and should be measured with equal rigour.

■ **New reward systems**. Payment systems need to reflect performance across this wider range of factors, not just productivity. Team or company-based approaches to gain-sharing reflect a culture of trust, unlike individually-based reward systems.

Ownership, management and distribution of knowledge

Despite increasingly well-documented advantages, the spread of new approaches to work organization and culture remains limited in Europe. Inertia, combined with short-term approaches to productivity and investment, inhibit the pace of innovation.

At the level of the company, many managers and trade unionists have little overview of how the world is changing, yet are simply overwhelmed by external pressures. They fail to understand the nature and potential of workplace innovation, or believe that experiences elsewhere cannot be relevant to their own enterprise. This appears to be particularly true of SMEs, where the exposure of management to alternatives is often very limited.

The knowledge base accessible to change agents in the field of work organization remains a serious problem, especially (but certainly not exclusively)

for SMEs. Successful change needs to be well resourced with appropriate tools, experience and understanding. Many organizations lack both the concepts and the practical tools needed to analyse, to plan and to implement the process of change. Indeed the internal knowledge available even to the largest organizations may be insufficiently grounded in 'good practice' experience and methods to be found across Europe.

Beyond consultancy

There are three ways in which organizations have traditionally sought to accomplish change :

1. They can undertake it on their own, using their own resources. This has risks, mainly arising from the limited capabilities that the individual company can bring to problems, and from the dangers of mistakes. This is the preferred alternative only when the next two options are not available.

2. They can undertake change with the cooperation of their main customers (and sometimes this kind of change is forced upon them). Such change often takes place within confined parameters, and may be resented.

3. They can use outside agencies such as research institutes or consultancies to provide resources, methods and expertise.

The traditional way to accomplish change is change by design. This means that generalized concepts (such as teamworking, TQM, etc) are applied to specific problems according to a predetermined set of rules. It can be argued that given the complexity of today's organizational systems, the availability of 'expert' knowledge is becoming increasingly important. Public programmes have often sought to meet this need by subsiding access to consultancy, and use of outside agencies does offer potential advantages by providing the company with access to a wider range of knowledge and experience. In practice however the resourcing of organizational change raises more fundamental problems for companies, employees and public policy makers alike.

Researchers such as Fricke (1997) and Gustavsen (1992) stress that the design approach, with its strong reliance on expert power, has emerged as a roadblock rather than a motor for real change in organizations. For policy makers and management advisors, the key problem becomes the 'transfer of best practice' rather than the promotion of real innovation. Traditional models of consultancy typically embody a narrow and one-dimensional approach to knowledge in the change process. Expertise is seen as the property of the individual which can be 'passed on' to the client organization rather than emerging from a learning process based on dialogue and synthesis. Expertise is also seen as highly integrated and stable, and its transfer precludes questioning or reconceptualizing the skills and knowledge of established masters or the creation of culturally novel models of practice (Engeström, 1992). Too frequently therefore, consultants sell solutions rather than processes. 'Off-the-shelf' models of organizational change are presented to companies as blueprints, legitimized by a supposed record of achievement elsewhere. Companies may be complicit in this to the extent that they are persuaded by the attraction of short term improvements in cost, quality or versatility. But ultimately a failure to customize and to negotiate system design will affect the longer term sustainability of the change. People at all levels of organizations need to participate in the design process in order to 'own' it.

Moreover in a consultancy relationship, knowledge is a private commodity shared between the expert and the client. Often this results in experiences of change - good or bad - being kept as a closely guarded secret to prevent it falling into the hands of competitors (either of the consultant or of the company). Yet both parties are therefore deprived of potential opportunities for a wider process of interaction, leading to the sharing of experience and to further innovation. It also limits the ability of the company to build learning partnerships - with business organizations, customers, suppliers, trade unions or vocational trainers - who may influence the broader environment in which the company operates.

Arguably these limitations have been a major factor in restricting the spread of innovative approaches to work organization. There is also increasing evidence that it limits the quality of knowledge deployed in organizational change. Qualitative studies show that expert-led change is often partial, fragmented and unsustainable (Hague, McLellan and Totterdill, 1997). Practitioners need interdisciplinary perspectives and broad decision spaces.

The individual firm is too weak an instrument around which to build change. Innovation is intimately related to the firm's external context, the semi-public sphere which determines access to knowledge, exchange of experience and shared resources. In short this environment defines firms' ability to overcome internal limitations by developing collective solutions to common problems. Given the rapid evolution of new approaches to work organization it is vital to build a public sphere of knowledge in which collective learning can take place, and which explodes the one-dimensional relationship between expert and client. Public policy and business support organizations have a critical role to play - in part by insisting that subsidies for change at company level involve the widest practical exchange of knowledge and experience, and in part by building frameworks designed to promote collective learning.

Peter Totterdill

Learning from the experience of others

Case studies, benchmarking and 'best practice' studies have become part of the core vocabulary of contemporary business literature. Likewise many European governments, panicked by the need to 'catch up' with the US and South-East Asia, promote masterclasses, company visits and consultancy packages to persuade reluctant industrialists to adopt the various models and practices thought to characterize 'world class manufacturing' : TQM, JIT, MRP, MRPII...

Belussi and Garibaldo argue that it is important to avoid an academic comparison of different paradigmatic models in a vain attempt to discover magic formulae for success. In particular, policy makers or management opinion formers should be discouraged from an obsession with emulating the Japanese or North Americans :
"The key point is rather to shift from a 'catch-up' approach - which until now seems to have not been successful at all - to a strategy firmly orientated towards the creation of innovative and self-sustaining processes of development".

They continue :
"... the most competitive countries and regions will be those which are able to create a virtuous circle based on their own cultural identity and on the more generally applicable knowledge resulting from the Japanese experience" (Belussi and Garibaldo, 1996).

In other words it is necessary to develop a model of workplace innovation which creates hybrids, drawing on external experience but customizing and improving it through local knowledge, resources, cultures and institutions. Change generated by such diverse interactions clearly challenges the idea that there can be some form of 'global best practice' setting a universal benchmark against which all organizations can be measured.

Such an analysis does not fit easily with the idea of the 'expert consultant' whose role is to transfer a stable body of knowledge to a receptive client. Rather it reflects Engeström's call to define expertise as the product of "multi-voiced" dialogue in which the interaction of a wide range of experiences lead to new understanding and new solutions. The need is for a new type of knowledge broker, part researcher and part facilitator, to manage this dialogue. The emergence of such an approach is perhaps strongest in the Scandinavian countries, notably the Change Laboratories developed at the University of Helsinki and the Dialogue Conferences used by the Swedish National Institute for Working Life (Engeström, 1992; Gustavsen, 1992; 1996).

The analysis by Lundvall (1992) and others of national innovation systems provides a more strategic approach to this question. Critically, workplace innovation should be seen as the product of a complex process of learning grounded in, for example, vertical and horizontal interaction within firms, networking between firms (industry associations, supply chain relationships, etc), public policy, vocational training, industrial relations, the financial system, and so on.

Learning and innovation are therefore very localized, and not placeless processes. It is therefore important to discover and to strengthen the characteristics of effective and dynamic innovation systems at regional, national and European levels - for example the types of bridge that can be built between academic research, social partners, business support organizations and the individual firm. The Italian industrial districts provide a paradigmatic example of a learning milieu based on such complex interactions (Asheim, 1997). These districts must not be understood as model production systems, but rather judged on their capacity to remake themselves on the basis of collective knowledge, learning, appraisal and action.

Thus current dialogue in Emilia Romagna is less about how to defend the industrial district structure in the face of globalization, but rather how to develop a specific approach to globalization which draws on the knowledge, experience and networking culture of each district.

At regional level, learning networks also influence innovation : companies and organizations do not develop in isolation but through collaboration with other companies and organizations. Participation in learning networks makes the immediate environment larger and richer with all the benefits that this accrues in the form of reduced uncertainty and new stimuli. Moreover the networking process has an inherently proactive capacity to create new opportunities, and not simply to react to changed environmental demands (European Work & Technology Consortium, 1998; Friedrich & Lantz, 1998).

Learning networks may provide policy makers with a powerful means of addressing a cluster of related issues: a mechanism for challenging passivity, signposting alternative choices, customizing information and support to meet the needs of individual companies, creating continuity of support, developing management capability through low-cost learning and creating a multiplier effect by mobilizing and sharing experiences between firms with a common agenda. Policy makers can therefore use learning networks to pursue key regional objectives by mobilizing companies to commit their own time and resources (Bessant, 1995; European Work & Technology Consortium, 1998).

At the European level, diversity of experience between regions is an important learning resource. In terms of organizational development there is considerable divergence yet much common ground between, for example, Northern European approaches to workplace development and the Italian industrial districts (Belussi and Garibaldo, 1996). Both are characterized by partnership and cooperation within firms, between firms, and between social partners and the state. However each manifestation of partnership and cooperation is heavily influenced by local circumstances and cultures, leading to different solutions and experiences. Such divergence provides real opportunities for hybrid innovation through inter-regional comparison, critical dialogue and collaboration.

For public policy therefore, the test of successful intervention lies in “the extent to which 'technical' expertise... ceases to be traded as a consultants' commodity and becomes, instead, the intellectual property and joint intelligence of managers, trainers and operatives alike”. New approaches to policy must involve: “a break from traditional practice, with its reduction of the process of change to 'casework' - a series of discrete applications by individual companies for subsidized training or consultancy” (Middleton and Totterdill, 1992).

Conclusion : building capacity to animate change

Public policy must promote a wide range of opportunities for collective learning about the design and implementation of new approaches to work organization, building broad communities of expertise at local and sectoral levels and creating new technical resources to support change. Such intervention pursues innovation not emulation. The 'high road' is defined as one in which organizational structures reflect both creativity within the workforce and interaction with external knowledge and experience. Organizations need to draw on good approaches from the wider world to generate ideas and inspiration, but they must also be able to interpret these examples by means of critical scrutiny, dialogue and open-minded experimentation.

Diffusion of innovative practice does not simply occur by publishing case study evidence of success. As in any other domain of innovation, diffusion is to a large extent dependent upon the infrastructure available to manage and to distribute knowledge. This is taken as self evident in the field of technology, where essential components of the infrastructure include :

- close cooperation between technology suppliers, users and knowledge centres in both the public and private sectors;
- intermediary organizations which help to customize general technological knowledge to meet specific needs;
- expert centres which integrate local and general knowledge within education and training initiatives.

Organizational innovation is directly comparable that of technological diffusion in this respect. Experiences from the Scandinavian countries

(Gustavsen, 1996) are illustrative here. They show that an innovative society needs specialized support structures, or "development organizations" to create the conditions for broad scale change. Such structures represent a coalition of interests and resources with shared values, capable of generating new synergies and momentum, and of giving a strategic direction to change. Critically however, such organizations are not conventional technology transfer agencies seeking to disseminate or apply a defined approach. Rather the emphasis must always be on creating contexts (both internal to the company and within its wider environment) able to animate and sustain innovation.

In creating new capacity, essential targets for public policy include :

- building new bridges between research institutes and practitioners to ensure both a strong knowledge base for organizational change and the incorporation of concrete experience within research programmes;
- creating new centres of excellence at regional or sectoral levels (for example the new *Istituto per il Lavoro* in Emilia Romagna) with a commitment to the active resourcing of innovation in the workplace;
- mainstreaming work organization within the activities of business support centres, technology transfer agencies and social partner bodies, many of whom have insufficient appreciation of its impact on competitiveness and little access to appropriate knowledge or expertise.

Even in countries with long established national policy frameworks and with strong institutional capacity, it is not clear that the knowledge and expertise generated is widely distributed or accessible. In Sweden between 1990 and 1995 the Work Life Fund was responsible for the expenditure of 30 billion Kronor on 25000 different workplace innovation projects. Yet company and project data was not systematically collected, packaged and disseminated in a way which makes it subsequently accessible to change agents. As one evaluator suggested, the Work Life Fund may have "thickened the soup" of management knowledge of work organization. But (as with the Fund's counterparts in several other countries) there was no active strategy for longer-term knowledge management and dissemination. Likewise in England the comprehensive network of local *Business Links* which provides business development support to SMEs rarely addresses work organization as an issue for company competitiveness. Comparable shortcomings can be found among the business support infrastructure in most EU countries. Similarly many universities still perceive themselves to be above the regional development process and fail to build bridges to local policy makers.

To address these gaps, rationalization of knowledge structures and the resourcing of workplace innovation is of growing importance in several European countries. In Sweden, the task of wider dissemination has been taken up by innovative regional or sectoral bodies such as the University of Halmstad who have employed researchers and consultants previously involved with Work Life Fund initiatives. Elsewhere, for example, the Institut Arbeit und Technik in North Rhine Westphalia is supported by the regional government and helps to ensure that an organizational perspective exists within strategic policies for employment and economic development. Initiatives also exist in other German regions including the Free City of Bremen, where the programme is grounded in a partnership between local government, the university, social partners and the Federal Work and Technology agency. Likewise in France the national agency ANACT has instigated a number of regional ventures in partnership with local actors. Each of these examples demonstrates the relative potency of regional measures in reaching and resourcing firms, increasing effectiveness through enhanced customization and targeting (European Work & Technology Consortium, 1996; 1998).

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Labour Market and Work Organization Trends

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- **The new labour market and the third industrial revolution**
  Lars Magnusson, National Institute for Working Life, Stockholm, Sweden

2. Casualisation and Flexibility : Impact on Worker's Health

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Non-standard employment, subcontracting, flexibility, health

What protection do employment contracts offer workers from changes in work organization ? How do we differentiate between standard and non-standard employment contracts ? Positions in the workplace cannot readily be pigeonholed by this typology of individual jobs. The "(dis)organization" of work of the past 20 years has wrought changes in the social division of labour, stemming mostly from the rise of different forms of subcontracting[1]. This is not a recent phenomenon. Henry Ford himself, at the turn of the 20th century, counselled it as a way of holding down the principal manufacturer's production costs. But the spread of outsourcing across all productive industry and into government in most countries across the world must be questioned, not just on cost saving grounds, but especially as regards the right to a healthy work environment and how many options it closes off to workers, individually and collectively.

Employment contract rules, and their associated rights and obligations, especially on health and working conditions, are laid down by legislation and regulation. These rules govern relations between the employer who specifies the work (and must provide safe work systems) and the employee who undertakes to perform it, knowing himself protected by the guarantees - particularly on hygiene, safety and working conditions - enshrined in the regulations. With subcontracting relationships, however, this framework has to accommodate multiple employers. The actual signatory of the employment contract is most often only an intermediary for the work specifier: the prime contractor or customer. But working conditions, exposure to risks, time and quality constraints are part of the business-to-business bargain and enforced on employees regardless of the employment contract. So, a standard employment contract may be regarded as one under which a worker can exercise rights and the benefit of the guarantees associated with the employment contract, as laid down in national laws or international directives and conventions. By contrast, a non-standard employment contract can be defined as one in which the employer is not the work specifier. This means not just workers on temporary or part-time contracts, therefore, but all those dependent on subcontracting relationships.

This paper will first paint a broad brush picture of occupational health in this "new economy" context. It will then go on to briefly consider where this "new economy" draws its legitimacy from and the reasons why trade unions have not spoken out on worsening conditions of health at work. It concludes by mapping out ways forward for research and action on health at work in response to emerging new forms of balancing forces.

[1] Under AFNOR (French standards institution) Standard NFX 50 300N of November 1987: "industrial subcontracting may be considered as including any activity which contributes to a particular production cycle, one or more stages in the design, development or manufacture, implementation or maintenance of the product in question, the performance of which is commissioned by a firm described as the customer or principal manufacturer from a firm described as a subcontractor or order taker, who is obliged to comply in full with final and binding technical instructions laid down by the customer".

An outline stocktaking of the occupational health impacts of job insecurity

Job security and occupational health are being increasingly undermined in countries and continents across the world. M. Quinlan *et al*. (1) have pointed out the adverse impacts on occupational health. But these processes are not easy to pin down precisely. The health impacts of work organization can be assessed at three levels: assessment of hazards, working conditions and stressors with known pathogenic effects; identified health damage; health impairing processes.

Assessment of hazards, working conditions and stressors

National and Europe-wide surveys of working conditions and work organization for the EU and in other countries - especially North and South America - report that working conditions are getting generally worse world-wide. But these are hazards with well-established pathogenic effects, including time constraints and working hours (night work, shift work).

Recent surveys by the Dublin Foundation (2) reveal that physical and chemical hazards are a continuing problem, and work organization constraints are increasing, for all European workers. The European survey of working conditions also points to a statistically established link between insecure employment and more arduous working conditions: 57% of temporary workers work in painful and tiring positions (compared to 42% of permanent workers); 38% are exposed to intense noise (against 29%); 66% perform repetitive movements (against 55%) (3).

By contrast, there are no systematic figures on inequalities in the working conditions and work organization constraints between prime contractors' own employees and employed or self-employed subcontract workers. One case in point, however, is the French nuclear power industry, where outside workers engaged on power plant maintenance account for 80% of radiation hazard exposure (4). Risk subcontracting is also an established practice in industry, building and civil engineering, and the hospital sector. But there is no risk assessment by industrial sector which include all workers in the sector regardless of firm and employment status, even though that would be the one operational unit for assessing the risks associated with a type of production.

Identified health damage

Industrial injury figures show that the post-war structural decline in work-related accidents in the so-called developed countries came to a halt in the early 80s. Subsequent fluctuations are related to the characteristics of currently-occurring work accidents and how compensation is administered. Firstly, there is the persistent serious and fatal accident rate (accounting for some 10 000 deaths a year in the EU, and over a million deaths each year worldwide). But this must be regarded as a baseline level due to changes in reporting methods: for one thing, companies systematically pressure employees into not making accident reports; while for another, many workers - especially in Third World countries - are no longer on payrolls which give them social security cover. In Brazil, for example, outsourcing (*terceirização*) means that about 60% of the employed labour force is not declared for social security purposes. Finally, it must be stressed that subcontracting out risks dissolves the linkage between a prime contractor and the work carried out by the workers in the final tier of multi-tier subcontracting, in the same country or, in the case of international subcontracting, in another country. There are no indicators available by which to link an accident suffered by a contract cleaner in the chemicals industry to that industry segment, or to assign responsibility to a prime contractor - a European company placing an order with a foreign subcontractor - for an accident occurring in an Indian clothing workshop. So, dominant European or US companies can boast very low work injury rates because they only list accidents affecting their own employees. Seen this way, the comparison between large and small firms is invidious, since it implies that large companies are taking effective preventive action while smaller ones are not; whereas, in point of fact, the former are contracting out not just the work, but also the risk and management of their employment hazards.

That workers' health is directly at risk from work organization constraints can be seen from the epidemic proportions attained by musculoskeletal disorders (MSD) and time-pressure-related repetitive strain injuries affecting all countries worldwide. Neither Community nor national laws

MSD in Europe

The Eurostat pilot study (1999) indicates that MSD were among the ten most frequent occupational diseases in 1995.

In the United States, "the number of repeated trauma cases increased dramatically, rising steadily from 23,800 in 1972 to 332,000 in 1994 - a 14-fold increase" (NIOSH, 1997).

In France, the statistics reveal a sharp increase in cases of MSD recognized as occupational diseases, from 430 cases in 1981 to 7312 cases in 1997. Overall, 3.4 million people - 28% of the work force - are exposed to MSD.

In the United Kingdom, during the period 1985-1995, the single most common cause of an over-3-day injury to employees was injury while handling, lifting or carrying.

In Spain, in 1997, 69% of workers who replied to the questionnaires claimed to suffer MSD in lower back, neck and chest.

Source: *TUTB Newsletter*, No. 11-12, June 1999.

set limits on work intensity or intensification. Neither legislation nor regulations prevent productivity standards (number of pieces to be produced or movements made in a set time unit) being ratcheted up. The only limit to the overburdening of workers is breaking point. The large visible part of this workplace epidemic, however, must not put out of sight that recognized cases are just the tip of the iceberg of actual cases, and that the impairments which result from these injuries may stop sufferers ever working again. Subcontracting has a bearing here, too, in the motor vehicle industry, for example, where work intensification is "contracted out" by carbuilders to equipment manufacturers. But the working conditions, time constraints and productivity requirements foisted on the latter's employees would almost certainly meet with organized resistance if imposed on those of the prime contractor.

Asbestos provides telling evidence of the epidemic of work-related cancers. Millions of European workers already have or will develop cancer over the next 30 years before the effects of the ban on asbestos use in Europe are felt. But millions more employees are exposed to toxins and carcinogens. The statistical evidence for this is there, but the mechanisms which enable their continued existence are largely untraced and their effects on workers' health unseen. In many cases, they have been partly dealt with in-process (e.g., the chemicals, petrochemicals and nuclear power industries in particular). But contracting-out maintenance-, cleaning-, transport- and waste treatment-related risks makes them invisible relative to the business concerned. The relocation of hazardous industries is no more than a direct exporting of risks to countries whose occupational health and environmental rules permit activities which are prohibited elsewhere. Is the WTO really the right forum for settling disputes on double standards in public health (5)?

Health-impairing processes

So far, I have considered health damage essentially in biological and medical terms from an individual organ-based approach to health. Taking a different approach based on a different definition of health, a critical analysis can be made of not just the risk factors but the social dynamic which shapes the life course of health.

A dynamic approach to occupational health enables us to see how growing health inequalities are part and parcel of changes in the social division of labour, challenge health protection law and its practical implementation, and to give insights into the strategies developed by individuals to manage the ongoing tug-of-war between health and productivity.

That means seeing health not as a state but as a dynamic process, using the definition which forms the basis of the ISIS team's[2] scientific approach : *Health is a dynamic process by which individuals develop and progress, a process which imprints in the body and personality the traces of work, living conditions, events, pain, pleasure and misery, of everything which goes to make up a person's individual and collective life course through the influence of the many paradigms in which it is bound up.*

From a survey based on this approach to health, a longitudinal analysis of the family and occupational histories of women who had lost their jobs was able to identify processes of health decline and social exclusion related to their personal work histories, which gave insights into the background to long-term unemployment and ill-health among women workers excluded from the labour market (6). Another longitudinal survey under way on the developing occupational health experience of vocational secondary school-leavers is providing insights into the effects of what J.P. Legoff calls "gradual brutalism, or the indiscriminate modernization of business and education" (7). Most young people in France nowadays get their first taste of work through temping, which leaves no scope for improving their occupational health knowledge. Lack of training is not the reason why young people under 25 account for one in four employment injuries in France. More likely it is the conditions of their labour force attachment as serial "outside" (i.e., subcontracted) and temporary workers. As a result, several thousand

[2] Team on "Social inequality, industrialization and health", INSERM U292 - Kremlin-Bicêtre, 1986-1997 which joined the Université Paris-XIII's Bobigny-based Research Centre on Issues in Public Health as part of the INSERM99-05 team on "Inequalities, policies and health" in 1998.

each year suffer permanent after-effects from accidents, with the great disadvantage of having to continue their career path with an occupational disability.

A similar approach guided Michel Bonnet's "inquiries into working children" who in all continents across the globe have no other choice for their own survival than to take the work "offered" them by multinationals in their never-ending quest to cut production costs (8).

The legitimacy of the "new economy" and the "industrial peace" which underpins its expansion

"Industrial peace"

The basis of the "industrial peace" on workplace health issues is to be looked for in the last century's trade-off agreements on industrial accidents and their consequences for the organization of compensation systems and preventive occupational safety.

The industrial accident legislation passed in Europe a century ago was the first formal social and political recognition of the health effects of working conditions. Curiously, however, the industrial trade-offs in the different countries which resulted in the passage of this legislation gave workers no rights to be protected against work-related injuries - in a public health and risk control approach, but developed from the various forms of legitimation of occupational risks - as inherent to the production process - and cover against them as an integral part of the social insurance and protection system. The labour movement's acceptance of lump-sum compensation for industrial accidents effectively waived the right to "have justice done" for the loss incurred by an accident in the workplace. The "fault" or "offence" constituted by an employer's ordering a dangerous task to be performed which resulted in injury or death was replaced by the principle of insurance against the inevitability of work-related risks. Recognition of occupational diseases follows the dictates of the same insurance-based approach, and is generally limited to compensating a handful of diseases within the confines of particularly restrictive conditions.

What is not often pointed out about these basic health at work provisions is the radical shift effected by this change from identifying causes and assigning responsibilities - through legal action - to an insurance-based approach concerned not with causes but only with cash compensation for health damage. Occupational health is seen only in terms of its monetary worth. Wages and the producer's surplus are the only recognition of the worker's involvement in production. In capitalist industrial society, being compensable made industrial injuries and occupational diseases socially "acceptable". In this way, the guarantors of the industrial system were able to outflank political and social challenges over the health impacts of industrial work organization. The procedures and amount of compensation for the "fallout of progress" became a financial issue in labour relations and on the pay bargaining agenda.

This brief historical review is needed to understand the current state of play in occupational health, and the lingering effects of past decisions not to put occupational health within the remit of public health policy but to develop a framework for bargaining around victim compensation. The inclusion of prevention within this framework is more about cost improvement than protecting workers' health per se.

This historical compromise deprived the knowledge and recognition of work-related health damage of their critical potential paving the way for prevention-driven change in the drive for working conditions and a work organization more consonant with workers' health.

The breakdown of "industrial peace"

Work rationalization in line with the guiding principles of changes in work organization over the past 30 years shattered the compromise which underpinned "industrial peace." Not only did economic growth cease to offer hopes of any short- or medium-term improvements in working conditions, pay or workers' living standards, it actually legitimized a steady worsening of all conditions of employment, especially occupational health. The results of this are now clear as the "preventive health" agencies are being used to rationalize occupational health on the grounds of "employability" - a tacit form of genetic selection of workers. What fundamental principles lie

behind the social legitimacy of this development, and why has the trade union movement not so far spoken out ?

The principles of the "new economy"

The keywords which embody the "modernization" of work organization over the past 30 years cloak the reality they describe. But it is precisely that underlying reality of management-speak that must be understood if it is to be changed.

■ Globalization

The globalization principle legitimizes expansion by the most powerful firms to wherever costs are lowest and profits highest. For this, they have developed two interlocking practices: national and international relocation of production and outsourcing.

It has enabled transnational firms to shift risks wholesale from their stable workforce onto outside workers with no job security, from workers in the North onto those of South.

■ Competitiveness

Competitiveness is central to the way work organization is used to confer social and political legitimacy on the creation of inter-worker rivalries between all production workers: a divide and rule policy between established workers of large firms and subcontractors' employees, between permanent workers and temporary workers.

Annie Thébaud-Mony

The acquired social legitimacy of subcontracting and temporary work have denied a growing number of workers any possible opportunity for bargaining between the work specifier - i.e., the prime contractor or employer of the user firm - and the work performers - outside or temporary workers. The work becomes a service package deal negotiated between two employers predicated on a job performance obligation by the workers responsible for providing the service within a customer-supplier relationship. Marie-Laure Morin has clearly shown how this relationship falls outside the scope of labour law (9).

■ Flexibility

This principle - the Holy Grail of the 80s elevated into the essence of labour and jobs - legitimized the questioning of existing guarantees, rights and regulations on employment (legalization of sweated labour in the guise of temporary work) and working time (deregulation of the forms of working time: flexible working hours, night and week-end work, annualization, flexible part-time...). As a result, government voluntarily relinquished areas of control over the consequences of flexibility for jobs, working time, and the associated work intensification: business "health" - dependent on flexibility - was seen as a more legitimate claim than employees' right to health, which depends on economic security, a relaxation of time constraints and a consistent tempo of social and family life. Finally, the various forms of flexibility have radically affected workers' representation and the exercise of their right of consultation, especially, but not only, for outside and temporary workers.

■ Productivity

The modern embodiment of this founding principle of capitalism is to fit the size of the employed workforce and paid working time as closely as possible to the volume of goods and services immediately required. Business has used productivity to legitimize human resource management methods which push workers to their physical and mental breaking points; to select healthy workers; to abdicate responsibility for the consequences of these management methods, both in terms of the human and financial cost of unemployment, or meeting the health and economic costs of occupationally disabled workers excluded from the labour market.

■ Empowerment and total quality

Who could deny the value of empowerment and raising quality standards in work ? In the "modern" organization of work, these principles legitimize new forms of subordination by shifting responsibility for production control and imponderables from management onto the workers actually doing the work. Prime contractors and employers set the productivity targets, quality and safety standards to be met, and production lead times, leaving the workers to work out their own strategies, trade-offs and ways of meeting all these demands. They have a performance obligation which for many will determine whether they keep their job. So, they have sole responsibility for choosing between productivity (meeting productivity targets) and their health (the deadlines or quality standards set are often at odds with observance of safety rules and/or simply preserving their physical or mental faculties).

Labour relations and occupational health : silence from the unions

Over the past 20 years, working conditions and work intensity have not been prominent on the trade union agenda. Some structural attributes of changing patterns of work organization offer insights into why the trade unions failed to speak out on what had been a key issue of labour disputes in previous decades. "No forced speeds" had been a rallying cry in the labour disputes of the 60s. Four key issues can be identified relating to changing labour relations and the free hand given to work intensification.

The first is that allowing employers to use temporary staff let them cut their permanent workforces while continuing to manage changing business activity levels on a more needs-driven basis. Flexible work practices have allowed employers to rationalize working time but also forced a division between stable and temporary workers who may have opposing interests in speeded-up working.

Secondly, the spread of subcontracting lets prime contractors shift not just risks and hazardous activities but also productivity constraints to service providers. Subcontracting is also a very major factor of work intensification. The fact is that a business-to-business contract turns work into service provision. And yet the prime contractor still specifies the task, the particular operating procedures, quality and safety standards and completion times. The subcontracted workers have a performance obligation in a supplier-customer relationship. There is no contractual link between these workers and the prime contractor setting the relationship of subordination which connects them with the rights and obligations of an employment contract. This extinguishes all opportunities for negotiation on working conditions, working time, hygiene and safety between work specifier and workers. The only possible mediator is or would be the representative bodies of the prime contractor's own employed workforce. But these bodies do not represent outside workers whether present on-site (maintenance) or working externally (outsourced production). Finally, international subcontracting or relocation of production lets large multinational prime contractors export hazardous and/or labour-intensive production to countries with the least protective labour laws, be it health protection, pay, employment or trade union rights.

A third, political factor plays a major role in a country like France - the choice made by the legislator and central government to use enforced working time flexibility as a bargaining counter with employers for the 35-hour week. The statutory reduction in the work week (Robien Act and Aubry Acts) has dissolved most of the statutory and regulatory checks on the use of working time (work day and work week span, regular hours of work and weekly or annual time off, night work and shift work, ...). But a century of labour struggles had won not only a reduction in working time, but more particularly a lifting of the employer's absolute discretion over their employees' use of their time. Work intensification is part and parcel of enforced working time flexibility. How can non-unionized groups of employees hope to oppose enforced working time flexibility, whose ill effects on personal and family health are established beyond all doubt ?

The fourth and final reason why unions have and are still keeping their silence is that while job insecurity is legitimized politically by the successful dogma that monetary growth is the be-all and end-all of societal development, its social and cultural legitimacy is rooted in the balance of power and domination in the workplace. These are reflected in the social organization of work and give insights into the social genesis of health inequalities in and through work. The way in which the gender division of labour has influenced working time management is a case in point. Part-time work has been a key instrument of enforced flexibility and deregulation of working time. 20 years ahead of the Aubry Acts, it led to women working shorter hours for less pay. It is legitimized by women's (not women and men's) putative "need" to balance family and work: housework (done by women) being naturally unpaid. Part-time work was foisted on women without pay bargaining. Other forms of casualisation also point up the extent of the process and its in-built gender bias. While women are concentrated in part-time work, in France, temping and manual work are predominantly male (75% and 80%, respectively), while short-term jobs (temporary and fixed-term contracts) account for over 80% of new recruitment. There is one line of unskilled work where jobs are being created and in which women are concentrated (65%) : that is industrial cleaning, where often ethnic community men and women contingent workers are exploited in

conditions of modern slave labour. Between 1993 and 1998, 41 000 jobs were created in France in this subcontract sector, which now employs 265 000 people (INSEE figures).

The instrumentalisation of prevention agencies

The prevention agencies are either not appropriate to this context - as with the labour inspectorate - or made the instruments of a "human resources" management policy essentially based on selection by health. The European debate around the possible use of genetic testing in occupational health is indicative of this instrumentalisation process and the return to the eugenicist tradition of French occupational health in particular. But beyond that, the new genetic paradigm foreshadows a shift in prevention practice by putting in place checks on high-risk workers instead methods for controlling and eliminating the risks themselves.

Conclusion

The present situation is summoning into existence new balancing forces in the field of occupational health, in the form of networks based on cooperation between trade unions and a grass-roots movement of occupational accident victims and support organizations, as well as cooperation between victims, the lay public, trade unionists and occupational health professionals and researchers. The European WHIN Network and the International Ban Asbestos Network are cases in point.

Developing opposition forces requires research and action at multiple levels. Firstly, to analyse in very practical terms the different aspects of this challenge to occupational health by identifying its root causes. That requires an industrial sector rather than individual workplace focus. The case of asbestos shows that in research and developing activist networks - building cooperation between trade unionists, voluntary organizations and researchers, men and women in all countries - we should not be afraid to focus on a specific problem through which to clearly identify in practical terms and in detail the social processes at work in occupational health generally. Taking the asbestos ban in Europe forward and getting compensation for loss is a way to challenge the strategies of multinational corporations in Asia, Latin America and Africa. Finally, forging the link between the two ends of a production process is the only way to dispel the illusion that the changes foisted on us in the name of the "new economy" are inevitable and to re-build ties of solidarity with which to counter free-market sophistry.

Annie Thébaud-Mony

Casualisation and Flexibility : Impact on Worker's Health

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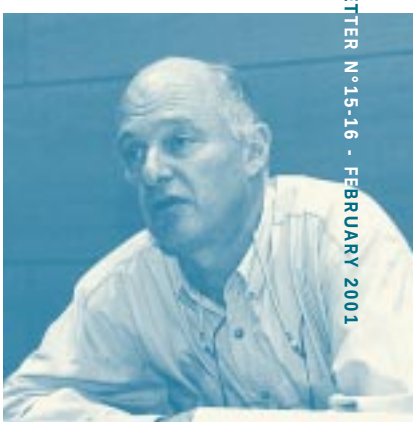
3. Tools for Assessment – Tools for Action



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Ten years of working conditions in the European Union

159 million people were in employment in the European Union in 2000, of whom 83% were employees and 17% self-employed.

In 2000, the European Foundation for the Improvement of Living and Working Conditions carried out its Third European Survey and questioned 21,500 workers in face-to-face interviews on their working conditions (1,500 in each Member State apart from Luxembourg where 500 were interviewed). The two previous surveys were carried out in 1990 (EU12) and in 1995 (EU15).

The 2000 Survey reveals that :

- The most common work-related health problems are :
  - back pain (reported by 33% of workers);
  - stress (28%);
  - muscular pains (neck and shoulders) (23%);
  - burn-out (23%).
- These health problems, which are on the increase, are related to poor working conditions.
- Exposure to stressful physical environments (noise, vibrations, dangerous substances, heat, cold, etc.) and to poor physical design (carrying heavy loads and painful positions) remains prevalent.
- There is a continuing intensification of work - this was already one of the main factors emerging from the previous surveys.
- The control that workers have over their work increased significantly in the early nineties but has slowed down since 1995. One-third of workers still report little or no control over their work.
- The nature of work is changing : it is increasingly client-driven and oriented towards information technology.
- Flexibility is widespread in all areas :
  - working time : “round the clock” work with fluctuating work schedules - extensive use of part-time work (17% of workers);
  - work organisation : multi-skilling and teamwork - empowerment;
  - labour market : increasing use of temporary workers.
- Nevertheless, traditional work organisation features remain (repetitive work and monotonous work are still prevalent).
- Flexibility is not always conducive to good working conditions.
- Gender segregation remains strong and detrimental to women.
- Temporary workers (employees with fixed-term contracts and temporary agency workers) continue to report more difficult work situations than permanent employees.

Health and work

Workers' perceptions of their health and safety being at risk because of their work has shown a slight improvement during the past ten years (as indicated in Figure 1).

However an increasing proportion of workers are reporting work-related health problems (see Figure 2). Musculo-skeletal disorders (backache and muscular pains, particularly in the neck and shoulders) are on the rise, as is overall fatigue (burn-out). Stress remains at the same level (28%). There are strong correlations between stress and musculo-skeletal disorders and features of work organisation such as repetitive work and pace of work (see Table 1).

Figure 1 : Workers reporting health and safety risks at work

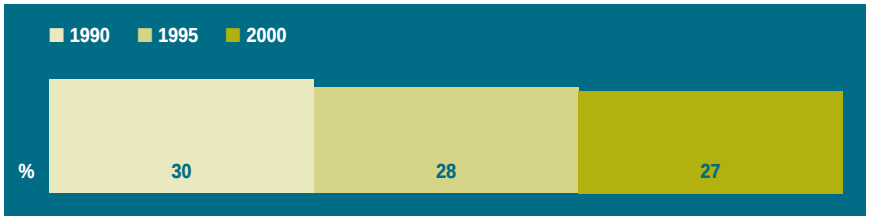


Figure 2 : Work-related health problems

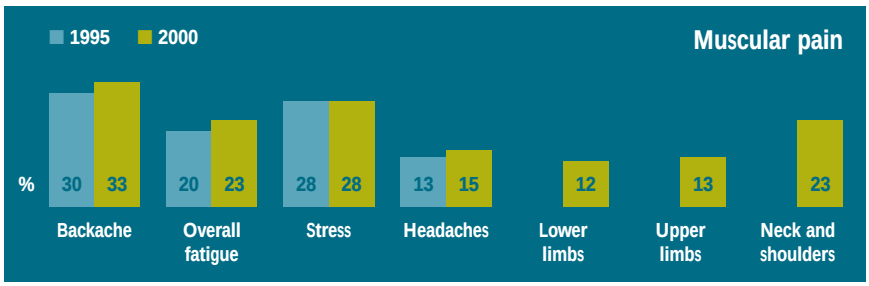
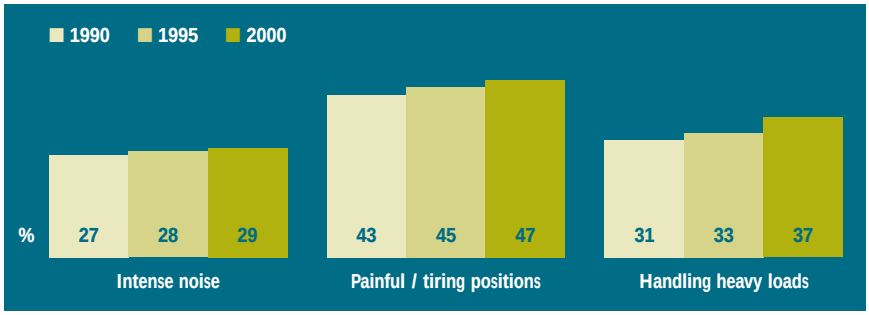


Figure 3 : Workers exposed to physical hazards



Exposure to physical hazards

Stressful physical environments (noise, polluted air, heat, cold, vibrations), carrying heavy loads and working in painful or tiring positions are just as prevalent in 2000 as they were in 1990 and in 1995 (see Figure 3). The proportion of workers exposed remains high.

In 2000, as in previous surveys, men are more exposed than women workers to all of these issues except for painful and tiring positions, where the rates are identical.

Non-permanent workers (temporary agency workers and employees with fixed-term contracts) are more exposed to issues such as heavy loads and painful positions than permanent workers (see Figure 10).

Repetitive work

Repetitive work is still widespread. In 1995, 57% of workers were reporting repetitive movements (33% of them on a permanent basis). In 2000 the proportion remains identical (57%), with a slight decrease for those continuously affected (31%).

The question about repetitive tasks was changed in 2000 and trends are therefore difficult to assess. In 2000 32% of workers report carrying out repetitive tasks of less than 10 minutes and 22% of less than 1 minute.

Repetitive work correlates closely with musculo-skeletal disorders (see Table 1).

Table 1 : Health problems related to making repetitive movements

%	Backache	Muscular pains in neck and shoulders	Muscular pains in upper limbs	Muscular pains in lower limbs
Repetitive movements	48	37	24	21
No repetitive movements	19	11	4	5
Average	33	23	13	11

Intensity of work

Intensity of work has increased during the past decade, more sharply between 1990 and 1995 than between 1995 and 2000.

In 2000, more than half of the workers report working at high speed and to tight deadlines during at least one quarter of their working time (see Figure 4).

In addition, 21% of all workers stated that they did not have enough time to do their job.

The intensity of work is strongly correlated to health problems and accidents at work (see Tables 2 and 3).

Table 2 : Health problems related to working at very high speed

%	Backache	Stress	Muscular pains in neck and shoulders	Injuries
Working continuously at high speed	46	40	35	11
Never working at high speed	25	21	15	5

Table 3 : Health problems related to working to tight deadlines

%	Backache	Stress	Muscular pains in neck and shoulders	Injuries
Working continuously to tight deadlines	42	40	31	10
Never working to tight deadlines	27	20	17	5

Pace of work factors

Between 1995 and 2000 the pace of work has become increasingly induced by "market constraints" (external demands from clients, passengers, users, patients, etc.) and by the work done by colleagues. By contrast, "industrial constraints" (like production norms and automatic speed of a machine or moving of a product) or "bureaucratic constraints" (like direct control by superiors) have become less prevalent (see Figure 5).

Autonomy (job control)

Although between 1990 and 1995 the percentage of workers having control over their own pace of work had increased significantly (from 64% to 72% of all workers, including the self-employed, or from 59% to 68% for employees), it decreased very slightly between 1995 and 2000 to 71% (67% for employees) (Figure 6).

Figure 4 : Working at very high speed or to tight deadlines

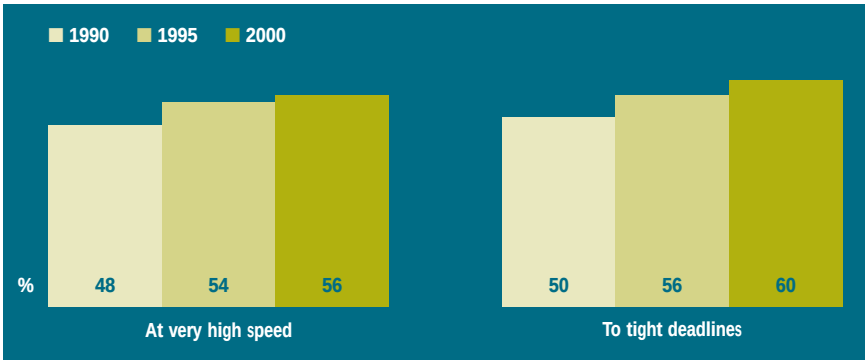
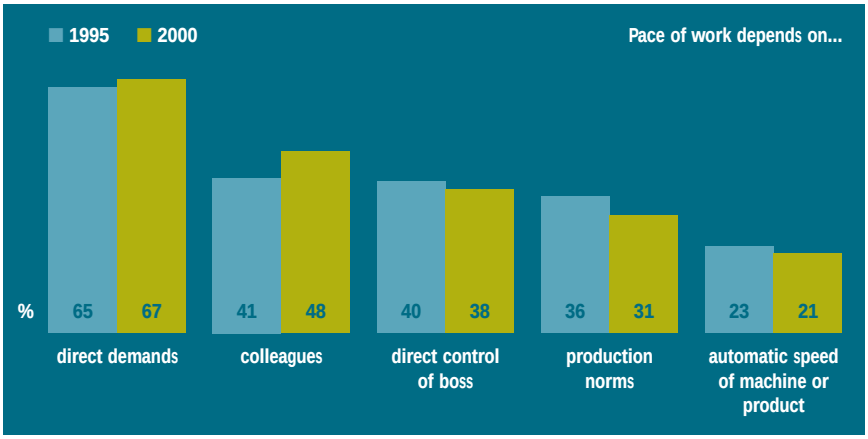


Figure 5 : Pace of work (% of employees)



The percentage of workers with personal control over their methods of work also increased, from 60% (56% of employees) in 1990 to 70% (67% of employees) in 1995 and was at exactly the same level in 2000.

The percentage of workers able to choose the order of their tasks remains identical in 1995 and 2000 at 64% (60% of employees).

Looked at in terms of occupations, between 1995 and 2000 a marked deterioration can be seen for plant and machine operators and service workers and, with regard to sectors, for transport and communication workers.

The possibility people have to decide when to take a break or holidays slightly decreases between 1995 (63% and 57%) and 2000 (61% and 56%).

44% of workers have an influence on their working hours; the self-employed (at 84%) have much greater control than employees (36%) and males (47%) more so than females (41%). Employees on

Figure 6 : Autonomy

Figure 7 : Training

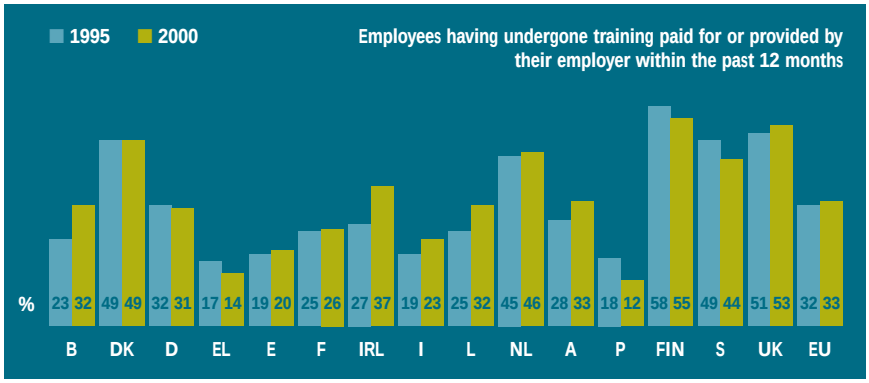


Figure 8 : Job content

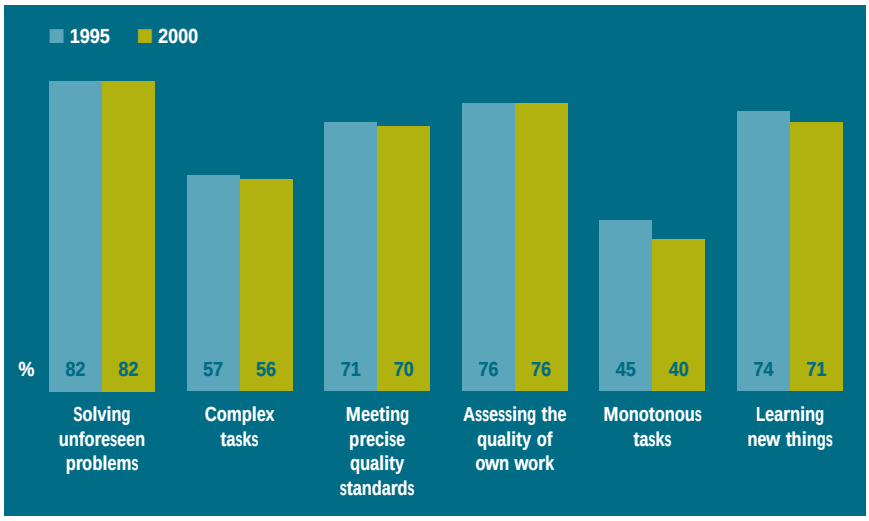
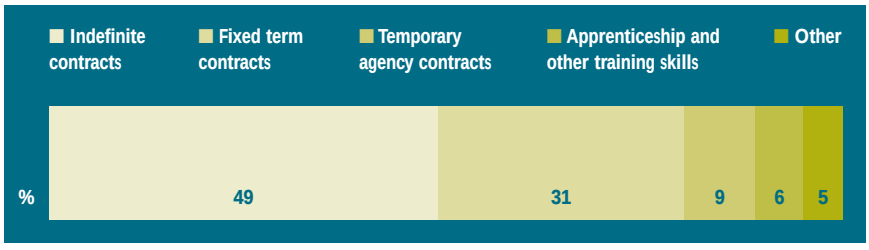


Figure 9 : Employees having been less than one year in the company (%)



permanent contracts (38%) have more control than those on fixed-term contracts (29%) and temporary agency contracts (23%). Control is improving with professional skills.

Nature of work

The proportion of people working (at least occasionally) with computers has increased slightly, from 39% in 1995 to 41% in 2000. This growth is higher for the self-employed, but they still do not use computers as much as employees (33% versus 43%).

Teleworking is no longer exceptional in 2000. Teleworking on a full-time or nearly full-time basis is carried out by just over 1% of the total population and concentrated in jobs in the higher-qualified professional categories and in the financial intermediation and real estate sectors.

Skills, training and support

33 % of employees received training provided by their employer between March 1999 and March 2000 compared to 32 % in 1995. Temporary agency workers are catching up with permanent workers.

8% of workers regard the demands of the job as too high for their skills (7% in 1995) and the same proportion as too low (11% in 1995), while 89% declare they can get assistance from colleagues (the same as in 1995).

Job content

Overall, the indicators remain stable over time with regard to the tasks workers have to perform (solving problems, quality control) or their complexity. Monotonous work is decreasing although this is not balanced as one would expect by the development of learning opportunities.

Working time

Duration of work

Working hours are characterized by a high proportion of workers with short working hours (16% of workers work fewer than 30 hours per week) but also a high proportion of workers who have very long working hours (20% of all workers

and 14% of employees work more than 45 hours per week).

Part-time work : 18% of respondents report working part-time, but this covers different concepts according to countries. Part-time work remains a female phenomenon (32% of females, 6% of males) and is more prevalent in some countries (such as the Netherlands and the United Kingdom). 23% of part-timers would prefer to work more.

Table 4 : Working time

% employees working		1995	2000
< 30 hours per week		15	17
≥ 45 hours per week		16	14
Part-time (spontaneous)		-	18
of whom would like to work :	more	-	23
	less	-	9

Commuting

Trends in commuting should be closely monitored, especially in the light of part-time developments. Average daily commuting time is 38 minutes, but wide disparities can be observed both between people (18% of respondents report daily commuting times of more than 60 minutes) and between countries (the longest commuting times are in the Netherlands).

"Round the clock" work

The trends observed in 1995 remain and are characterized by the extent of shiftwork (reported by 20% of workers), night work (19%) and weekend work (Saturday work: 52%; Sunday work: 27%). Slight declines can be observed in all these time patterns, mainly for self-employed workers, but also to some extent for employed workers (see Table 5).

Table 5 : "Round the clock" work (% of employees working at least 25% of their time)

Type	1990	1995	2000
Night work	17	19	18
Shiftwork	-	-	22
Saturday work	-	48	47
Sunday	-	25	24

Flexible time patterns

Not only are working hours spread over all days of the week and all hours of the day, changing time schedules are also a factor : 24% of workers report fluctuating weekly work schedules and 41% report fluctuating daily work schedules.

For 19% of workers, working time flexibility does not fit with family and social commitments.

Figure 10 : Status and working conditions - physical hazards

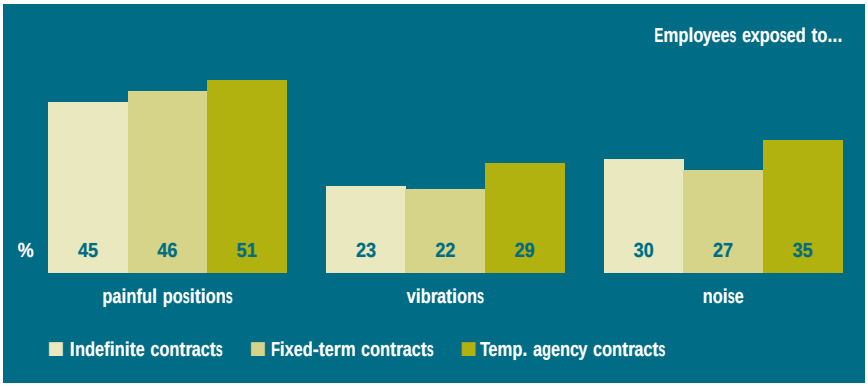
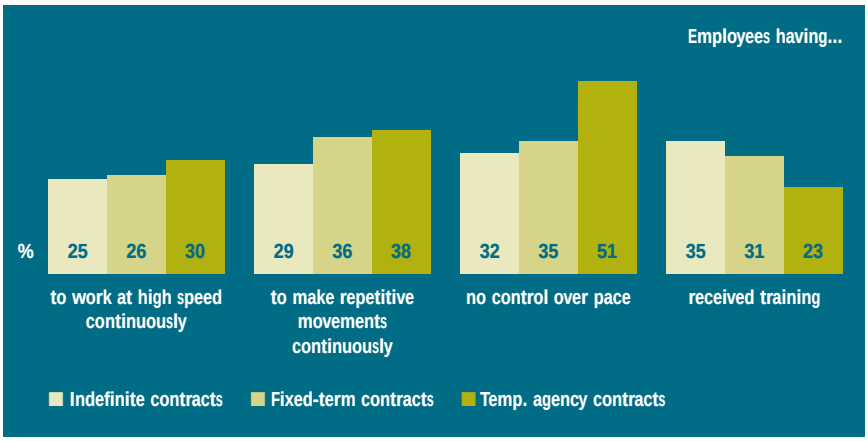


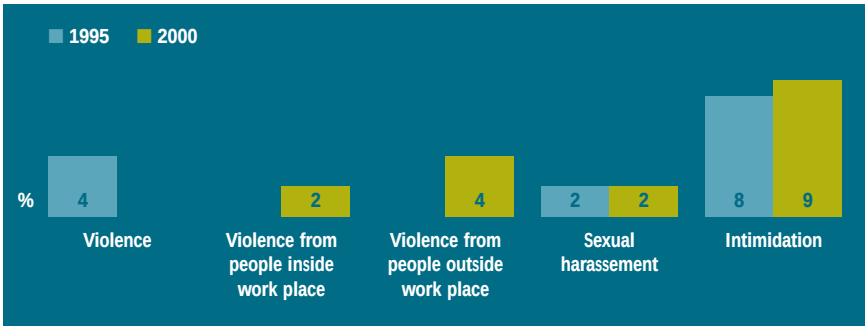
Figure 11 : Status and working conditions



Gender segregation

■ Gender segregation remains strong. It is not only that men and women do not have the same jobs (there are more males in managerial and

Figure 12 : Violence and harassment at work



professional jobs), but within the same job categories men are generally in the more senior positions.

- Gender segregation is also clear when considering income levels in the same job categories (a consequence of the above-mentioned segregation) and control of working time (Table 6).

- Finally, the double workload remains a strong feature of female work as shown in Table 7.

Table 6 : Income levels classified by gender (%)

Income level	Women	Men	Total
Low income	26	9	16
Low-medium income	24	19	21
Medium-high income	17	22	20
High-income	10	22	17
Refuse to answer	23	29	26

Table 7 : Who does what at home (% of respondents doing it for 1 hour or more every day)

At home, who...	Women	Men
takes care of the children and their education ?	41	24
does the cooking ?	64	13
does the housework ?	63	12

Temporary workers

It emerged clearly in the 1995 Survey that temporary work (employees on fixed-term contracts and temporary agency workers) was linked to poor working conditions. The same applies in 2000 (see Figures 10 and 11). Temporary work remains a strong employment feature (10% of employees are on fixed term contracts and 2% are on temporary agency contracts) and only half the employees occupying new jobs are on indefinite contracts (see Figure 9).

Violence and harassment at work

Violence and harassment in the workplace, as reported in earlier surveys, remain major issues (see Figure 12). Disparities between countries are important (from 4% to 15% on the issue of intimidation) and probably reflect different sensitivities and the fact that these issues are (or are not) a matter of public debate. One may assume therefore that in some countries there is under-reporting of these issues.

Pascal Paoli and Damien Merllié

Tools for Assessment
Tools for Action

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  Christer Hogstedt, National Institute for Working Life, Stockholm, Sweden

4. Towards New Prevention Strategies

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A new occupational health prevention for a new work environment : needs, principles and challenges

Abstract

At the turn of the XXIth century, the emergence of new forms of work organization are transforming what had become standard forms of work arrangement in industrialized countries. In this new work environment, new firms, new types of workers and new risk factors are powerfully emerging. Contrary to common belief, we argue that emergent occupational health hazards should not be approached only as “technical” or “economic” value-free problems. Rather, we contend that many of the new challenges faced by occupational health policy are largely related to professional values as well as to the political ideologies and economic interests of key players in the decision-making process. Some of the key principles needed to put into action efficient and equitable occupational health policies in the new work environment are discussed. We end with an alternative proposal on the necessary conditions and settings to address the new challenges that are needed to reach effective occupational health policy.

Introduction

Working conditions have changed dramatically in the two last decades. At the turn of the XXIth century, the growth in the internationalization of investment, production and trade, the political resurgence of flexible labor markets, the application of new technologies in computing and robotics to a large array of workplaces, and the emergence of new forms of work organization are transforming what had become standard forms of production in industrialized countries. In this new work environment, new companies, new types of workers and new risk factors are powerfully emerging (1, 2, 3).

These changes in the labor process call for a radical change in occupational health prevention. The combination of old and new occupational hazards call for an integrated preventive approach which needs to redefine occupational health policies and services. Under these circumstances, improving occupational health for all workers requires implementing several essential steps that integrate research and practice :

- search for appropriate knowledge of occupational health needs;
- implementation of policy strategies and interventions;
- evaluation of processes and outcomes to assess the efficiency of our interventions.

Putting this model into practice, however, is not easy. There is no institutional assurance that those steps will be followed in the real world of occupational health policy. The mere assessment of occupational health hazards does not imply that proper strategies will developed (4). Similarly, technical reports with an exhaustive list of strategies and actions do not necessarily mean effective prevention. Even the implementation of occupational health laws is a necessary but not sufficient condition to increase prevention at the workplace (5).

The gap between occupational health research and policy on the one hand, and change in the workplace needs to better understood. To understand this lack of correspondence it is crucial to analyze the key principles that govern the occupational health decision making process. Contrary to common belief in many occupational health circles, we argue that emergent occupational health hazards should not be approached only as 'technical' or 'economic' value-free problems. Rather, we contend that many of the new challenges faced by occupational health policy are largely related to professional values in response to emerging changes in labor relations. Thus, we argue that the political ideology and the economic interests of key players in the occupational health decision-making process cannot be avoided. Occupational health is more than ever linked to the fate of labor market and social policies.

We review some of the key emerging occupational needs in occupational health research and policy making special emphasis on the European Union. We discuss key principles needed to put into action efficient and equitable occupational health policies in the new work environment. We end with an alternative proposal on the necessary conditions and settings to address the new challenges that are needed to reach effective occupational health policy.

Emerging needs in occupational health research and policy

According to the World Health Organization (WHO) and other international organizations "every citizen in the world has a right to healthy and safe work and to a work environment that enables him or her to live a socially and economically productive life" (6). In spite of those good intentions, the reality is that at the beginning of the XXIth century the workplace is still a dangerous place to work for the majority for workers and a death trap for millions. Major occupational health needs include traditional problems such as unemployment and physical, chemical, and biological hazards, as well as modern problems such as those caused by psychosocial factors or new types of flexible employment. Moreover, those risks are unequally distributed by country, economic sector, social class, gender and ethnicity.

Moving from unemployment to precarious employment

Although it might sound counterintuitive, for most workers the first occupational health hazard is the lack of work. There is overwhelming evidence that unemployment is strongly associated with mortality and morbidity, harmful lifestyles and reduced quality of life (7). At present, 19.6 million in the European Union (8). However, today the frontier between many types of flexible employment and unemployment is becoming blurred and workers experience a variety of dynamic employment forms ranging on a continuum from unemployment through underemployment to satisfactory employment or even overemployment (as in forced overtime). The 'standard' full-time permanent job with benefits is decreasing while new types of 'flexible' work such as home-based work, temporary work, informal work, among others, with reduced job security compensation and impaired working conditions are growing (9). In Europe, 'flexible' employment (defined as part-time workers, workers with a temporary contract and self-employed) increased by 15 per cent in the period 1985-1995 (10). Today, 'precarious paid employment' (defined as fixed-term and temporary contracts) account for at least 15% of paid employment in the EU ranging from 9% in Luxembourg and Austria to 40% in Spain (11).

Since new forms of work organization and flexible employment are likely to share some of the unfavorable characteristics of unemployment it seems plausible that they could also produce adverse effects on health (12,13). The experience of job insecurity has been associated with psychological ill health, and insecure jobs tend to involve high exposure to work hazards of various kinds (14,15,16,17,18) while there is some evidence

with regard to the health effects of different types of 'flexible' employment (19). In the EU, in comparison to permanent workers, employees with temporary contracts are much more exposed to poor working conditions such as vibrations, loud noise, hazardous products or repetitive tasks (11). In addition, in comparison to full-time permanent workers, employees with temporary contracts are two times more likely to report dissatisfaction even after adjusting for various individual- and country-level variables (20).

Moving from safety and hygiene hazards to psychosocial factors

Dozens of ergonomic conditions and physical work loads, hundreds of biological factors, and thousands of chemicals (between 1,500 and 2,000 chemicals are widely used) have been identified as hazardous conditions of work (21). Approximate about 32 millions workers (23% of those employed) in the EU are exposed to agents covered by carcinogen exposure. At least 22 million workers were exposed to IARC group1 carcinogens. Estimates for occupationally determined part of cancer morbidity out of the total cancer morbidity vary between 2% and 38% (6). At present, it is estimated that occupational exposures might be responsible for 13 to 18% of lung cancers, 2 to 10% of bladder cancers, and 2 to 8% of laryngeal cancers in European men (22). Between 10% and 30% of the workforce in industrialized countries are exposed to physical factors and in some high-risk sectors such as mining, manufacturing and construction all workers may be affected (6). The ILO estimates that the European risk averages are 25/1,000 for accidents and 6.25/100,000 for fatalities.

The need to adapt to new forms of employment and management systems in non traditional work-time arrangements with pressure of higher productivity is increasing psychosocial risk factors together with those of health and safety (23, 24,25). Stress (28%) was one of the most common work-related health problems reported in the Second European Survey of Working Conditions in the EU (26), and only one third of the workforce can freely choose its working times such as starting times, holidays and breaks (27). Psychosocial factors such as new demands of higher productivity and workers' skills, and loss of control over work are threatening workers' physical and mental health (28,29,30). Thus, common diseases such as coronary heart disease, musculo-skeletal disorders, depression or sickness absenteeism are strongly influenced by those new psychosocial aspects of work (31).

Moving from hazardous workplaces to social inequalities in health at work

Work hazards are not equally distributed across social groups, occupations and firms. Today, evidence of social inequalities in health and health care and their impact on health outcomes is overwhelming in a number of industrialized countries in which, for a range of health indicators the lower social classes show worse outcomes (32,33). Working conditions play an important role in explaining those inequalities in health (34,35). The lower the occupational class the more likely are the people to experience poor working conditions, including physical strain, low job control, greater noise and air pollution, shiftwork, a monotonous job, and a force pace of work with fewer voluntary pauses (36,37,38). In Sweden, for example, poor working conditions were judged to be the main determinant of inequalities in somatic diseases among occupational groups (39).

The risk of occupational disease and accident vary substantially between different occupations. For example, a list of specific occupational health problems have been recognized for working women. They include the double work burden of job, lower-paid manual jobs, problems of occupational exposures that are hazardous to reproductive health, the threat of violence or to sexual harassment, the design of machinery and work tools often made according to male anthropometry, a higher than average risk of unemployment among low-paid female workers and less job opportunities for women (6).

Small-scale industrial and service enterprises often have few resources, heavy workloads and multiple tasks for one worker. Family members of the workers and entrepreneurs, including children, pregnant women and elderly people, share the work in small-scale enterprises, home industries, small farms in all countries and cottage industries particularly in less developed countries.

Finally, considerable differences are found in the access to occupational health services. According to the WHO, it is estimated that in Europe in

Joan Benach

1999 about 200 million out of 400 million workers are without access to occupational health services. However, while in Finland over 90% of the workforce is covered in other countries perhaps as little as 20% of the workforce may benefit from access to occupational services (40).

Moving from knowledge to policy

Knowledge should be a major pillar in the formulation and implementation of health policy (41). Although in the EU, suitable knowledge on a number of traditional occupational problems is already available (27) the lack of comprehensive, reliable and comparable occupational health data (42,43) is still a major policy limitation for implementing evidence-based policy. A large part of occupational problems are unknown because they are undiagnosed and/or unreported by the current information systems (44). On the other hand, occupational injuries (45) are not appropriately comparable and the situation is even worse for sickness absence (46). Finally, although the European Surveys on Working Conditions have improved our knowledge on occupational risk factors, significant changes to improve the validity and accuracy of the data are needed. In spite of the valuable information generated in the last decade, data are still today unable to provide the necessary knowledge on the workplace to implement evidence-based methods, which only have been applied to occupational health risks and interventions in a very limited way (47).

In the emerging work environment, a new comprehensive strategy in occupational health research, that will require a profound reorientation in many research institutions, is needed. Recently, experts consulted at the European level identified psychosocial issues, ergonomics and chemical risk factors as the top priority areas for future research (48). These general priorities of EU reached by a succinct and informal process contrast with more specific priorities (e.g., fertility and pregnancy abnormalities, indoor environment and risk assessment methods) identified by NORA Agenda in the United States develop by a wide and long consensus-building process lead by NIOSH (49). We argue that research on the causal role of many workplace risk factors in the production of disease and injury is insufficient, data on health inequalities in the workplace is very scarce, and we know virtually nothing about the impact on health of precarious employment. Indeed, many of the implications of the changing work environment to the health of the workers and the families they support remain to be studied.

Principles for a new occupational health agenda

The health of the working population is strongly driven by the choices and actions taken by social and occupational health policies. A simplified standard framework of the policy cycle include the following phases :

- assessment of population health;
- assessment of potential interventions;
- assessment of policy choices;
- policy implementation; and
- policy evaluation (41).

This structure, however, only reflects an idealized model of the policy process. Real policy is a much more complex process that is far from following a rational or logical route. To understand the lack of correspondence between occupational health research, policy and the needs of occupational health it is crucial to analyze the key principles that govern the decision making process. Priorities are not value-free and health policy decisions are not neutral or objective choices; rather, they are closely linked to the values, interests and power of the actors involved in the policy process (50).

Health policy priorities (or what is important ?)

Although the needs in occupational health are large, and the need to implement proper policies to tackle them seems obvious, those problems have not attained so far a real priority position on the health policy agendas. In most EU countries, many traditional problems and almost all of the new ones are waiting to be included as issues of main concern.

If priorities express the preferred order of implementation of actions, so far European policies have mostly focused on health and safety policies with a number of initiatives mainly focused on the development of legislation, the promotion of activities on occupational health services, the spread of information and the improvement of data collection. While those actions have produced some significant improvements, serious doubts of their overall effectiveness have been raised. It has been argued, for example, that the

change resulting from the 1989 Community framework Directive has been relatively limited (51). For example, legislative changes have not produced much improvement in small and medium-size enterprises, significant differences still exist in the extent and functions of preventive services, and there is not still a consolidated federal Agency with proper research background to support evidence-based policy, and limitations on current data gathering have already been pointed out.

In order to attain a renewed occupational health priority agenda that tackle the occupational health European needs, a first step is to keep in mind the concepts lying behind the establishment of those priorities. We postulate that the following items have contributed to the establishment of those priorities in occupational health. First, the need to harmonize the legislation governing occupational health in the countries of the EU (52). Second, the dominance of the lifestyle approach in the occupational health field which converts social problems into problems of individuals neglecting the role played by social and organizational factors (53). Thirdly, a reductionist approach of occupational health in which interventions mainly focus on treatment of sick workers through heath care interventions rather than on all working population and prevention affected by a wide range of occupational health activities (54).

Issues on value judgement (or why things are important ?)

Occupational health action is never a technical value-free process but rather one influenced by the ideologies, beliefs and values of key actors such as officials and national governments, workers and trade unions, employers and corporations, or experts and agencies, among others (55). Occupational health interventions are driven by two main aims : workers' health and economic rationality. Although both are crucial, social actors emphasize them very differently. For workers, unions and some experts and occupational health professionals, health is first. For other actors, however, health is not the most important value rather firm economics come first. This conflict of interest shapes occupational health policies. Thus, unless worker hazards become costly to the firm, companies do not have any priority incentive to protect workers' health. Therefore the acknowledgement of an underlying (political and ideological) conflict over workers' health becomes a necessary step to understand the process of occupational health policy in a realistic manner.

Today, a popular trend in many occupational health circles, is to treat occupational health policies as mainly a financial variable. The main issues of concern -sometimes not explicit- are economic costs and benefits and the most important approach to that economic appraisal is cost-benefit analysis (56). Contrary to this view, we argue that the main focus of occupational health should be to put health first and the main tools should be cost-effectiveness and cost utility analyses in which measurement of outcomes are expressed in health terms (57). The main reasons may be summarized as follows :

- workers have the legal right to work in a healthy and safe work;
- most occupational health hazards are avoidable and preventable; and
- a healthy, productive and well-motivated workforce is a key agent for overall socioeconomic development (6,58).

The relatively low priority given to health is more remarkable in view of the fact that most occupational health hazards are preventable and that poor occupational health and reduced working capacity of workers may cause large economic loss. Even the World Bank, an institution not suspicious of being in favor of workers, has estimated that up to two thirds of occupationally determined loss of disability-adjusted life years (DALYs) could be prevented by occupational health and safety programmes (59).

Issues on power (or who influences whom ?)

In articles, technical reports or other publications on occupational health policies there is little attention paid to the political issues influencing the making of health policy. From the very beginning, the health policy process is shaped by political and economic forces. Differences in the distribution of political and economic power of those forces will have a profound influence on the work environment and health (55).

The process of negotiation, bargaining and the accommodation of different interests reflect the different values and levels of power of key actors in the decision-making process. In turn, power determines key issues such as which health regulations will be approved, which kind of working

conditions, who will be exposed to risks and what is considered an acceptable risk, which choices will be chosen and which will have to wait. Governments are centrally involved in health regulation and provision of occupational health policy. However, too often occupational health laws implemented by governments are considered as the final goal to reach prevention rather than being just an important first step to achieve the crucial outcome : to improve as much as possible the health of all workers.

The strength of labor movement determines a multitude of the issues that directly influence workers health, including what information is generated about workplace hazards. It has been said that probably the major influence in the history of occupational health has been social movements (60). However, too often, labor has focussed on male occupations and full-time permanent jobs neglecting women and new types of flexible employment, that are less likely to be unionized, as in the Spanish case.

Management's perceptions of worker ill health and occupationally derived disease are strongly conditioned by economic considerations related to the growing pressure of higher productivity faced by companies. In fact, there is frequently opposition, sometimes well organized by pressure groups or economic lobbies, against the goal of workers' health. The case of asbestos is a known example. It is expected to cause 500,000 asbestos cancer deaths in Western Europe over the next 35 years and millions world-wide (61). Although asbestos is one of the most dangerous environmental carcinogens (62) an immediate European and worldwide ban on the production and use of asbestos is long overdue (63). Although the use of amphibole asbestos has been banned in most European countries, to employ chrysotile asbestos in a number of widely used products it is not justifiable when there are technically adequate substitutes (64).

Pressing policy challenges to tackle large health needs

Although the need for a new occupational health prevention seems evident, the health of the working population has yet to become a top priority of the European policy agenda. As we have argued above, traditional occupational health interventions, thought to be implemented on a typical permanent job of a mid- and large- standard company, for a typical male employee, and for traditional occupational hazards, are unlikely to meet the emerging changes of a new work environment. According to our analysis, the main challenges of our discipline are to establish the priority of public health over economics, to improve our knowledge of contemporary occupational health needs, to implement more efficient interventions, to increase worker participation in these interventions, and to enforce and assess them properly.

Putting health first

Occupational health policies can not mainly be prompted by purely economic concerns. Health is a right and diseases should be prevented.

Implementing action on evidence-based knowledge

For many classical occupational diseases greater gains in health might be made from the application of current knowledge. In those cases action rather than more knowledge is needed. In addition to the available information on known risk factors, a substantial part of occupational health research is unused and lacks any application. An important distinguishing feature of many occupational diseases and injuries is that they are already preventable but often established scientific evidences on occupational health risk factors have a delay of decades or even centuries until preventive action is taken. When enough information has already been generated, it is socially unacceptable not to act to reduce the risks of the work environment (1). Indeed, if we could make use of existing knowledge, with all its limitations, the effects on European worker's health would be enormous.

Expanding and improving occupational health information and data systems

The production of knowledge is not neutral but rather a social process defined by the social values and interests of researchers, social groups and society as a whole. Today there is a strong need of expanding and improving international, national and company health information systems. Efforts are needed for improving methods of risk assessment, for making reliable summaries of personal occupational histories and occupational exposures collected from several short-term pieces in several enterprises or in varying jobs (65).

Improving research on poorly known occupational hazards and new risk factors

Research is socially constructed rather than a static and objective body. The improvement of research is crucial for making better occupational policy. The need to obtain of better knowledge may include the following challenges. First, to study the interactions between the physical, chemical and biological agents of traditional occupational hazards as well as of the complex combinations of adverse ergonomic, psychological and psychosocial modern factors of the work environment. Second, to study a number of "invisible" occupational issues. For example, much of the scientific research and policy standards has concentrated on men's occupations (66). The lack of research about health consequences of women's working conditions makes it difficult to estimate both the full range of effects and the extent of exposure to hazards in the workplace (67). Third, better well-designed epidemiological studies on evaluating the causes and consequences of interventions are needed (65) and other research approaches must play an important role in shown risk factors and demonstrating that measures taken to eliminate some hazards are effective. Fourth, globalization makes workers move geographically into culturally and socially new environments with numerous, and often unknown exposures. Globalization and flexibilization of work are macro trends with a large influence on population's health, that need to be studied (65).

Tackling major inequalities at the workplace

Working conditions play an important role in making inequalities in health. Identification of high-risk occupations and occupational groups is of great importance for focusing prevention and control and for setting priorities. Today, there are major inequalities between existing preventive systems and problems of incorporating the provisions of the European Union into national safety at work legislation. Knowledge, priorities and interventions should be adapted to each type of worker, workplace and company (29). In this regard, the problems of females, migrants and precarious employees as well as those of small enterprises deserve special attention.

To increase workers participation

Worker participation at different levels in the occupational health policy process is necessary. Drawing from successes in occupational health research, participation should be expanded into other areas (policy, prevention, interventions, health and care services) and levels (european, national, and company). As Sen has recently argued, democracy (including workplace democracy) is an essential feature of development, including health (58). Two decades of research on worker control and health allow us to draw this conclusion. Workers could be much more involved in all stages of research concerning them, including: priority setting, formulation of hypotheses, study design, data collection, interpretation of findings, and recommendations for control measures through such mechanisms as joint labor / management-administered programs.

Increasing the integration and quality level of occupational health services

Occupational health services, integrated by an occupational health team including physicians, ergonomists, safety engineers and hygienists, should develop a multidisciplinary task, from risk assessment to medical surveillance, to protect workers' health and maintain their work capacity (68). Implementation of quality management systems in occupational health services is needed. Government must ensure a minimum mandatory requirements establishing a certification scheme. Self-regulation should only be applied to measures that exceed the legislative requirements. In fact, quality management standards should only be seen as tools to facilitate compliance with legal requirements and policies (69). Today, except for occupational physicians (70), there is not a clear professional career at the European level for professionals such as hygienists, ergonomists or safety engineers.

Implementing systemic interventions that go beyond legislation through the enforcement and compliance of preventive actions

Occupational health laws are often considered as the final goal to reach prevention rather than being just an important first step to achieve the outcome of improving health. Modern legislation is permitting more flexibility in the use of the workforce. More and more often we observe how previously non admitted situations are made legal. The growing precarization of work is making existing labor law less useful in the protection of an even larger number of workers, and precarious workers face a huge pressure to regain control of the health aspects of their workplaces. In contrast

to many non-occupational diseases, occupational diseases can almost always be prevented. Even the most hazardous jobs could be arranged so as to minimize the risk of death for any individual worker. It is ultimately government's, the labor movement, and labor based political organizations responsibility to define and be accountable for a clear occupational health policy for the whole country. The enforcement of actions on all levels, accountability through mechanisms for coordinating, monitoring and evaluating progress in policy implementation and responsibility of compliance of occupational safety and health standards.

Conclusions

Occupational health policy in the EU is at a critical stage. Although deaths, diseases and injuries caused by occupational exposure to dangerous working conditions are today major problems, many crucial issues of occupational health remain low at the occupational agenda. Neither most of the national authorities nor the European Union institutions are providing the right knowledge and the action to protect the health of all Europe's workers. Even though we have been taught to think of progress in linear terms, the evolution of occupational health will not necessarily follow that path (60). If the needs in the new work environment are extraordinary, the actions also need to be extraordinary.

Political events of recent years reflect the precarious position of occupational health in the health policy arena. Despite the large numbers of professionals providing services and the high costs associated with them, the institutional role of occupational health is low. It is easier to investigate or close a restaurant after a case of food poisoning than to investigate or close a factory after the outbreak of an occupation-related disease (60). These pressing challenges will inevitably face up to the issue of power at work. Democracy at work should be promoted as not only just and fair, but also as a method to reduce ill health, and to allow for further development of people's emotional, intellectual and social capacities (58,71). A new occupational health agenda is waiting to be implemented. The future is open to opportunities, the task ahead is enormous.

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Towards New Prevention Strategies

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■ **Ageing and sustainable work ability**

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5. Case Studies

Road Transport

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Professional drivers' working time as a factor of flexibility and competitiveness in road haulage

Summary of the introductory report

Peer review articles in 1981 and 1987 (references 7 and 8) showed that the risk ratio of professional drivers being involved in road accidents varied with time of day (daytime or night driving), and length of immediately preceding work day span. The level of risk rises significantly after a work day span of 11 hours, and is also affected by differences in production planning methods (reference 10).

Recent findings by psychophysiologists (reference 4), show that drowsiness in professional drivers is related chiefly to total productive activity time. This includes non-driving work time (unhooking and re-hooking trailers, stowing, goods handling and carrying, vehicle maintenance, commercial and administrative duties), short work breaks (meals, statutory rest periods) plus driving time. The time of activity during the day is also relevant. "Night-time" work (20.30 to 07.30) is more likely than "evening" work (18.30 to 04.00) to produce signs of drowsiness and fatigue.

Physiologists' and sociologists' findings concur in suggesting that the basic issue in the road transport industry is working time and work tempo rather than driving time. But driving is the core concept in European safety regulations !

These are seen as being dual-purpose: furthering road safety while regulating economic practices. As regards safety aims, research findings are at odds with the underlying philosophy of regulation, which is to control driving and rest times without reference to the total working time involved in transport operations. Bizarrely enough, as we shall see, the regulations and legislation on professional driving time are at odds with one another.

The full report in French and English is available on the TUTB website : www.etuc.org/tutb/uk/conference200063.html

The road haulage industries

The freight industry is the practical expression of seamless free trade. Road haulage is by far the dominant form of goods transport. Over three quarters of physical freight is carried by road. This is because of road haulage's proven adaptability to the changing forms of production and trade, its ability to cope and accommodate over close to a century's development.

The industry structure is marked by extreme interdependence between three groups of economic player. Actual physical carriage is handled by the vast patchwork of smaller road transport operators whose number and range reflects the variety of economic set-ups which underpin the trade flows they facilitate. They are a huge input resource and account for the bulk of physical collection, routing and delivery operations in all the interstices of economic activities touching the most far-flung areas and specific transport needs. There is a view that many carriers carry out no commercial functions! At the heart of the socio-economic web lie the big trucking companies who act as consolidators, haulage contractors and forwarding agents, and so in practice are responsible for organizing and distributing road freight. Small and medium-sized hauliers depend on these large haulage contractors for some or all of their freight business. As a result, 85% of industry subcontracting business is generated by around a fifth of haulage contractors. The final category of players is the consignors, i.e., the industrial, commercial and agricultural firms who use road transporters' services for their physical supply and delivery needs. But they may also buy or rent vehicles to transport their own products themselves, especially if hauliers' charges seem too high. This is what underpins the structural dependency between the general run of industrial and commercial firms (their own segmentation and organization being shaped by changing economic relationships) and the transport industry.

The pressure on the transport industry, comprised of a host of small and medium-sized firms gravitating around powerful large operating combines that control allocation of freight to be carried, is more or less directly passed onto drivers themselves. This is because flexible, seamless, on-demand transport allows total freedom them to schedule transport on day n for delivery the following day. Use of this ability is restricted only by the legal conditions set on driving and rest times.

What most characterizes drivers' work processes is the need to constantly readjust their time use. All the upsets that can slow down the driving process (traffic jams, bad weather conditions, etc.) or cause knock-on delays in transport sequences (loading bay and/or goods handling equipment availability, import and export authorizations, quality of goods disputes between consignors and consignees, customs duty disputes at borders, etc.) are daily occurrences. Drivers sequence their activities by reference to these imponderables. Most often they use their "statutory" rest periods (early morning, mid-day, evening or night) to catch up on the backlog of lost time or make up foreseeable lost time by carrying out the transport operations that comprise their daily or weekly schedule. Planning ahead to make up for lost time inherent in trying to forge real-life physical links between different production or retail locations each with its individual operating methods and procedures is the abiding concern of drivers. Adapting to the specific constraints of the places they serve means that drivers must adjust their own working time and rest patterns to these practical pressures. As a result, they work longer hours than most employees.

Drivers' working conditions

Directly comparable French surveys[1] carried out in 1983, 1993 and 1999 using consistent methods[2] (reference 11) establish that the weekly working hours of lorry and coach drivers (excluding cross-town bus drivers) are always longer than the observable averages for all non-driving personnel. This holds true regardless of the type of job[3]. Six broad groups of drivers are distinguished by whether their work situation allows them to "back each day" or requires them to be "away at least two days running". Drivers were also divided into further sub-categories according to whether they were "away one to three nights" or "away four nights or more" each week. They were distinguished by status as self-employed (owner-driver) or employees. The latter were divided into those employed by a haulage firm, or an industrial or commercial engaged in own-account carriage.

Drivers employed by road haulage firms work longer hours than their counterparts employed by

[1] Designed and directed by Patrick Hamelin with the collaboration of Marie Josée Mure in 1975 for the ONSER, Marie Josée Mure and Marie Ange Cambois in 1983 for the IRT/INRETS, and Marie Lebaudy in 1993 and 1999 for the INRETS.

[2] The method used was to get drivers to log their time in quarter-hour periods for two weeks. Using these time logs, five work activity and two rest/sleep cycles could be identified. Drivers were selected by random sampling. The survey group included employees, owner-drivers and small employers working in transport firms or industrial, commercial or agricultural undertakings for which road haulage was only a secondary activity. The merit of this method is that comparisons can be made between the widest range of situations. It also accommodates the fact (during the same two week data gathering period) that the length of the working day or week results from a chronologically linked sequence of different, mutually-interacting activities.

[3] The following remarks refer to Tables 1 and 2.

industrial or commercial private carriers. Drivers "away two or more days" work longer hours than their colleagues who are "back each day".

The working hours of "back each day" drivers employed by firms in "other sectors" of the economy declined between 1983 and 1993, then levelled-off up to 1999. The working hours of "transport sector" drivers stayed unchanged between 1983 and 1993, but fell by approximately 1.6 hours in 1999 for employed "back each day" drivers and 6.4 h for drivers "away four or more nights". The same trends were observable for owner-drivers "away several days", while "back each day" owner-drivers worked longer hours than in 1993.

Driving time declined for all job categories except for transport sector drivers "away one to three nights". The total length of "non-driving" work changed very little for drivers "back each day" and drivers "away one to three nights". Both driving time and non-driving work hours decreased sharply for transport sector drivers "away four or more nights" (-3.3 hours and -3.1 hr, respectively).

Labour productivity increased slightly for the "routing" aspect (equivalent mileage covered in fewer driving hours) between 1993 and 1999, and remained unchanged for the non-driving part of work in all categories apart from "back each day" drivers, where it rose.

Long-distance lorry drivers in EU countries work long hours. It is never easy to compare surveys carried out using different methodologies. What is needed is a relevant yardstick. Information collected between 1975 and 1999 in a multi-country series of surveys of representative[4] and non-representative[5] samples using different methodologies were compared by reference to a common data unit - the typical working day. The similar orders of magnitude are there for all to see. Also, the time required to perform each work activity seemed not really to have changed over time !

Eleven-hour working add up to a minimum working week of 55 hours, which is way above general practice, let alone every rule and convention applicable to other sectors of the economy.

The relatively stable twenty-year figures underline the fact that the success of commercial road transport is largely due to its departure from common labour practices in the employed sector in industrialized countries. Certain preconditions were needed for that. Over the period 1983 to 1993, transport deregulation which stoked competition, and unemployment which increased the labour supply, are probably responsible for keeping weekly working hours entrenched outside generally accepted norms. Above all, they were instrumental in halting the slow trend towards shorter working hours observed between 1975 and 1983 in the "transport sector".

The industrial unrest which marked the Nineties helped create a wider awareness of the shaky foundations of the "implicit social compromise" on which the road transport system had operated until then.

Table 1 : Weekly working hours and allocation of work activities of *employed* HGV drivers. Comparison of the INRETS 1993 and 1999 survey findings

Statistical unit : drivers' working week

	Other sectors				Transport sector					
	Back each day		Away ≥ 1 night per week		Back each day		Away 1 to 3 nights per week		Away ≥ 4 nights per week	
	1999	99-93	1999	99-93	1999	99-93	1999	99-93	1999	99-93
Driving	21.0	-1.4*	29.2	-3.4	27.4	-1.1	35.3	+0.2	39.3	-3.3*
Goods-related operations	17.1	+2.1*	12.6	-0.3	15.4	-0.1	11.2	-1.8*	10.4	-1.6*
Waiting	1.4	0.0	1.4	-1.1	2.6	0.0	5.1	+1.2	4.6	-0.8
Other jobs	3.8	-0.2	3.5	-2.2	1.7	-0.4	2.2	-0.2	1.8	-0.7*
Total working time	43.2	+0.5	46.8	-7*	47.2	-1.6*	53.8	-0.7	56.1	-6.4*
Number of drivers	(247)		(31)		(334)		(116)		(229)	
Driving rate	0.49	-0.03*	0.63	+0.03	0.58	0	0.66	+0.01	0.70	+0.02*

Asterisked values indicate a significant difference between the 1993 and 1999 averages.

Table 2 : Weekly working hours and allocation of work activities of *owner-driver* HGV drivers. Comparison of the INRETS 1993 and 1999 survey findings

Statistical unit : drivers' working week

	Owner-drivers			
	Back each day		Away ≥ 1 night per week	
	1999	99-93	1999	99-93
Driving	25.8	-3.2	36.4	-0.8
Goods-related operations	20.6	+5.1*	14.5	+1.4
Waiting	1.7	-1.8*	3.8	-1.5
Other jobs	4.9	+1.5	1.9	-1.5
Total working time	52.9	+1.6	56.6	-2.4
Number of drivers	(32)		(17)	
Driving rate	0.50	-0.07	0.64	+0.01

Asterisked values indicate a significant difference between the 1993 and 1999 averages.

[4] France - 1983, 1993, 1999.

[5] France 1975, Holland 1986 and Germany 1996.

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The balance between pay levels and autonomy in performing work are central to building the "social compromise" which has begun to crumble of late. It stems from the singular nature of the transport deal. Transport is both a physical operation and a bargain giving rise to commercial and financial transactions relating to the products transported and the transport operation itself. These different levels of the bargain can impact the practical conditions in which the physical operations are carried out. At every point while the different component relationships of these different transactions are being established, negotiating abilities may be needed to overcome the different obstacles to smooth goods routing. The trade-offs for this are bonuses and perks.

This is exemplified by an anachronism. Pay levels do not reflect the number of hours worked. Not until pay is totalled up with "travel expenses" (i.e., cost of meals and "overnights") do the highest pay levels correlate with the longest working hours. So, drivers in "other sectors" are better paid than their "transport sector" counterparts for working fewer hours ! And within the transport sector, drivers "away four or more nights" are paid broadly the same as "back each day" drivers for working 10 hours more a week !

The reason why road haulage drivers have historically (and still do) put in the hours and take their rewards in "travel expenses" instead of full overtime pay is because it gave them a standard of living that few other than the highly-skilled manual jobs could offer them (references 6, 14, 15). This slight benefit is the quid pro quo for the trust which employers had to place in drivers who were out of their reach during turnround time and so had it in their power to determine whether the transport operations turned a profit. It is not unknown for drivers to arrange for "back hauls" to balance their employers' traffic flows and top up their own incomes (loading incentives and other negotiated perks !), let alone the "blind eye" turned to those who ensure and guarantee the effective fulfilment of the bargain by facilitating the various dealings.

The growth of mass communications in the Seventies enabled a more centralized check to be kept on trade and transport operations. The employer now knows where a lorry should be almost to within the hour. The firm is in direct touch with its customers, the consignors and consignees. Drivers' autonomy on the road was so diminished as to make fixed price payment ludicrous when virtually everything had gradually become controllable. Swapping one tiring job carried out in the sequence decided by the driver, invested with his employer's "necessary trust", for an equally-exhausting job tallied and checked down to the last detail meant that every hour's work had to be paid at the going rate. Payment in full for every list minute of every hour worked is now the only basis of the transaction in the subordination relationship created by the employment contract.

But that shift in the relationship between drivers and employers did not come automatically. For decades, hauliers have been paid on revenue kilometres. Also, regulations long considered it normal not to pay full waiting times. As a result, driving time was long regarded as the only productive time. The emergence of a new way of basing the employment contract on open-and-above-board accounting of hours actually worked did not mean that the equality gaps between the economic situations of the different firms and the social situations of the different population groups which make up Europe would not continue to act as a brake on any significant widespread improvement in drivers' real-life working conditions.

The unchanging realities of drivers' work forcefully brought out in these surveys stems from specific structural attributes of road transport production processes. Notwithstanding the changes wrought by recent developments in logistics, a significant part of the freight market relies on a wide range of different and highly specific business arrangements to carry out its operations. So much transport is still "custom" production. The practical service elements are fitted to the particular forms of dealing specific to each consignor and consignee - their time and space constraints. Often, the only thing negotiated is the mileage rate. The practical conditions of goods routing, i.e., the conditions of collection and delivery, and the run as such, are not routinely costed. The mix of practical conditions in which each driver provides these services then gives a key for analysing the range of work situations which they assume. The high dispersion index values for most of the activities which comprise drivers' work are certain evidence of this.

In the past, "transport sector" drivers on more-or-less regular or specialized routes have tended to work fewer hours than their (majority) counterparts effecting operations in a range of contexts and elements.

The 1999 survey findings show that the importance of the singular productive processes carried out individually by drivers themselves has diminished. The marked increase in the proportion of drivers using multiple-driver, pool lorries - most commonly in larger firms - points up the extent of the shake-up in production functions. For the first time, comparative statistics have shown that transport sector drivers "back each day" and "away four or more nights" are working shorter hours in large business units than in small ones. There is no change for drivers "away from one to three nights".

The ratio of weekly work to weekly rest is a contributory factor in shaping working hours. Drivers who do not have two days' rest work between three and four hours longer than drivers with two full days off a week. These are used either on Saturday morning to finish off a production cycle, or on Sundays to get ahead on the next week's cycle.

Key challenges for the industry crystallize out around labour costs. Road transport has long enjoyed a plentiful labour pool, replenished by the flight from the countryside. The income differentials and autonomy of drivers were what attracted young people into the job, and kept older ones in it. But social changes have occurred in the labour force, and the lorry driver intake is essentially drawn from the sons of urban manual workers who compare their situations with those of other workers. The profession's only worthwhile differential advantages stem from what its has to offer in better practical social guarantees in terms of pensions and health. And that makes wages more important than income not counted for social security contributions, like travel expenses.

The differential lifestyle and income advantages which professional driving offered to attract rural labour were on the carriers' agenda. This potential labour source having dried up, they are now tempted to look over the EU's fence for a labour pool which, even on pay levels which a French or German worker would regard as low, would still be earning much more than the far lower pay levels available at home. Herein lies the nub of the debate on Eastern European labour, considered as a lever for bringing down labour costs.

Are hazards and health costs to the terms of international competition ?

Even so, the volume of driver supply and demand in the transport sector operates through singular adjustment mechanisms. Attrition (approximately 15% to 16% a year) and internal mobility have always been high, particularly among those with the worst conditions in terms of working hours and rest days. Mobility is highest, of course, among drivers "away for four or more nights".

It is fair to say that there is an effective social selection of those who stay in the job. The process goes something as follows. A young man who goes into it either from a liking for trucks, travel, engines, driving, to get some money in the bank, or simply in his pocket, gets put to the test by the physical, administrative, commercial and human constraints of the job. Relative disillusion may follow. Those who cannot put up with the lack of sleep, stress of being kept hanging around and dealing with customers will quickly leave. Those with the inner resources to cope with the working conditions and the many contingencies and hazards that can crop up while "on the road" will stay. And the ability to withstand the hardship of the job is an issue for their entire working lives. The young person may then chop and change firms several times in search of a comparatively easy, stable and well-paid job.

The choice is a stark one - either stay on and cope with the hardships, which is a day in-day out job of learning and honing the skills to deal with them successfully, or leave it either voluntarily or forced out by ill-health. The high turnover of drivers, easily replaced until recently by younger drivers, has enabled a proportion of the health-related social costs to be externalized.

Truck driving places great demands on both physical and mental energies because operations rarely go according to plan. Drivers are constantly having to make up lost time. So, rhythms are broken: drivers have to be able to switch from two hours' driving to an hour handling goods, then going to collect shipping documents prepared by

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the customer before taking the wheel again for another four hours' driving to get to the next stop early enough to deliver, drive another hour and a half to pick up another load, negotiating loading and unloading times and conditions at every point in these breakbulk operations. All the dealings, negotiations and exchanges attendant on these simple operations can leave drivers feeling extremely stressed-out. These are stressful work rhythms, and feelings of fatigue, not to mention illnesses, can occur when least expected.

Drivers' illnesses

Many drivers smoke to ward off sleep, keep going, and cope with stress. Heavy smoking is more common among those who work the longest hours (31% of transport sector drivers "away four or more nights" smoke at least 20 cigarettes a day, compared to 17% of "back each day" drivers in other sectors).

There is a higher prevalence of smoking, overweight and high blood pressure - all risk factors for cardiovascular diseases - among professional drivers than in the general labour force. Overweight and high blood pressure are more common among older drivers. Younger drivers tend to be heavier smokers !

The second group of lorry drivers' disorders are spinal, neck and back pains. They are not found to increase with the worklife span, but "are closely correlated with workload" (time spent driving and handling).

One suggested way to tackle both sets of disorders is by making occupational doctors and professionals better-informed about the risks of cardiovascular diseases, and cutting working hours to reduce the incidence of overwork-related spinal, neck and back pains (reference 3).

Drivers' accident risks

Road haulage as a branch of industry is more prone to particularly severe work-related accidents than other sectors, because road accidents tend to be worse than accidents at fixed workstations. In France, between a hundred and a hundred and twenty professional drivers die each year in road traffic accidents (including foreign drivers passing through).

But work-related road accidents involving HGVs are not just serious for their drivers, but also for the occupants of the other vehicles involved. The internal/external fatality ratio (HGV drivers to other drivers and pedestrians involved) is nearly one to ten ! So aspects of the driver's health which may be relevant to the risk of a heavy goods vehicle being involved in an accident is a major issue.

Asleep at the wheel

Of all causes of accidents, falling asleep at the wheel has become a major concern in the past ten years. Drowsiness is a sign of fatigue, but especially, a material sign of loss of alertness.

Researchers have long been trying to assess this phenomenon (table 3). Over half of long-haul drivers have at some time dropped off at the wheel.

Time and accident risks

The linkages between time worked or the point during work and the time conditions of accidents involving HGVs were established some years ago by calculating a relative risk for an exposure level to the known danger (references 7, 8, 11).

Risk levels vary with three key attributes when it comes to the general problem of fatigue. There is a raised risk of impaired function and drowsiness at *night*; a raised risk related to the *length of the work day span* from a certain number of hours worked; while *irregular working hours* also lead to disorders due to the difficulty of recovering.

The level of risk appears to increase according to whether none, one or more of these attributes are present in the risks analysed. Where only one attribute is present, the accident rate is akin to the exposure level and the time factor does not

Table 3 : Dozing at the wheel

Drowsiness at the wheel Hamelin, France, 1993 and 1999 : "have you ever during your career blanked-out or dropped off for a moment ?"		**Yes**
■ Long-haul lorry drivers employed by haulage firms (N = 345)	in 1999	62 %
■ Long-haul lorry drivers employed by haulage firms (N = 212)	in 1993	58 %
Van Ouverkerk *et al*, Holland, (N = 650)	in 1986	60 %
Fuller, Ireland, (n=44)	in 1978	45 %
Linklater, Australia, (n=615)	in 1977	60 %
Tilley, the USA, (n=1500)	in 1973	64 %

influence risk level. Where two attributes are present, the risk level is at least 3 times higher than the lowest relative risk value. Reduced to a common unit of exposure, the risk among transport sector drivers (chart 1, bars I, D+ I, N+ I, D+ N+ I) is higher than among their counterparts in other sectors (chart 1, bars 0, D, N, D+ N).

Road haulage firm drivers differ significantly from drivers working in industrial, commercial or agricultural firms. The long hours and the irregular work tempos of transport sector drivers contrast with the shorter, more regular working hours of drivers for industrial and commercial firms.

Conclusions

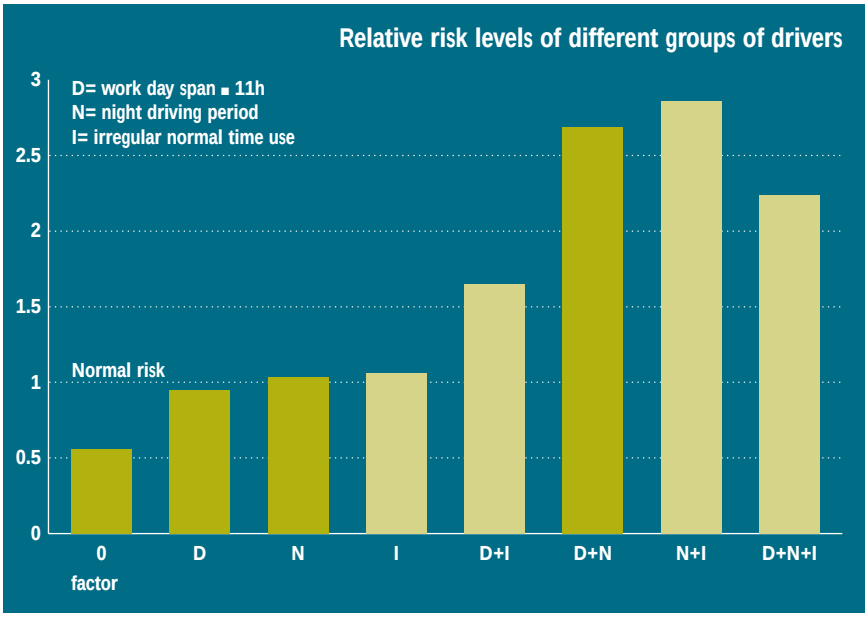
Several years' extremely fierce international competition within the European Union has driven haulage charges resolutely downwards. Economists argue that the production cost conditions of competition in terms of vehicles and their equipment are tending to even out, whereas labour costs differ widely as a result of each country's labour history. Also, the employment laws of the different EU countries, especially as regards the definitions of working time and the benchmarks used to calculate it (annual, monthly, weekly time) are not self-consistent. All this creates distortions, giving rise to complaints from the various national lobbies about "other countries' social dumping" !

Real distortions exist in pay levels. But the "angels on a pinhead" debate about hours of service seems to have been settled by opting for a daily basis. Employment laws may not be consistent Europe-wide, with each country jealously guarding its own legislation, but the international drivers on Europe's roads nevertheless seem to have very similar working hours !

We must face facts, therefore: the only common law we have to govern European hauliers' labour management practices is EEC Safety Regulation 3820/85. Haulage contractors calculate their prime costs by comparison with other European hauliers, not according to the "national exception" represented by each country's national employment laws !

The lowest common denominator between employment laws, in fact, is the Community

Chart 1 : Level of risk and attributes of drivers' hours of service



Source : reference 8.

Safety Regulation (table 4), which is generally binding regardless of the country of origin and status of the driver (employed and owner-driver).

However, if the ratio of driving time to total work time evidenced by the surveys - the driving rate - is accepted as material, it is clear that European legislation allows drivers to work 65.5 hours under the average rules (table 5) or 80 hours if the authorized maximum (56h driving) is used in alternate weeks. Strictly, complications would arise over a period of several consecutive weeks due to the requirement for a rest period of at least 36 hours consecutively after six days' work, and the maximum 90 hours driving averaged over two weeks. But checks to reconstitute the sequential consistency of all tachograph discs over more than a week are so few and difficult to carry out that operators are left a fairly free hand ! Anecdotal evidence from inspectors shows how easy it is to produce paper proof that the previous week was a week off !

Table 4 : Summary of European legislative provisions on driving time

	Daily driving time	Maximum daily driving time	Maximum weekly driving time	Average weekly driving time
Regulation EEC 3820/1985	9h/day*6	10h/day*2	56 hours	45 hours

Table 5 : Theoretical calculation of working time which accommodates the implementation of average driving times under European law

Employed transport sector drivers	Back each day		Away 2 days or more	
	1993 Survey	1999 Survey	1993 Survey	1999 Survey
Weekly working time	48.8 h	47.2 h	59.7 h	55.3 h
- driving rate	58.6%	58.1%	67.0%	68.7%
Possible weekly working time time under the Regulation 3820/85 provisions	45h/0.586 = 76.8 h	45h/0.581 =77.5 h	45h/0.67 = 67.1 h	45h/0.687 = 65.5 h

Contrary to some claims, the European regulations are generally applied, although not necessarily national legislation, nor even, the forthcoming European legislation on working hours (table 6). Most of the transport sector drivers "away for two or more days" are working longer than allowed by French and European legislation. Of these, one in five are breaking the European 45 hours-at-the-wheel rule.

The ratio of driving time to total working time - dictated by the relative rapidity of "breakbulk operations" (i.e., checking goods and papers, loading and unloading) - also influences daily tempos.

Having regard to actual production conditions, the working hours formally authorized by the European Safety Regulation are at odds with what is known about the increased probability of drowsiness and risk of accidents. As stated at the beginning of this paper, both are predicated by total productive activity time. To legislate only for driving time endorses and legalizes risk-taking, it does not abolish it.

By setting rules only on driving time, the European regulation authorizes what most national employment laws - and EU legislation in the pipeline - prohibit, and to all intents and purposes invalidates them. That hardly makes for simpler application of explicit ground rules.

What keeps this inconsistency alive is the failure to create linkages between the approaches taken by the different classes of legislation. The approaches of the employment regulation system and the road safety system must be knitted together in order to move the situation on towards a consistent future dissemination of safety standards. It cannot be taken as an inevitability that long-distance drivers should average twelve to thirteen hour work day spans in 1999 (14 to 15 hours in 1993), when the risk of accidents doubles after eleven hours' work !

Current European legislation, which is universally binding, is relatively easier to police than employment legislation and also more widely complied with. Only by setting a time limit on the overall production cycle performed by a single driver can we hope to narrow the range of variations and crack down on non-standard practices. Total production time and driving time are inseparable. Long-haul transport industry drivers average 38 hours driving time and a 55 hour work week. Anyone clocking up over 40 hours driving time cannot be working less than 48 hours; in seven out of ten cases, they will be working over 56 hours, and in three out of ten cases, over 60 hours. From 40 hours' driving, in three quarters of cases, the average daily work span will top 12 hours.

Perhaps the real problem is that by authorizing an average 45 hours at the wheel, the European rule actually endorses abuses ! Instead of laying down a maximum 48 hour working week for employed drivers only which cannot possibly be consistently policed EU-wide, while sanctioning an average 45 hours behind the wheel, which is tantamount to preventing drivers from working only 48 hours, would it not be better to cut driving times down levels at which heavy goods vehicles can be driven safely !

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Table 6 : Rate of drivers in each group with weekly working hours or driving times above those of the November 1994 agreement rules, European regulations and the labour law directive

	Total population distribution %	Drivers > EEC rules, driving > 45h	Drivers > Directive 2002/3 working > 48h	Drivers > 1994 Agmt working > 52h	Drivers working > 56 h	Drivers working > 60 h
Employees "Transport Sector"	67.5	10 %	61 %	46 %	32 %	18 %
▪ Away ≥ 1 night	34.3	17 %	81 %	66 %	45 %	27 %
Away 1 to 3 nights	11.5	9 %	74 %	60 %	41 %	22 %
Away ≥ 4 nights	22.8	21 %	83 %	69 %	47 %	30 %
▪ Back each day	33.2	3 %	41 %	25 %	17 %	8 %
Employees "Other sectors"	27.6	-	20 %	11 %	6 %	4 %
▪ Away ≥ 1 night	3.1	-	32 %	23 %	19 %	12 %
▪ Back each day	24.6	-	19 %	9 %	5 %	3 %
Owner drivers	4.9	6 %	73 %	59 %	49 %	20 %
Total Employees + Owner-drivers	100 (1006)	7 %	51 %	37 %	25 %	14 %

Source in Table 5 and 6 : P. Hamelin, 1997, Le transport routier, un mode de production en tension, *in Les raisons de la colère*, éditions de l'Atelier and INRETS Report on the 1999 HGV drivers survey.

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Workshop report

Road Transport

Danny Bryan
Workshop Chair, National Secretary, Road transport, Transport and General Workers Union, UK, Representing the European Federation of Transport Workers

Our workshop examined the main features of the road transport industry. Its diversity in terms of size, with a large number of small companies, many running only about 4 or 5 trucks, means that the industry finds it difficult to respond to initiatives on improving health and safety at work.

The industry's funding has also made it a low value, low profit and low esteem sector. Its defining characteristic has been that it is driven not by delivering better quality, but by cost-cutting. This has resulted in long distance drivers working in excess of 60 hours a week. Drivers experience health problems stemming from long hours, stressful working conditions and constant pressure to do more work in less time, exacerbated by the growing problem of congestion on our roads.

The other growing trend towards contracting and self employment as a means of reducing costs, results in fewer drivers and fewer trucks being used. The oil industry offers a good case in point of this.

A major oil company transfers its operation to a contractor; to maintain its profit levels, the contractor will typically reduce both the number of people and trucks it employs on the business. One contractor I met recently, in order to achieve its targets, produced a shift pattern which rotated over a seven week period. This required drivers to work 5 Sundays and 5 Saturdays out of 7 - the virtual destruction of the traditional weekend.

One side-product of this arrangement also increases rest-day working, because there is no slack of drivers within the system. Our work group also considered developments in self-employment. In Spain, 54% of all goods transport workers are self-employed. The survey carried out by the Spanish Union in the parcels delivery sector identified a number of key problems associated with health and safety, long hours, pressure on deliveries, working during rest periods to maintain the truck and attend to administration, lack of control over decision making and isolation from other workers.

The reality of self-employment in this industry results in worse working conditions; self-employment is less a liberating than an enslaving experience. One key aspect of the industry that requires attention is harmonisation of the law. The current laws regulating working hours for drivers only cover driving hours and rest time; but up to 30% of all work is non-driving work, and can result in regular 15-hour days being worked, several times a week.

The group also looked at initiatives taken in Sweden to address the problems of small operating companies by introducing regional safety representatives. This allowed unions to nominate their own reps to cover several different companies, which significantly improved health and safety monitoring. But there is still a long way to go.

The long and the short of it is that our industry is affected by all of the worst aspects of pressure at work. No-one is prepared to accept the real cost of transport, so we end up with low value, low profits and low esteem. It is an industry that is difficult to organise and needs government control to effectively improve standards for workers. We have an opportunity to remove the uncertainty from our future and give ourselves real choice; the test will be whether we develop practical solutions to address the issue.

Danny Bryan

It was clear from the workshop contributions and concluding debate that the health and safety of drivers - and road users generally - are rising up road transport unions' agendas.

Long, unregulated working hours, inadequate rest periods, pay systems that discount non-driving activities, all add up to worsening working conditions. The resulting fatigue, illness and stress among professional drivers are major causes of death and injury on the roads of the European Union.

Goods and passenger road transport are uniquely mobile : *location shopping* driven by cost-cutting and competition means that drivers use trucks registered in different countries. Employees tend to be kept in the dark about changes in work contracts and social security schemes : the resulting lack of a say in decision-making, lack of autonomy and control over their work exposes professional drivers to discomfort and stress.

It is hard for transport unions to argue the claims of casual and self-employed drivers, because their long, uncontrolled hours of work - key factors in their competitiveness and survival - are not regulated at European level.

The immense pressure on drivers from customers, and total lack of control on their working conditions, leaves unions unable to bring them together in forums to hammer out common demands.

Regulation 3820/85 - Council Regulation (EEC) No. 3820/85 of 29 December 1985 on the harmonization of certain social legislation relating to road transport - provides for maximum daily driving periods for employees and self-employed drivers. But Member States have interpreted this by omitting non-driving activities like loading and unloading which can make up a hefty share of drivers' daily working time.

Rest period management is tied to pay. Historically, pay packages have been based on a small fixed wage plus various bonuses and allowances for things like border-crossing, Sunday working, accommodation. So, half the driver's income is based on driving-related elements. Here, lack of scientific information on disorders - and ultimately accidents - produced by disruptive work patterns veils the risks drivers take trying to boost their incomes on the road.

Major benefits would flow from trade unions collecting the findings of research on road transport safety and transferring that knowledge to the workers concerned through awareness-building and information campaigns. Employers would also benefit : piling the pressure on drivers leads to stress, bad work relations, illness and absenteeism.

Sadly, only when accidents or near-accidents reflect badly on the company's image and reliability do employers join with trade unions and research institutes in looking for ways to improve workload strategy.

Finally, working time regulation at European level needs to address not only general health and safety issues, but also the responsibilities and obligations of those who actually control drivers' working conditions. Here, legislation needs to address public transport contracts and subcontracting policies. Public authorities must look at ways of building health and safety provisions into procurement contracts.

Stefano Boy

Stefano Boy
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Case Studies
Health and Hospital Professions

Marianne De Troyer
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The hospital sector in Europe

Executive summary of the introductory report

1. Hospital systems across most of the EU have changed considerably since the early 80s. This has come about in particular through the introduction of technical support hubs which have maximized the rational use of facilities and least-cost profitability of material resources and labour employed. Advances in medicine, the emergence of new medical conditions, the resurgence of diseases thought to have been stamped out, but also the new needs thrown up by population change, along with cuts in health and social services budgets, have radically changed the structures and organization of the hospital care environment. This means the effects of hospital restructuring around planned highly-specialized units, a greater focus on the hospitals' treatment roles and the outsourcing of patient care for certain categories (dependent older people, psychiatric patients, drug addicts, etc.), and the emergence of newly-acquired industrial-style management methods.

More practically, it has meant cuts in hospital beds and the length of patient stays (with adverse outcomes for patients discharged too early) and a sharp rise in patient turnover, going in hand with deep cuts in health spending all round.

2. Hospitals are a *highly professionalized sector* with a wide range of responsibilities and functions focussed on individualized patient provision (intake, diagnosis, prescription, care, accommodation, etc.), but also other more collective/institutional tasks (maintenance, hygiene, education, research); carrying out all these tasks - some of which need to be coordinated - necessarily involves a large number of professionals from different training backgrounds, professions and statuses : managers, doctors, medico-technical support services staff, nurses, nursing assistants, ambulance support services, clerical staff, etc.

The *health sector* is a net *job creator* and one of the biggest employers in Europe; on average, it employs between 7 and 13% of the European workforce. Obviously, the exact figure varies with the services included in the health sector, which differ widely between Member States; the hospital sector alone employs between 2.9% and 5.5% of the Member States' workforce.

3. This introductory report focuses mainly on *hospital nursing and patient care staff* who were and still are the driving forces behind a wave of strikes and protests which have swept various European and non-European countries since the early 80s. This is not to say that other health sector workers are undeserving of attention. Be it doctors or medico-technical (laboratories, medical

The full report is available in French and English on the TUTB website : www.etuc.org/tutb/uk/conference200064.html

imaging, etc.) or logistical (catering, laundry, environmental support, patient transport, etc.) support staff, each class of worker in their own work environment has their own specific problems stemming from work organization, risk assessment and by extension, workplace health and safety, which need to be looked at.

The Dublin-based European Foundation for the Improvement of Living and Working Conditions' Eironline databank for the period 1998-2000 holds reports of a spate of strikes and protests over the past three years by nursing and patient care staff, but also other categories of hospital staff (laboratory technicians, doctors, etc.) up in arms *against working conditions* which are inconsistent with proper standards of patient care and comfort, and the personal lives of staff, *against work intensification* and the stress it causes, *against insecure jobs and terms of service, low pay and pay discrimination at a time of nurse and care staff shortages* in many European countries (Germany, Belgium, Denmark, Portugal, Greece, United Kingdom, Switzerland, Sweden, Norway).

These converging labour actions across northern and southern Europe are important in many respects; above all, it raises the question of setting up a *formal*, European-level *social dialogue* in the hospital sector. That said, what is certain is that the number and mix of players involved - trade unions and employers' organizations, public and private sector employers - does not simplify matters, not least given the initial hurdle to overcome of identifying the relevant representative organizations at European level.

4. General work organization in hospitals is characterized by different parallel organizations - clinical services, A&E, patient care units, medical laboratory services, logistical services, administrative services - whose work must be seamlessly joined-up or at least closely coordinated, while patient care units differ by speciality, type of patient treated, and work environment (staff resources, working hours, planning, working methods, certification).

In the hospital system, *time is a key organisational issue* on several levels. For the hospital as a whole, addressing the development of its services, economic strictures, emerging patient needs, advances in technology and treatments by adapting the time aspects of its organization : optimizing available resource use, extending the service life of costly equipment, reducing processing times, reducing the length of hospital stays, revamping services (meal and visiting times...). For patient care units, too, where it is a major concern for the workers stemming from the constraints of hospital activity and a tightly-organized work process.

Hospital activity is bound by multiple *constraints* : round-the-clock continuity of public service, staffing needs varying by the time of day, day of the week, time of year, imponderables and contingencies of all kinds : emergencies, individual needs and care requirements, changes in patients' conditions; the organizational and operating needs of round-the-clock shifts, therefore, has often made for hard working conditions and disruptions to staff's personal lives.

Women hospital workers are subject to specific working time constraints : irregular hours, night work, weekend work and over public holidays, early morning and evening shifts clash with family and social obligations. Unsocial working hours are compounded by other difficulties of physical, mental and psychic stress.

Time is a major issue in patient care units, because *it dictates the entire organization of the working day*. So, there is no consistency in working time over the day, week, or year. In a given morning's work, some periods will have more of an *organizational value* than others : doctors' rounds are a case in point. For example, in the fixed shift system, the morning shifts have more information than the others, and all important decisions are left to them. In the same way, a measure of consistency is imposed on the days of the week by the very way the service is organized, its type of activity, the dictates of its administrative or teaching requirements. Shift management is cardinally important both to structuring work and the personal life of caregivers.

Time management is also the source of deep-seated conflicts felt by workers : the desire to develop the relational aspects of caring and the lack of time which results from continual re-prioritizing and emergencies which re-define their short-term work allocation.

5. In this context, a major focus must be put on *work intensification* and *changing work content* as they affect the running of hospital services and patient care units. Work intensification affects the running of hospital services by preventing much essential coordination from being effectively carried out. Work intensification can significantly impact the transmission and acquisition of know-how, knowledge and skills in patient care units. Efficiency pressures, for instance, may leave incumbent staff no time to induct young and new employees. But the experience developed in nursing (especially in direct patient care), adeptness in care techniques (observing care techniques before using them properly) and being pitted against a wide range of situations are of incalculable value.

When added to the known hazards to which hospital workers are exposed and the potential interactions between these different risk factors (physical strains, exposure to biological and chemical agents, work-related mental, psychological and emotional stressors), work intensification leaves little time for getting on top of these occupational risks; it leaves little time for getting to grips with the workers' work activity, for communication and exchanges within work teams, especially during pre-shift handover briefings.

Marianne De Troyer

Case Studies
Health and Hospital Professions

Other papers available on our web site : www.etuc.org/tutb/uk/conference200064.html

- **Work organization and its impact on health : proposal for monitoring**
  Beloyanna Cerioli, Workers' representative for Health and Safety - Bologna Hospital, Policlinico S. Orsola Malpighi, Italy
- **Sick-leave data for jobs in German hospitals as an indicator of health impairing working conditions**
  Dieter Bonitz, IPAG-Team, Germany
- **Trade union involvement in the organization of work, and psychosocial risks in the health sector**
  Sofia Vega, CC.OO, Catalunya, Spain
- **Working conditions and well-being in the finnish health care services in 1992 and 1999**
  Gustav Wickström, Turku Regional Institute of Occupational Health, Finland
- **Evaluation of psychosocial working conditions in a German hospital using a swedish instrument**
  Barbro Rönsch-Hasselhorn, University of Wuppertal, Germany
- **Modern occupational health systems in the industrial workplace and in hospitals - comparative analysis of Romania experience**
  Liliana Rapas, Direction of Public Health, Romania

Workshop report

Health and Hospital Professions

EPSU is the European Trade Secretariat of Public Services International, with a standing committee on health and social services. EPSU's main aim has been to develop social dialogue at a European level. This is supported by the Commission, but whilst EPSU is the recognised partner on the employees' side there have been difficulties in establishing representative European employers' structures due to the different national methods of healthcare delivery and the diversity of employers within the field. The changing nature of healthcare, new Commission initiatives and the trans-national movement of labour makes this more pressing.

The focus of the modern European social model has been high quality services delivered at "reasonable" costs. Spending on health forms a significant part of government expenditure across Europe, ranging from 10.4% of Gross Domestic Product in Germany down to 7.1% in Greece and Luxembourg. The total workforce in Europe numbers approximately 5 million. In individual EU countries, this represents between 7 and 13% of the active workforce.

Recent years have witnessed a significant transformation in the healthcare environment. New management systems have been introduced, many poorly adapted from the business sector. Often these have been forced by cost-cutting and attempts to control expenditure in tax-based systems. This has led to demand for increased productivity at the same time as staffing cuts and an insistence on internal and external flexibility in the composition of the workforce by subcontracting and various forms of privatisation.

The United Kingdom, having been at the forefront of some of the worst initiatives, now has the Private Finance Initiative (PFI). This hands the building, maintenance and operation of new hospitals over to the private sector, which leases back the completed hospital to the National Health Service. In most cases, cleaning and other support staff are compulsorily transferred to the new employers to make further profits. Beds are being cut in the new developments as private sector operators seek to maximise their assets. In the long term, costs will be higher in the new arrangements, whilst there will be a loss of democratic control and the quality of services will suffer. UNISON has been on strike at one hospital in Dudley against the transfer of staff.

The move towards privatisation and sub-contracting allows risk and occupational hazards to be transferred to private sector, companies who manage a series of smaller, often less well-organised, workforces. These companies win the contracts by bidding lower costs for services and then reducing the terms and conditions of new workers to ensure their profits. This compounds the low pay environment and the stress and ill-health that goes with it.

Changes in technology and the re-organisation of work into patient-focussed initiatives, increasing day care and primary care have further heightened pressures. This has led to an intensification of work which requires a higher throughput of patients who spend less time in hospital care - and may have to be re-admitted when they have been discharged too soon. Cuts also mean a reduction in time and care given to patients and unrealistic timetables for fulfilling other duties.

In the workshop discussions an example was given from France of an external consultant called in to look at working practices. The consultant looked purely at the components of a job and identified that fully cleaning a patient's room should take twenty minutes. In

Jon Richards
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reality, this did not allow for outside forms of interference like doctors, other healthcare workers or the patient's visitors who were constantly interrupting the task. This set time period would have dictated the working patterns and the quantity of work that the cleaners had to do had it not been stopped.

Such pressures on staff have led to a rise in hospital acquired infections (HAIs), as staff struggle to fulfil basic hygiene requirements in the face of competing demands from larger numbers of patients. As more infections develop resistance to antibiotics the incidence of HAIs becomes a threat to the very running of hospitals, as epidemics close down wards or theatres whilst the infection is eradicated. HAIs and the spread of blood-borne viruses (BBVs) like HIV or Hepatitis B&C also pose direct health risks to workers. In response, unions across Europe are currently campaigning for the introduction of "safer needle" devices to reduce the incidence of needle stick injuries which are the main cause of BBVs.

The introduction of the Working Time Directive was welcomed by health unions across Europe as workers' dedication to their jobs had previously made them ripe for exploitation by healthcare employers. However the final document left much to be desired - the needs of junior doctors have only recently been addressed, for example. The Directive's vagaries and provisions which give national governments let-outs for health service staff have produced significant differences in national practice which undermine the principles of worker health and safety. Key areas such as whether ambulance workers are fully covered and whether "on-call" should count as working time, will be settled by the ECJ, a long and costly process for all, which could have been avoided. EPSU has set up a working group to map out a European Working Time Campaign, which will set a common platform of aims to be pursued by affiliates at national level through collective agreements or improvements in national legislation.

Temporary work has risen across Europe - in Finland, for instance, temporary staff now represent 20% of total contracts. In addition, increasing use of agency staff and the reduction of time available to pass on knowledge diminishes organisational knowledge and opportunities for handing on general skills and knowledge to other workers and trainees. This is enhanced by intensification, which reduces the time available to hand over knowledge on individual patients at the end of shifts. Intensification also leaves less time available for training and career development opportunities.

The flow of workers across borders to countries with shortages poses challenges both to the workers and the hospitals which utilise their skills. Cultural differences and inadequate preparation have often left migrant workers unprepared and unsupported in terms of housing, access to banking facilities or their awareness of basic conditions of service. It also raises issues of the recognition of their professional qualifications, the transfer of pensions and - in a predominantly female workforce - inherited maternity provisions. All this impacts on the health and well being of these workers. These are issues which EPSU wants to address at a cross European level and will form part of the social dialogue.

In conclusion, work intensification in the health and hospital professions is becoming overbearing. Levels of sickness, early retirement and the ageing population of health workers means there is a clear need to address issues of work organisation and work related ill health. Whilst health workers deliver care for others, the question must be asked - who is caring for the health workers ?

Jon Richards

Marianne de Troyer, from the Free University of Brussels (ULB), gave an introductory report on the situation of the hospital sector in Europe, followed by six papers from trade unions, research institutes, universities and authorities (see box p. 52).

Tools for evaluation

The papers presented mostly focused on tools for the evaluation of working conditions in Europe's health sector. Surveys at macro-perspective level covered significant samples of 430 hospitals and 57,000 employees in Germany and 5,000 employees in Finland, respectively.

At the micro-level, workplace action had been developed at hospitals in Spain, Italy and Germany.

The main investigative instruments used were questionnaires on organizational and psychosocial aspects of work. Where there was work intensification, poor job content and lack of control, the impact on workers' physical and mental health - in terms of stress, sickness and absenteeism - was fairly clear. Even so, it was not always possible to make the direct link between workload and non-standard forms of work. Specific indicators for these types of employment were lacking. Sick leave, for instance, was not an appropriate indicator for impaired health among temporary workers, because they are less likely to report sickness for job insecurity reasons.

Trade unionists were directing their efforts to integrating organizational and psychosocial risks with workplace risk assessments. Although risk assessment was a legal obligation for all employers, the reality was that trade unions had to negotiate its content in practice. Often, they could only take effective action after workers had reported problems in a workplace.

Tools for action and strategies for the future were then discussed :

- The need to embrace a proactive approach was suggested.
- Applying existing tools that are provided by legislation was considered as very important. Hospital workers' delegates from France presented a case where they had exercised their right to enlist outside expertise after significant changes to their working conditions, more specifically due to work intensification.
- More knowledge is needed about the health impacts of insecure jobs in health care. Monitoring some health care professionals like nurses throughout their career paths via prospective studies could help towards that.
- Creating health sector information exchange networks was essential. The International Committee for the Health Sector was suggested as an example of such a central body.
- The possibility of certification of working conditions standards in hospitals was discussed. National cases where authorities had applied a system of assurance control in good practice for stress and classification of enterprises by risk level, in UK and Denmark were illustrated. But the issue of objective categorization remains open as trade unions are not involved in these procedures.
- The need for prevention strategies to accommodate not just conventional hospitals but also other health care environments like home care or special clinics was stressed.
- A strong focus was put on taking account of patients and their families' in risk assessment and protection systems, as they needs are often exposed to the same hazardous conditions as workers.

Finally some general recommendations were formulated :

- Available workplace assessment tools must be responsive to organizational changes.
- Work intensification in the sector should be addressed through prevention strategies at national and European level. Effective strategies at workplace level can only have local success.
- Health policies in Europe should also reflect the needs of health care workers.

Theoni Koukoulaki

Theoni Koukoulaki
TUTB Research Officer, Brussels

Case Studies

Metal Industry

José Ignacio Gil
Mining and Metalworkers' Federation Technical Agency, Comisiones Obreras, Spain

Reorganizing work and decentralizing production – More flexible or just worse working conditions ?

Summary of the introductory report

The condensed version of José Ignacio Gil's report was written by Laurent Vogel (TUTB). The full report in Spanish and English can be found on the TUTB website: www.etuc.org/tutb/uk/conference200065.html

I aim to show that the main reason why reorganization of work and production have a material impact on working conditions is that they conspire with other factors like industrial relations to tilt the uneasy balance of capital/labour relations produced by the previous development model. That is a key challenge for workers in the current transitional phase.

Against the prevailing spin : change is a choice

The debates surrounding changes in the capitalist economy and the emergence of a new production paradigm tend to focus on the crisis in Fordism. The theory goes that this model of work organization has had its day because standardized mass production fails to address the demand for a wide variety of better quality products more attuned to the full range of individual consumer likes and wants (the personalized consumption myth). With this has gone fiercer competition on increasingly volatile markets, a quickening pace of economic internationalization, and the emergence and development of new technologies.

The spin usually put on these changes focuses on "flexibility" as a kind of new cure-all. Rigidity is the past, old-hat, red tape. Flexibility is now, up-to-date, streamlined.

Where does a class union stand in all this ? How do we fulfil our remit to go behind the words and lay bare the real meaning of these changes ? What can we do about it ?

My answer to these questions is based on two conclusions.

1. Like it or not, the organization of production systems is already in a very advanced state of change. We are now in a different historical phase from when we started and through which we developed as a class union[1]. This is not to say that we are faced with a completed new model. A range of options is open.

2. Not all the changes that have occurred are inherently equally significant in terms of their social consequences and working conditions.

The Comisiones Obreras have not stood apart from the ongoing debates. But we have tended to look at two things separately. For reasonably-sized workplaces, we focus on issues like multi-skilling, shift work, flexible working time, etc., and how trade unions should address the issues they raise. But away from the work organization debates, we have lamentably little influence when it comes to SMEs, temporary employment and job insecurity.

[1] The Comisiones Obreras were founded in the 60s as one of the main forms of labour resistance to the capital/ Franco dictatorship alliance. They acquired legal status only after Franco's death in 1975 (Translator's note).

We must develop linkages between these two realities. Simply put, we are not just up against a new way of organizing production, but a challenge to the survival of the particular kind of trade union we are: a class or general trade union.

That, for me, is the key issue in decentralization of production, which has been defined as "measures designed to downsize large Fordist firms to deliver increased capital efficiency and improved resource use[2]".

Two variants are often distinguished. The Japanese "Just in Time" model based on a dominant core firm, controlling and decentralizing the entire production process at all stages. This firm is the linchpin for a series of other firms acting as subcontractors or suppliers. The philosophy of the Italian industrial district model is that the benefits of large scale production can also be delivered by area-based groups or networks of small firms with access to a local labour market. In practice, both variants may be found alongside or integrated with one another.

One thing for sure is that farming-out production (decentralization, subcontracting, outsourcing) is now a dominant feature of industrial production. The reality of today's production set-up is not now the sprawling Fordist factory of the Barcelona customs-free zone, but SEAT's Post-Fordist or Martorell's Toyotist plants. The emergence of the "diffuse" factory has created major problems for labour organization.

Fragmentation of the "collective worker" and loss of trade union clout

The first result of production outsourcing is a huge increase in the number of SMEs : the table below shows the trend over the past three decades.

Small firm (< 50 workers) growth in Spain (%)

	1961	1971	1982	1995
Firms	94.8	93.9	97.4	98.4
Jobs	38	36.8	47.4	54.2

Even the metalworking industry is overwhelmingly dominated by SMEs. The car industry is a significant exception where large firms keep the upper hand. Six of the eight metalworking industry firms with more than 5,000 workers are car manufacturers. Of the 54 metalworking firms with between 1,000 and 5,000 workers, 11 are car makers.

Over the past ten years, the share of employment in car and bodywork manufacturers has fallen by nearly 12% (from 68.8% to 57.1%) - the same proportion by which car equipment manufacturers' workforces have risen. So as employment declines in the core firms, it rises in the dependent firms.

A significant change can be seen in the internal organization of large industrial firms - that is the growing service-intensiveness of core firms and their specialization in higher added value, less labour-intensive production processes and stages. The workforce composition of core firms has changed. A survey conducted by our Federation found that "white-collar workers" account for 31.2% of the workforce in firms with 500-plus workers compared to a metalworking industry average of 23.9%. A survey we carried out in 30 large metalworking industry firms (average workforce size 2,300) strikingly shows that in the past twelve years, the total number of electable shop stewards fell by 389 (from 1,677 in 1986). The bulk of these reps (and so the job losses the figures reflect) represent shop floor workers. Between 1986 and 1994, the share of reps elected by technical and administrative staff rose from 24% to 35% of the total.

While overall employment volume has remained all-but unchanged, there has been a mass displacement of manual workers to small and medium-sized firms. As a result, trade unions have lost much of their clout in large industrial workplaces, so we need to boost our white-collar membership as a matter of urgency.

But the real bottom line is the fragmentation which has occurred in the "collective worker". Workers are now in very different situations due to the wide range of variations between individual working conditions, employment contracts, and whether they are employed by core or auxiliary firms.

We carried out a structured analysis of Opel-Spain[3]. We feel that the survey findings may offer relevant insights into developments in the industry sector[4].

[2] Santos Ruesga, J.A., *Sociología del trabajo*, Valencia, 1995.

[3] For a detailed examination of the survey, see B. Estrada López, J.I. Gil Pinero, F. Soto Ortega, *¿Dónde empieza y dónde termina la industria del automóvil? Análisis de un caso de externalización productiva: Opel España*, Madrid: Cuadernos de la Federación Minerometalúrgica de Comisiones Obreras, 1997.

[4] For the car industry in the EU and Norway as a whole, see *Outsourcing and industrial relations in motor manufacturing*, available on the Internet : www.eiro.eurofound.ie/2000/08/study/TN0008201S.html

We selected five equipment manufacturers producing a range of components. Not all are SMEs. Two employ more than 500 workers, the other three between 100 and 500 workers. All are part of multinational corporations and farm out some of their own production to smaller workshops or even borderline-legitimate homeworkers. So our selection relates only to first-tier decentralization. The differences we found in working conditions and work intensity are odds-on to worsen the further down the decentralization pyramid you go.

The divide between workers is clear from the following figures :

- 4% of insecure jobs in Opel, 44% in the auxiliary firms (AFs);
- workers' average age 37 in Opel, 27 in the AFs;
- 4% of women in Opel, 33% in the AFs.

So, the "new" industrial workers are mainly young people, including a high proportion of women and casualized workers. They are also rural. In Belchite's case, the town has a population of 1,682, of whom 750 work in the local factory. All the auxiliary firms are recent. Some are new start-ups, others are the product of acquisition and expansion of existing Opel component suppliers.

Salient working condition indicators are :

- 68% of Opel's workforce is unskilled labour, 78% in the AFs;
- in one year, the 2,230 workers employed in AFs worked 127,444 hours longer than they would have done working normal hours in Opel - 75 full-time worker equivalents;
- pay differentials in the AFs vary from 59% to 22%. Fully aggregated, the differential between these and Opel wages would be equivalent to the total wage bill for 468 workers.

There is significant anecdotal evidence : a group of workers were posted from a wiring manufacturer to the core firm to carry out vehicle-specific end-of-line adjustments (under a just-in-time work organization). Their pay and working conditions were still those of the wiring manufacturer, but they saw themselves as part of an elite because of the various Opel benefits bestowed on them: breaks in the assembly-line work, slower-paced work, a better working environment.

Another key aspect of fragmentation is the ability to take collective action.

Only one of the firms studied had a specific collective agreement. The others were covered by a provincial agreement, in some cases supplemented by a workplace agreement. The biggest problem was trade union under-representation. Not uncommonly, there were fewer Comisiones Obreras members than reps elected from its lists.

Two remarks are in order as regards union reps. Many are young people or women who are not time-served trade unionists, but relatively new union members. The reason they take on the job of workplace rep is mainly because they have been asked to by the trade union. The union does not have a strong foothold in the workplace, leaving reps feeling uncertain and isolated. Job insecurity often makes the feeling worse.

By contrast, the typical "shop steward" profile tends to be an older male, with long work and union experience. These are found in core firms, where the union is more firmly entrenched and more closely tied-in to the general structure of trade union organization.

A tentative conclusion : a trade union response – urgently needed, hard to find

Decentralization of production has badly affected cohesion among industrial workers. The divide between workers has undermined their capability for collective action.

Old trade union strongholds are weakening with the flight of jobs to dependent firms. As long as employers keep the whip hand over the production process through perfect synchronization of the network put in place, the arena for collective action will be "Balkanized" - parcelled off into tiny units. That is a significant difference from the past, when workers were concentrated in a single arena for trade union action and influence. That arena was a key element of unification and cohesion.

But this "Balkanization" is more than fragmentation - it is a divide-and-rule policy which fuels tensions between the immediate self-interest of each workforce. So workers in core firms perceive working conditions in dependent firms as a permanent threat.

There is a real danger of general trade unionism turning into a workplace-focused micro-corporatist trade unionism. Before any response can be worked out, the trade union movement must be brought to an awareness of the changes in the making. Solidarity must not just be about fellow-feeling, but about rebuilding the collective defence of workers' interests around shared interests.

Above all, it has to be understood that the system is not unchangeable nor free of inconsistencies. In the case looked at, the union got itself institutionally entrenched in different workplaces through outside intervention (outreach policy) - recruiting candidate trade union reps. Obviously, that alone is not enough to ensure a strong trade union presence and influence. Even so, these new young union reps are becoming cornerstones for the effective unionization of their firms. They now need ongoing preparation and support to firmly enfold them into the trade union organization. Their weaknesses are not just a lack of technical or theoretical understanding of trade union activity, so training courses alone are not enough.

There is no getting away from the fact that the scope for union action in dependent firms is limited by the ever-present employer-boss and singular nature of the employment relationships. So we think that trade union activity has to be taken out of the narrow confines of these workplaces. District reps are one possibility, provided they do not lose immediate, close touch with the rank and file. Reorganization of collective bargaining could be a big help. More fundamentally, trade union set-ups cannot just go on reflecting the decentralization of production while ignoring the integration of production management. An industry structure with a highly flexible set-up, with production activities split up between different workplaces in very different industries (chemicals, metalworking, textiles, ...) but operating under centralized management, can seriously wrong-foot a trade union. An area-based structure may also not be apt for dependent firms located on geographically neighbouring but administratively different territories. Local union branches or workers' reps coordinators can become very useful instruments. The idea is that local branches in core firms can provide linkages, coordination and consistency between different trade unions in the dependent firms.

We also have to get away from the existing dispersed system of collective bargaining and move towards general industry-wide agreements[5]. We need to create a consistent framework for working conditions. At the same time, we need to get negotiations going in business groups to rebuild what the production process has unravelled in collective relations.

The other big issue to look at is worker participation in work organization. This is immeasurably the most important issue in democratizing employment relations. We have to go beyond the strictures of the bygone Franco era that "the work organization is the sole prerogative of company management" and develop trade union activities over a wide range of complex factors like job analysis, performance requirements, workload, skills, training, etc. A trade union presence in company decision-making bodies can be an effective way of getting information about actual circumstances and future plans.

José Ignacio Gil

[5] Most collective bargaining in Spain is through provincial collective agreements.

Case Studies
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- **The experiences of worker's safety representatives in practising risk assessment and management on small and medium-sized enterprises in the Emilia-Romagna region**
  Gino Rubini, Head of the Environment and Health Unit - CGIL Emilia Romagna, Italy
- **Re-regulation of working-time - new management concepts and deteriorating worker health**
  Klaus Pickshaus, IG Metall, Department of Health and Safety, Germany
- **Work time arrangements and occupational risk management**
  Claudie Rousseau, INRS, France
- **Work ability and ageing of employees in a metal working company**
  Willem J.H. Goedhard, Faculty of Medecine, Free University of Amsterdam, The Netherlands
- **Deterioration of working conditions in intensive work systems. Measurement of work intensification and identification of the causes of intensification**
  Giusto Barisi, ISERES/CGT, France
- **New forms of labour management in a French metalworking company - impact on health and work**
  Corinne Gaudart, Ageing and Work Research and Study Centre, France

Workshop report

Metal Industry

Konrad Siegel
Workshop Chair,
IG Metall, Germany

The introductory report given by José Ignacio Gil of the Spanish union "Comisiones Obreras" was followed by six individual papers (see box p. 59).

Mutual trust or compliant slave labour ?

Klaus Pickshaus (IG-Metall, Germany) looked at the case of IBM Germany employees, which was completely dissimilar to that of car workers. Surface appearances suggest that they have won out from economic development, but the reality is a sort of "compliant slave labour" produced by the new combination of high skill discretion and control exerted through breaking-point productivity demands. They are largely responsible for research and development, especially new software development. They have to take on all the constraints involved in organizing project teams and project completion. The firm leaves them "free" to choose when and how long they will work on individual projects. The problem is that this unregulated working time, based on mutual trust between management and staff, creates huge pressures from profit maximization demands. It also produces unchecked inter-worker rivalries. The fact is that the firm has been effectively 'chunked-down' into a large number of autonomous units, each with its own profit targets, racing to outperform one another in the profitability stakes. Cooperation has been elbowed aside by fierce competition, turning the individual worker into a sort of profit-driven mini-boss. "Benchmarking" - a technique for comparing (purely short-term financial) "performances"- is the key concern.

This kind of work reorganization has mixed health impacts. There is a clear rise in the number of health problems : exhaustion, psychosomatic illnesses, sleep disorders, mental health problems from workplace bullying. But many staff seem content with their working conditions. Absence rates are very low. Many like the idea of working without limits. But situations like this take their toll. Some workers crack under the strain. Colleagues see their plight as a threat, foreshadowing what may befall them one day. Situations like this are not calculated to generate solidarity. Women and older workers especially are quickly excluded and end up leaving their job.

The works council in Düsseldorf came up with an original and very favourably received response involving the staff's main work system - the Intranet. Staff who had experienced health or private life problems from working up to 50/60 hours or more a week could post an anonymous report, kindling a discussion. So, a form of 'thinking out loud' and mutual confirmation of the toll taken by over-long working hours grew up around the issue "My time is my life". The scheme also struck a responsive chord among staff in similar German firms[1].

Once again, health issues have triggered off a new collective process and have - to some extent- rolled back creeping individualism. This lifting the veil on common problems, put up with and rarely complained about, clearly showed the need for collectively negotiated and concluded standards. This "new breakthrough" by highly-skilled, well-paid specialists came as a particular surprise in that their need for collective protection mechanisms had been largely ignored.

Legislation needs independent trade union action to work

Gino Rubini of the CGIL's regional branch in Emilia-Romagna (Italy) gave the findings of a trade union survey of small and medium-sized

[1] The www.netslaves.com/ site has interesting personal testimony from "new economy slaves".

metalworking firms, which are thick on the ground in this "industrial district". It shows that the new provisions intended to implement the framework directive are being flouted wholesale in most of these firms. Employer pressure often reduces them to simple technicalities. Most risk assessments are paper formalities done to comply with the letter of the law, and include no real worker input. Risks stemming from organizational and workplace failings barely merit a mention. The trade union survey found that 40 to 50% of work accidents are transport-related, and there is a direct link to the increase in transport operations and pressure on physical distribution activities as a result of reorganization. As things stand, though, published accident surveys and figures do not include the direct or indirect organizational causes of accidents. This failing, said Gino Rubini, makes it vital for trade unions to act off their own bat and supply their reps with instruments to analyse working conditions. This is the only way to overcome the lip-service approach taken to date.

Willem Goedhard of the Free University of Amsterdam reported the results of surveys carried out using the "Work Ability Index" (WAI) questionnaire developed in Finland. The surveys make a clear link between substandard working conditions and the observed faster rate of decline in older workers' abilities. These surveys carried out in the Netherlands raise issues about some false trails in the debates surrounding ageing at work. Many initiatives to promote the "employability" of older workers clearly seem driven by unemployment reduction and employers' needs to make very much more use of the labour potential of the 45-plus age group. In some of these policies, retirement age is a hidden agenda. Also, at an individual level, most employers are still very keen to offload older workers, who they see as less productive or less "adaptable". A policy focus on preserving the individual capabilities of each worker is unlikely to be a one-size-fits-all solution to the issues involved.

Corinne Gaudart of the Ageing and Work Research and Study Centre (France) gave the findings of a survey carried out in a French steelworks using a very different method to that of the Work Ability Index. It takes a broader approach to age-related issues which includes work organization the protective strategies deployed by different categories of workers, and how they interact. The French survey shows that a multi-skilling focus in work organization can be highly stressful, especially for older workers. Older workers' health protection strategies were found to be pulling in opposite directions from younger workers. Getting on the right track means giving recognition to their real abilities and a work organization which enables them to be handed down more easily from one generation to the next.

A far-reaching survey on work intensification

Giusto Barisi presented a major initiative from ISERES, the CGT's research arm in France. It has developed means for assessing work intensity and studying contributory factors in work intensification[2]. The ISERES research combines three approaches :

- An economic study showing how the time economy focus of business organizations and time management efficiency strategies cut down recovery times in favour of directly productive time, and lengthen work equipment operating times. The hallmark of the transition from a Fordist to a post-Fordist system is company

Laurent Vogel
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[2] The magazine *Syndicalisme et Société* has published a special double issue (No 2-1999, No 1-2000) on work intensity which includes a detailed run-down of the ISERES' research into it.

management's attempts to claim ownership of the building blocks of informal organization and communication channels. This makes it harder for workers to deal with overwork. A number of surveys based on this approach have been carried out, notably in a hospital casualty department and a food processing plant.

- A worker-generated assessment. A questionnaire was drawn up based on 61 indicators to gauge work intensity and its effects. They included : predictability of work, time pressures, decision-making and problem-solving, etc. The surveys are conducted by shop stewards through collective interviews.
- A study of management methods and their links to work intensification.

Claudie Rousseau of the INRS (France) gave the findings of a survey on the occupational health impacts of working time reduction in France conducted among the preventive services of the CRAM (regional health insurance funds) and occupational health doctors. The replies suggested that health issues were not really on the agenda of negotiations for bringing in the new statutory 35-hour working week. The paper got an interesting debate rolling on whether health at work issues had really not featured in the 35-hour-week debates, or whether the "mainstream" institutional players did not have enough insight into them.

Just the beginning...

After the workshop, the Chair drew the following conclusions.

1. The first thing that we as European trade unionists must do is to see that workplace health and safety, which seems to be a side issue addressed by specialists eminent in their field but with little political clout, is moved right up the trade union agenda. The idea is not to push other issues aside, but to link them more closely to this issue, get more importance attached to it and get practical results from it, especially in collective bargaining. The European Works Councils and European Industry Federations may have a key role to play here in encouraging exchanges of experiences and rallying the grassroots to action.

For that, we as trade unions need to rethink our demands on work. A more positive, appealing and human definition of work is the only way to get workplace health and safety out of its straitjacket, stop downgrading it to defensive assistance for workers and turn it into a real inclusive and active political issue involving not just specialists but also the workers themselves.

2. The second demand is one for the scientific community : we needs to get them to work out relevant ways of evaluating the new working conditions holistically. We need means of measuring and evaluating the overall physical and psychological strains and stresses of work. These instruments must also enable us to assess the social quality of work situations : do jobs enable communication and cooperation ? Do they give skilling and lifelong learning opportunities ? Do they fit in with family life and social commitments inside and outside the workplace ?

Politicians must be called on to make sure that development projects at national and European level are properly funded.

Konrad Siegel and Laurent Vogel

6. Conclusions and Perspectives

Serge Volkoff
Co-rapporteur for the conference plenary sessions, Ageing and Work Research and Study Centre, Employment Research Centre, Paris, France

Work intensification and fragmentation - World in a hurry

Many of the researchers and trade unionists who have spoken at this conference see intensification as a defining trait of current trends in work organization. It is a development which often cancels out the benefits of technical advances for the quality of working life.

Technical progress "wrong-footed" ?

A case in point of how progress is foiled is the use - or more frequently the failure to use - of handling equipment intended to take some of the physical strain out of certain jobs. In motor vehicle assembly plants, time pressures mean that some types of handling equipment - especially remote handling devices - tend not to be used because they require a few seconds set-up time, which is a lot in job cycle times close to a minute. And they are finicky to use. They involve precision grasping and positioning operations - especially costly and delicate parts, like batteries for example - and take an unpredictable time. As a result, workers tend to do this early on in the cycle so as not to overrun allotted time and space, even though the movements and activities involved mean that cycle start may not be the optimum moment for the operation concerned.

The same problem crops up with hospital patient lift-aids. They also take time to set up. But nurses and nursing auxiliaries have another reason for not using them. The time pressures they routinely work under often forces them to put necessary medical treatment activities before patient relations. Patient lift-aids are highly impersonal and reinforce that impression. So to make up for the lack of "the human touch" in their day-to-day work, they would rather lift patients manually (despite the fatigue and pain it may cause) to keep that brief moment of intimate patient contact.

Then there are road transport handling operations, where equipment, however carefully designed, often has to be dispensed with because rush jobs and just-in-time working force operators to re-prioritize their planned loading/unloading sequence. Also, trailer loads are not always stowed in the right place to allow mechanical aids to be used to proper effect.

These three examples do not just illustrate the problems of mechanically-assisted physical effort in the three sectors with which the conference is particularly concerned. More than that, they throw into sharp focus the tie-up between work intensity and "working conditions" broadly-defined, which may go unrecognized by business decision-makers and designers - here, handling equipment designers. As we have seen in these three cases, work intensity determines the speed, order, method of task performance, and even task content where certain aspects of the activity have to be forgone. And hence the significant impacts of intensification on both workers' health and work quality.

A line-up of time pressures

Not surprisingly, then, the conference participants have put a sharp focus on work intensification, whether through quantifying the fundamentals (the findings of the European survey presented by Pascal Paoli), suggesting workplace benchmarks (Giusto Barisi), offering strategies to limit the toll they take (Klaus Pickshaus), or considering alternative production planning systems (Frans van Eijnatten).

The hallmark of intensification as it emerges from these descriptions and analyses is multiple different - and sometimes conflicting - time pressures within the same work situation.

Some constraints - levels of output per worker and unit of time, strict deadlines, forced machinery speeds - can be said to be "industrial". These are increasingly compounded by very strict operating procedures prescribed by quality assurance standards.

Others are more "commercial" or "market-driven", where a speedy - but satisfactory - response to customer demand is the essence. The customer may be a user or a consumer, but also, as Annie Thébaud-Mony and José Ignacio Gil have pointed out, another firm. It may even be another workshop or department of the same firm as the customer-supplier corporate-wide internal market template increasingly becomes the norm.

A third order of constraints can be described as "family" or "domestic". The main focus here is interpersonal relations, which may be quite demanding in small workforces where individuals have to strive not to disadvantage their colleagues, or to help them, or simply to avoid censure.

These three types of constraint are long-established in workplaces. There is nothing new in workers in the mechanical engineering industry having to work at machine pace, drivers having to make on-time deliveries, and secretaries working late to type a last minute letter as a favour to the boss. What is new - and is borne out by statistical surveys and field observation alike - is the overlapping of these constraints as is now happening in the fast-food industry, for example, where staff have to juggle burger preparation times, customers hard-pressed for time, their particular orders, jollying-along from the team-leader, etc. All these obligations may pull in different directions, and in any event, management is not on top of them. Which is why these conflicting demands are managed at the most decentralized level - at the workface - regardless of the worker's abilities. This is when work becomes "without limits".

The "no wait" syndrome – career setbacks

Some years ago, management science research suggested that the world of work was gradually moving from a "slog culture" to a "breakdown culture" : a focus on keeping equipment running smoothly would replace hard physical effort. But this conference shows that what is most on the way is a "now culture" in which, in the words of one participant "the fire-fighter has become the benchmark model in a growing number of jobs". The "responsiveness" that Peter Totterdill referred to may well have some very status-enhancing aspects. The "high road" he propounds predicates developing real forward problem- or incident-solving abilities. But lac of time too often means that they have to be addressed off-the-cuff at the cost of great physical or mental strain and great uncertainty as to the outcomes. Last-minute rushing as an operating template incurs huge social costs, and produces absurdities. For example, in a hospital geriatric ward where medical emergencies are infrequent, what justification can there be for keeping staff constantly under pressure ?

Work intensity is what marks the task breakdown of work performance. Pascal Paoli's quantitative analysis of short-cycle jobs in Europe shows how widespread this type of organization is. Over a longer time scale, working hours are growing increasingly uncertain : irregular, fragmented, unscheduled and, increasingly often, "self-managed" with objectives which force workers to work long hours of unofficial overtime, typified in the case of IBM Germany analysed by Klaus Pickshaus. In the still longer term, whole careers are marred by constant rushing and a loss of control over time management. Multi-skilling is planned and introduced without sufficient preparation (cf, the case of travelling crane operators described by Corinne Gaudart). Occupational and geographical mobility becomes a demand which employees and their families - especially

insecure workers - are expected to fit in with without a second thought. Management see change and reorganization as a sign of business health, when one on top of the other ups the mistake rate and produces the "organization fatigue" rightly cited by Christer Hogstedt about... his own research institute. Workshops and departments whose employees feel they can stand back sufficiently from their work to give individual and collective thought about the work they do and the future of their job are increasingly thin on the ground.

A widening range of health issues

"Reconsidering workers' health" proposed as the title of this conference demands a more specific reality check on the effects of intensification on those who have to contend with it. Broadly, it seems that direct, monocausal, work-related damage to collective health are declining under the effects of technical progress and preventive actions. Very heavy weights, very loud noises, some kinds of exposure to toxins, are less common than twenty or thirty years ago. What does seem on the rise, by contrast, is exposure to multiple average or even slight constraints, but whose effects are magnified by time pressures.

Indeed, the very idea of "exposure" needs to be put into perspective, because the main problem is that in many cases, it is the theoretically available self-prevention strategies - avoiding a hazard source, choosing one's own equipment, getting proper information before acting, working with others, etc. - which are being defeated, increasingly hard to develop or implement. As Corinne Gaudart explained, older workers in particular lose out most from these limitations on discretion, because the health preservation strategies they have developed over time through their work experience are particularly valuable to them. Indeed, these strategies are a key way of addressing the specific problems encountered by older workers as a result of the increasingly prevalent functional limitations that come with age, as described by Juhani Ilmarinen.

It takes little working out, therefore, to see why the health impacts of work intensification, and more generally the effects of current forms of organization, rarely manifest as large-scale disorders experienced simultaneously by large numbers of workers in a workplace or industry segment. The spread of musculoskeletal disorders in industrial countries, on which Laurent Vogel and Daniela Colombini stressed the importance of a prevention policy, are in effect an exception : here we have it is clearly symptomatic of a mass disorder caused, in the unanimous view of specialists, to the most stressful forms of work organization, especially time pressures. But it is about the only case of its kind. Other evidence of disorders, most work-related health disorders nowadays, take far more individualized forms.

Just as the tricky task of managing a disparate body of work constraints is increasingly left to the individual worker, so the management of occupational health is a matter of individual trade-offs which are more or less livable-with in the long-term. Work intensification can perfectly well go in hand with pleasure in working life, even if work impinges somewhat too much on life. What intensity particularly precludes is indifference or keeping work in the background, aloofness from work issues. But making heavier drains on their physical, mental and psychological resources, it renders the individual vulnerable, so that an adverse working or social life experience can easily tip them from taking pleasure in their work into pain and exhaustion.

Whence the importance of looking seriously at collecting information by surveying workers themselves, a discussion taken forward by Elizabeth Wendelen and Laurent Vogel's contributions. This kind of survey is invaluable, because workers' assessments, perhaps more than "objective" assessments of job constraints (which are still useful, of course), can bring in all the work determinants, all the adjustments that everyone with varying degrees of success tries to make. But such surveys must be painstakingly prepared with the workers and made sense of in conjunction with them, specifically so as to break away from the individual approach to the health-work continuum.

On top of that, there must be a sufficiently coherent view of what crucially determines these linkages, traced through a discussion on the management of production systems and the objectives assigned them. Because that is what determines the scope available to bring these matters under workers' control.

Serge Volkoff

Conclusions and Perspectives

Per Langaa Jensen
Co-rapporteur for the conference plenary sessions, Technical University of Denmark

Working without limits – Reconsidering regulation

Complex development of work

The industrialised countries are nowadays often said to be in a period of transition from a society dominated by industrial production to one dominated by high-tech and service industries. These industries are often characterized by the employment of a highly skilled workforce, such that the employers' main focus appears to have shifted from their employees' physical to their intellectual capacities. Some analysts even claim that this labour market development has created a new type of exchange between labour and capital, one which strengthens labour's position in relation to both pay and working conditions.

It is argued that an ever increasing number of firms will be operating in a new context (new demands, new forms of competition, etc.), calling for new ways of organizing work processes (lean production, autonomous work groups with empowered employees, etc.), giving rise in turn to new working conditions (reduction or elimination of physical loads but entailing risks of new psychosocial strains) and thereby leading to a shift in focus of occupational health and safety problems (from physical to psychic wear and tear).

This argument, albeit tempting, is actually flawed, as demonstrated by several papers and most of the discussions at the conference. Union officials and researchers in direct contact with workplaces are not encountering, in their observation of occupational health and safety problems, the type of changes described, and the survey from the European Foundation for the Improvement of Working and Living Conditions, presented by Pascal Paoli, shows no automatic improvement in working conditions or any trend in such a direction (Paoli, 2000).

At least two issues have to be taken into consideration. Firstly, no production method has a monopoly. As described by Lars Magnusson (2000), different methods co-exist. As such, the major occupational health and safety problems characteristic of industrial society will continue to exist in the coming years. Besides, experience shows that many of the problems characteristic of the industrial sector, such as MSD and "sick building syndrome", are equally present in the new sectors.

This leads on to the second issue. New forms of production are not automatically defined and established by the firm's external context. As VanEinatten (2000) has pointed out, changes in the external context have to be picked up, interpreted and translated before a reorganisation is introduced. This local assessment is a social process involving numerous protagonists, no one group of whom reigns supreme. Many groups, including workers and their unions, are in a position to influence interpretation, translation and implementation of change, in relation, for example, to work practices, working conditions, and health and safety matters. Wendelen (2000) and Vogel (2000) have illustrated how risk assessment may become one tool among others whereby workers can draw attention to their experience of

work. There are of course limits to the extent to which interpretation and translation of external conditions may be described as merely local. For example, the European study shows that increasing numbers of workers are complaining about higher stress levels due to the intensification of work. Such intensification would seem therefore to be a general characteristic of work, one that cannot be neglected or reformulated locally.

Some common characteristics of present developments

Workers' and unions' endeavours to influence the development of working or production processes have some features common to many sectors, whether new or old, private or public. First among these is the dilution in the employer's traditional role. For public sector employees, this aspect is not new, but it has now spread also to private firms, large as well as small (Larson, 2000; Quinlan & Mayhew, 2000; Eakin, Lamm & Limborg, 2000). Though managers can be identified, they are subject to conditions laid down by others; but these 'others' can be difficult to identify. They may be politicians in the public sector, CEOs from the holding companies behind big firms, or main contractors subcontracting the smaller firms. Their tendency, when confronted with the occupational health and safety implications of their decisions, is to pass responsibility on to the different levels of middle management. Small firms, which are subject to conditions defined by the customers, and, as indicated by several speakers, firms in societies undergoing a process of deregulation, present these implications as an unavoidable consequence of the market and not a decision. Secondly, according to Thébaud-Mony (2000), empowered workers are more directly faced with the conflict between two complementary roles embedded in the employee function : that of a worker trying to do a decent or even a good job; and that of a wage-earner trying to fend off exploitation and safeguard present and future work capacity. Several speakers pointed out that a solution to this conflict is frequently reached by putting the production role first.

Regulatory strategies

Though deregulation is at present the dominant policy discourse and appears advantageous for some groups, workers and unions should never base their existence on regulation by market forces alone. Unions are justified in protecting less advantaged groups of workers from the direct effects of market mechanisms. Supplementary regulation can, however, take several forms and the regulation of occupational health and safety has to take account of these complex factors.

A combination of the four approaches stated beneath can be chosen when formulating a regulatory strategy :

- Command and control
- Economic instruments
- Mutual adjustment between protagonists involved
- Development of a mutual understanding among protagonists involved.

The potentials and limitations of these different strategies will now be discussed.

Command and control : the principles of the framework directive

The basic principle of establishing command and control regulation is as follows : Parliament (1) passes laws to be complied with, (2) sets up a controlling agency and (3) authorizes a budget for its activities. The agency is responsible for compliance with the law and the courts hand down penalties in the event of non-compliance.

The last century has seen changes in this type of regulation (Gunningham & Johnstone, 1999). The early detailed specification type of regulation, which stipulates exactly what is expected of the employer, has been supplemented by a combination of performance specifications - describing the expected outcome with the actual means of devising its achievement being left up to the employer - and system-specification, where mandatory structures and procedures to achieve the desired results are laid down. The development of performance specification is a reaction to the increasing complexity in and between the firms, which makes it extremely difficult, if not impossible, to frame detailed specifications for all relevant areas, even though detailed specifications do still have a role to play in areas such as machine guards and universal tool design. Regulation based on a combination of performance and system-specification implies that designated workplace agents use the prescribed structures

and procedures to reflect on how to achieve compliance with performance standards. Accordingly, it is often called reflexive regulation and it is on this idea that the EU 'framework directive is based. The main elements of the directive are as follows :

- An emphasis on the employer's duty to ensure safe and healthy working conditions
- Based on a participatory approach where workers are guaranteed training and information
- Combining risk-assessment with preventive principles as a core activity, and
- With access to expert knowledge through affiliation to an occupational health service.

In 1989 the 'framework directive' was passed, with a requirement that the member states transpose its provisions into national legislation no later than 1993. Though the member states failed to meet the deadline, by now we do have some preliminary evidence of the regulation's operation in practice. In several member states the transposition and implementation of the principles have given new impetus to the debate on how to manage occupational health and safety. But we also know from studies and experience that most employers fail to live up to the directive's intentions, and that both employers and employees have difficulties in addressing the more complex problems and adapting to the new proactive strategy enshrined in the preventive principles (Karageorgiou et al., 2000; Wendelen, 2000; Sevilla & Vega, 2000).

In spite of these difficulties, the framework directive does not lack potential. So, it is important that the workers, their representatives and the unions test whether these strategies are practicable. This is especially useful in situations where the employers' sense of responsibility is fading and it is also of importance to devise participatory procedures that do not dismiss the health and safety prevention aspect linked to the role of a wage-earner in favour of the interest in a continuous improvement linked to the role of producer participating in the development of society. Yet, as pointed out by De Troyer (2000) in her introductory report on the European hospital sector, the intensification of work obstructs the satisfactory provision of care. Accordingly, it is important for union strategies to consider both roles.

Monitoring and enforcement are important issues within this regulatory approach. All member states have by now introduced legislation, whereas controlling agencies and effective inspection strategies remain to be established and developed in several member states. The exchange of union experiences on these issues will be of relevance in coming years.

Mutual adjustment

Regulation by mutual adjustment implies that the state leaves the initiative for mutual adjustment to the main stakeholders in the field, typically employers and employees and their organizations. The traditional procedure is negotiation and agreement, but new approaches based on certified systems, combined in some cases with logos (firm and product labelling), may emerge.

Negotiation and agreement

This approach is well known to the labour market organizations. Agreements may, in some cases, have a primarily symbolic significance, but for them to have real effect on the ground the following factors must be present : the establishment of a negotiating situation; the agreement of all parties involved on basic issues at stake; and the capability of formulating appropriate demands (e.g. no jobs with (cycle times) under 15 minutes, no jobs paced by machines, possibilities of changing tasks, etc.). To achieve credibility the parties involved must also be able to guarantee the implementation and documentation of the level of implementation. There must also be a conflict resolution mechanism for cases where agreement cannot be reached.

This regulatory instrument has been used in several cases to settle certain types of occupational health and safety issue. In my country (Denmark) it has been an effective instrument for ensuring that the employer pays for personal protection equipment such as special footwear and special clothing in specific branches and trades. In other cases, however, it has shown its limitations. First of all, such agreements basically cover only the parties to the negotiation. They may lead to an effect in non-organized firms, but in many cases firms not covered can achieve short-term advantages. Secondly, this regulatory approach is more sensitive to local changes in the balance of power between the parties involved than is the legislative

approach. Thirdly, this approach has demonstrated a tendency to replace prevention with extra bonuses. Finally, in relation to new areas (such as monotonous work and psycho-social problems), where the basic concepts are still under discussion and the causal relations between workplace exposure and health and safety effects are complex, it has proved difficult to build up a coherent system to comply with central agreements (Hasle & Møller, 2001).

Thus it can be stated that negotiation will not become a major strategy for dealing with the present occupational health and safety issues, though it may be one component of a combined approach. Therefore, it is necessary to conduct a critical assessment of the potential for using negotiation and agreement as a means of regulating working conditions that cause occupational health and safety problems.

Certified systems

From the mid-80s and early 90s certified quality control systems have been the main instrument for regulating central aspects of the contract between customer and producer. The experiences with these systems have inspired a series of public agencies to establish regulatory strategies based on the ability of what are considered the primary stakeholders to frame standards for a system of concerted actions ensuring compliance with performance standards in combination with third-party audits. This approach has been used to regulate both the external environment and occupational health and safety (Gaupset, 2000; Lindøe & Hansen, 2000; Needlemann, 2000). Whereas standardized systems have been established for the external environment (ISO-14000 & EMAS) the central stakeholders have been reluctant to frame corresponding trans-national standards for occupational health and safety (Zwetsloot, 2000; Vogel, 1999).

From a union point of view these systems seem to have succeeded in reducing the number of accidents. But the experiences have also made some unions hesitant. Firstly, it has been difficult to incorporate health issues. Secondly the systems should be designed to implement performance standards and participatory programmes drawn up at national level. But they have often been regarded by the employees as systems introduced by management, giving the latter the right to decide on procedures as well as type of participatory scheme and aims and goals. Finally, management seems to have been more engaged in managing reports and numbers rather than in introducing preventive measures.

In spite of this, the idea of establishing "kitemarked" certified systems is still much to the fore in many member states. As such, unions must develop strategies to counter these adverse effects.

Economic instruments

A third approach to regulation, and a well-known strategy, is not to control firms but to provide economic incentives that will motivate management to address occupational health and safety issues. It has, however, been difficult in the occupational health and safety field to frame an incentive system that effectively promotes preventive actions. First of all a reliance on economic instruments dispenses with any discussion of ethical or legitimate behaviour. Secondly, a system based on past performance (last years' accident and sick leave rates) is as likely to lead to a strategy to reduce workers' absence as to a strategy to manage workplace improvement. Nevertheless, in a market-driven economy such instruments are appealing at least for state agencies and the search for such strategies will continue. Consequently, the unions have to develop an appropriate attitude to this approach and put forward demands.

Developing a mutual understanding

The final type of regulation stems from the development of an understanding and conceptualisation of the field among the stakeholders involved. As pointed out by VanEijnatten (2000), the concept of 'flexibility' has dominated discussion of industrial and labour market development, while the concept of 'intensified work' has not been equally promoted in public debate as another expression of the same development. The need for a gender-specific conceptualisation of developments in working conditions also requires emphasis.

Union officials submerged in legislative and bargaining processes may fail to appreciate that relevant knowledge is context-sensitive. Though quantitative data from questionnaire-based surveys and

Per Langaa Jensen

laboratory experiments may be a prerequisite for regulatory actions at regional, national and supranational (EU) level, this type of knowledge may not be a prerequisite for local action. To promote a commitment to joint actions among stakeholders other social settings for data-gathering may be more relevant.

This implies that unions wanting to serve their members' interests at enterprise level must realize/accept the context-bound relevance of action-oriented knowledge, and must never promote questionnaires and measurements as the primary source of relevant data. This is a fact well-known to most union officials, but due to the twofold nature of their activities it has to be regularly repeated. There is a long tradition of cooperation between workers, unions and researchers on the production of documentation-oriented knowledge. There is, at the same time, a need for cooperation between unions and researchers on the study of the forms and characters of action-oriented knowledge at enterprise level.

Conclusion

It is questionable whether developments in western European societies can be described as a transition towards a completely new mode of production. Rather, workplaces and working conditions appear to be growing increasingly complex. The basic mechanism of the labour market in capitalist societies has had an important role in regulating not only wages but also working conditions. Management are to some extent inclined to address workplace health and safety when there is a shortage of skilled labour, but less so when there is a surplus.

One of the implications of solidarity is that the unions should seek to attenuate the impact of the labour market in times of surplus. As a means of fulfilling the need for a regulatory strategy in the occupational health and safety field, the detailed specification type of regulation has, over the years, become increasingly inadequate as a principal approach. Accordingly, we have witnessed a continuous development towards reflexive forms of regulation as an important means of supplementing detailed specifications. In the early phases the performance specification was the main new focus, but more recently the performance specification has been combined with system specifications.

Within the EU, the framework directive embodies such a development. In countries that have implemented some of the main elements (risk assessment, worker training and mandatory affiliation to occupational health services) constructive developments have been identified at workplace level. But the potential of this approach to deal with the complex development in production systems has to be further explored in practice.

The same argument applies to negotiations on workplace issues in relation to occupational health and safety. The potential and limits of negotiations have to be investigated and there are several existing instances of developments that lend themselves to more thorough investigation.

Alternative regulatory approaches to command and control are available. In order to be effective in the present situation, a regulatory strategy must entail a command and control approach in combination with economic instruments and formalized occupational health and safety management systems. This must be accompanied by the well thought out and long-term development of conceptual frames and systems for knowledge production serving the formulation and communication of workers' views on the development of production processes.

The plans for the EU accession of certain eastern European states present a risk of further deterioration of working conditions in western Europe. Several of the states have not yet, since transition from a command economy to a market economy, taken regulatory initiatives to stem the effects of the free play of the market. Western European enterprises are already facing fierce competition from a number of sectors in eastern Europe such as the transport sector - competition that may result in a deterioration of working conditions. It is a major challenge facing all EU member states in the years to come to ensure that inclusion of the eastern European countries does not represent a threat to the general working and living conditions of workers in the Community. At present this issue does not appear to number among the Commission's priority concerns. Workers are therefore at risk of facing a situation in which occupational health and safety standards are levelled down as the result of a European policy too exclusively geared to the creation of an even larger European market for free trade.

It is not my task as a researcher to design or recommend specific union strategies. But I consider it important that workers, in collaboration with unions and researchers, should reflect on regulatory strategies to sustain local activities, thereby empowering them to face the difficulties likely to arise and to take responsibility for their working conditions.

Per Langaa Jensen

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- **Elisa Maria Damião**
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- **Willy Bushak**
  ETUC Confederal Secretary
- **Felipe Manzano**
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- **Marc Boisnel**
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- **José Ramon Biosca de Sagastuy**
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TUTB NEWSLETTER

THE EUROPEAN TRADE UNION TECHNICAL BUREAU FOR HEALTH AND SAFETY was established in 1989 by the European Trade Union Confederation (ETUC). It provides support and expertise to the ETUC and the Workers' Group of the Advisory Committee on Safety, Hygiene and Health Protection at Work. The TUTB is an associate member of the European Committee for Standardization (CEN). It coordinates networks of trade union experts in the fields of standardization (safety of machinery) and chemicals (classification of hazardous substances and setting occupational exposure limits). It also represents the ETUC at the European Agency for Health and Safety in Bilbao.

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