

Action Research in Workplace Innovation and Regional Development

Edited by Werner Fricke
and Peter Totterdill

Action Research in Workplace Innovation
and Regional Development

Dialogues on Work and Innovation

The book series *Dialogues on Work and Innovation* presents empirically based studies as well as theoretical discussions on the practice of organizational renewal.

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Edited by Werner Fricke and Peter Totterdill

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Dedicated to Björn Gustavsen, in honour of his contributions
to the development of Action Research

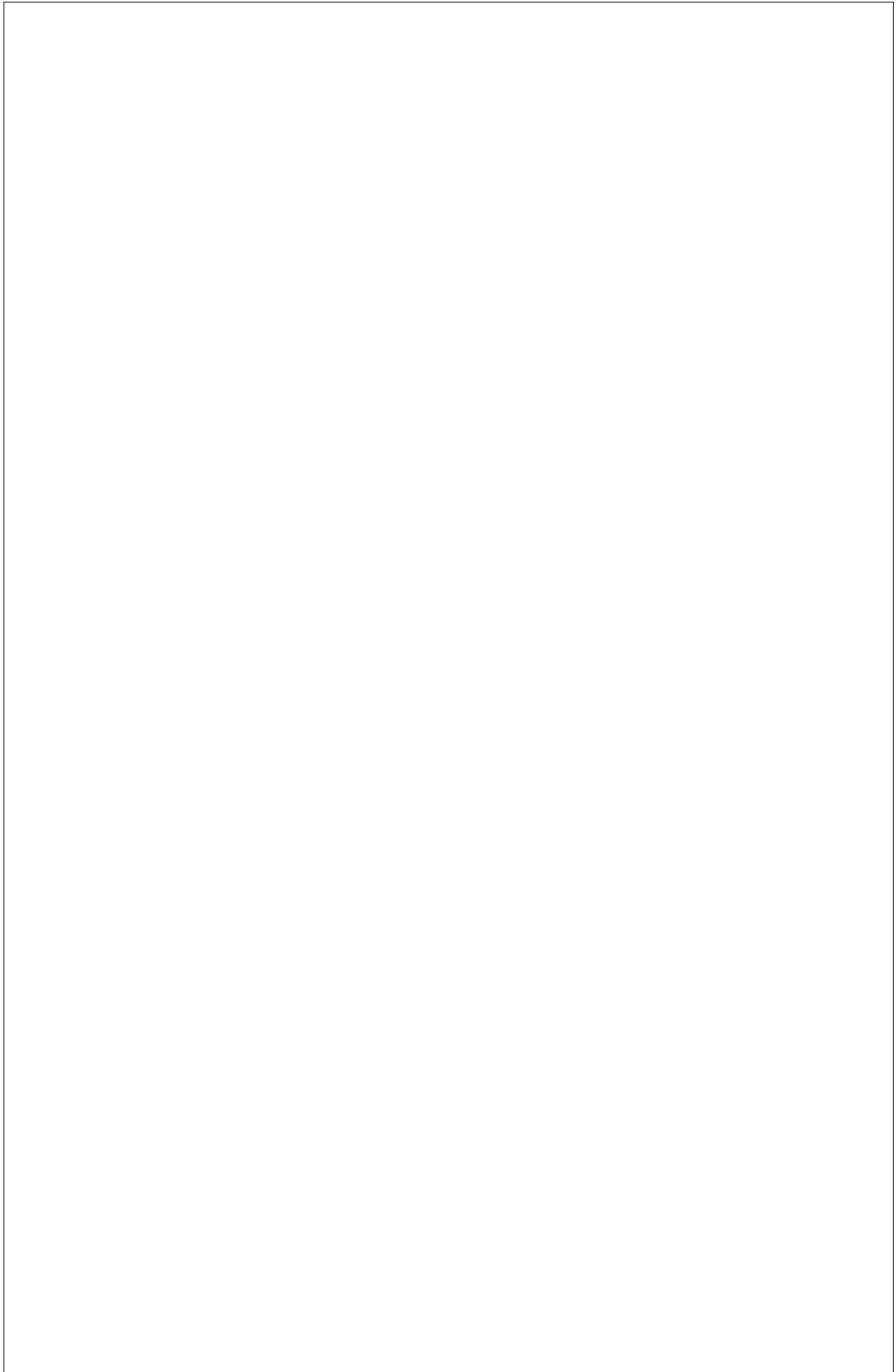


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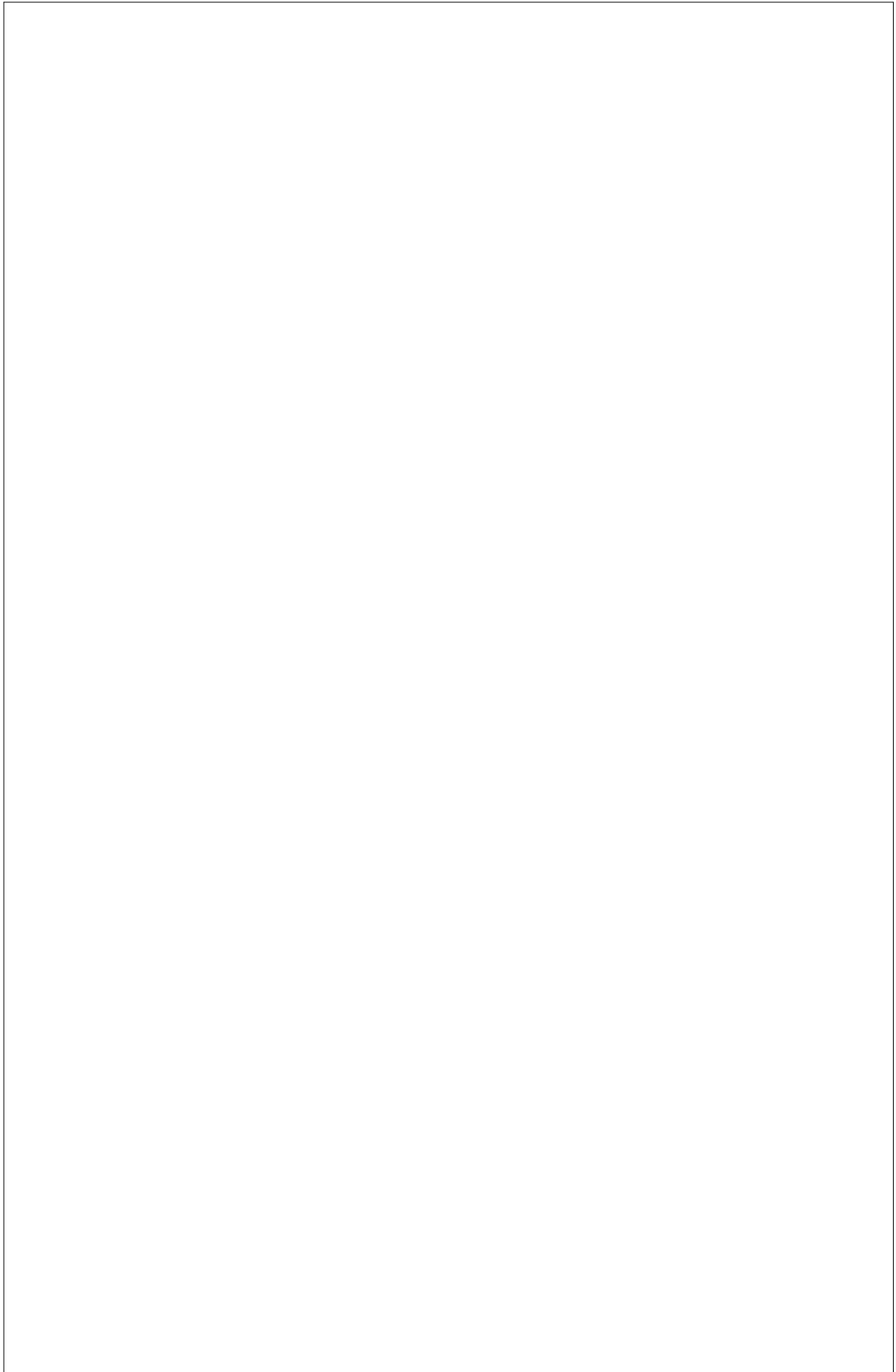
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Werner Fricke
Peter Totterdill
June 2003



Introduction

Werner Fricke and Peter Totterdill

The past is an increasingly unreliable guide to the future.

European workplaces and the regions in which they are located face unprecedented pressures and challenges. Whereas in recent decades incremental adaptation has largely been sufficient to cope with external change, it is no longer clear that this remains the case. The globalisation of markets, technological development and dissemination, political volatility, patterns of consumption, and employee expectations are occurring at a rate which is hard to measure. The threat is that the rate of change in these spheres is far outstripping the rate of organisational innovation in both European enterprises and public governance, leading to a serious mismatch between the challenges of the 21st Century and the organisational competence available to deal with them.

Increasing unpredictability provokes divergent responses. In financial markets, for example, the renewed significance of 'shareholder value' places the process of accumulation at a premium above the sustainability of the individual enterprise, resulting in increased capital flows and greater pressure for short-term returns over long-term planning. In public service delivery there is an increasing crescendo that planning is just too difficult: the emphasis should be on the individual making choices between providers operating within a 'market' rather than on collective dialogue and decision making. In employment the 'psychological contract' has become a major new brand touted by HR researchers and consultants, who suggest that 'the individual owns his or her employability' rather than seeing the labour market as a negotiated outcome grounded in social partnership.

While reflecting diverse perspectives, the contributors to this book take a different approach. Firstly the increasing willingness of some European social democratic politicians to embrace market-driven approaches reflects a failure to understand, or to admit, that the age of the great deal for the consumer can become the age of the bad deal for the employee. The erosion of the public service ethos by market values and the individualisation of employment relations, while appearing to offer greater choice and flexibility, undermine employment security

and working conditions in ways which represent a serious threat to European social cohesion. Secondly we argue that sustainability in an uncertain environment has to be based on collective and cumulative learning. Traditional rules of public and corporate governance based on assumptions of predictability and instrumental rationality have been fatally challenged. In the face of pervasive uncertainty the critical need is to reconstitute the public sphere as a forum for collective action grounded in dialogue, innovation, reflexivity and learning. In organisational terms the focus shifts from the individual company or public agency to the network, enabling the continuous evolution of coalitions able to draw on and to hybridise different bodies of knowledge and experience in formulating responses to new challenges.

In this context, there is no clear roadmap. Building the knowledge base required by actors in such a fluid environment requires continuous dialogue and learning – an environment in which social partners, regional policy makers and other participants share diverse knowledge and reflect on experience rather than seeking and imitating any notion of ‘best practice’. Action research has a crucial, if under-utilised role to play, embedding shared learning within the process of intervention.

Regional innovation in the global economy

The significance of regions lies in their ability to act as focal points for innovation, through the convergence of economic opportunities, technologies, human resources and culture. This concept of the region as an intelligent network of different actors places a premium on the capacity for collaborative actions based on exchange of experience, experimentation and learning. It requires new ways of modelling regional activity, new strategies and new approaches to public policy intervention that permeate all levels of the economy, integrating strategy at the urban and regional level, the resourcing of change in the workplace and learning for the individual. Such integration must take place not through the traditional recourse to models of technocratic and directive planning, but by reinventing the public policy sphere as a focus for dialogue, reflective action and innovation.

“Regional innovation” might be considered an absurd notion in the context of a global economy. The free movement of capital, unstable international divisions of labour and the emergence of worldwide labour markets contribute to a sense that regions simply provide a passive, transient locus for economic development and are relatively powerless to influence its scale or quality. In this view, regions can ensure that the entry conditions for economic development exist in the form of transport and telecommunications, land use planning, vocational training pro-

vision and tax breaks, but they can do very little else to ensure success. Competitive advantage is no longer linked to geographical areas, but to the degree to which companies can become truly transnational. Regional competitiveness is thus only measured by those variables thought to influence global investment decision makers – wage costs, corporate taxation, the relative productivity of branch plants in one region compared with another, supply chain logistics, and so on.

Such perceptions have guided regional development practice in parts of Europe for many years. Some areas have been rather good at playing the game, with ‘Silicon Glen’ in Scotland or the Irish ‘Emerald Tiger’ portraying themselves as triumphs of national and regional policy. However the low-tech assembly of high-tech Asian or American products has demonstrated serious limitations as a strategy for regional regeneration, highlighted by the global crises in the electronics sector over recent years. Regions may be able to achieve some transitory degree of success in the attraction of footloose capital, but footloose it remains. Departing multinational branch plants leave little behind them other than empty buildings. Routine assembly operations do little to provide workforces with core transferable skills. Inward investing companies rarely become deeply embedded in their host regions and there is little evidence that the indigenous economy achieves sustainable benefits in terms of new knowledge, technologies or markets. Public policy has often simply neglected to find ways of embedding new companies into regional economies. Even attempts to build relationships between inward investors and indigenous suppliers may increase the overdependence of the regional economy on branch plants rather than enhancing capacity for innovation and diversification.

If regions cannot rely on rescue from outside, how can they mobilise their own resources to achieve sustainable growth? The starting point lies in how we conceptualise the relationship between the individual workplace and the wider regional environment. 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.

Regions are not just the passive recipients of global forces; rather these wider influences are inevitably subject to mediation by local structures and practices (see Figure 1). The potential mobility of capital and labour is in practice anchored by multiple ties, however weak or strong these may be. Labour market characteristics, supply chain relationships, social dialogue, links to local universities, the public policy framework and many other intangible factors not only have an immediate effect on the performance of firms but can lead to patterns of regional differentiation which form the basis of distinctive patterns of competitive advantage not easily imitated. Italian industrial districts, for example, provide a paradigmatic ex-

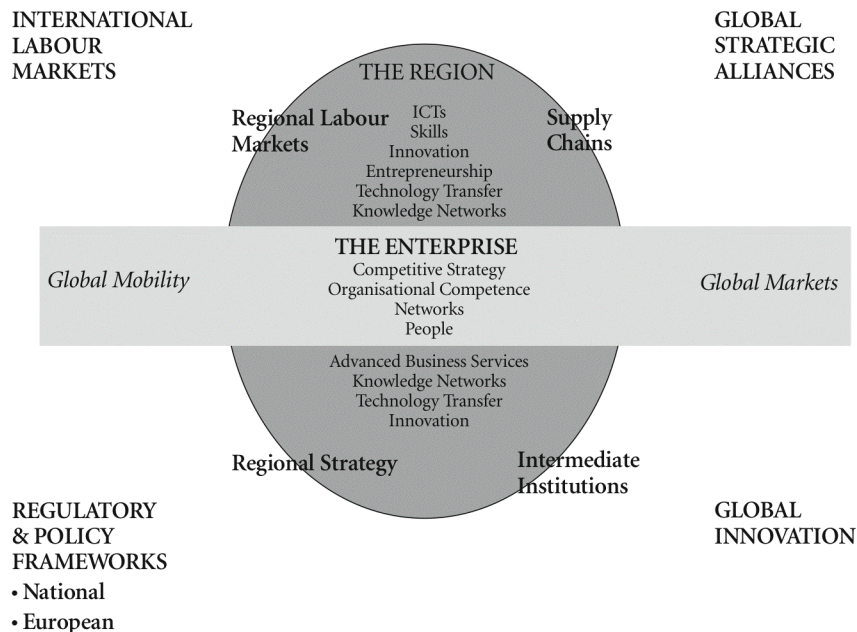


Figure 1. Regional influences on workplace innovation and competitiveness

ample of an innovation milieu with the capacity to remake themselves on the basis of collective knowledge, learning, reflection and action. Throughout Europe researchers, policy makers and other actors have been probing whether such network capacity can be created through conscious intervention. This volume is intended as a contribution to that debate.

Innovation is not therefore a placeless process. This book sets out to examine the characteristics of effective and dynamic innovation processes at the level of the workplace and the region, to identify the scope for intervention by key stakeholders such as social partners, public policy makers and universities, and to explore action research as the foundation for shared knowledge creation and learning between actors.

Action research in the context of regional development

Starting in the early 1990s there has been a trend in action research away from focusing on single cases in single organisations, which had dominated action research during the past five decades, to a focus on regional development processes or even social movements.¹ This trend is very much connected with the name of Björn Gustavsen. The present book presents this new dimension of action re-

search in several of its contributions, especially those by Gustavsen and Ekman Philips et al.

The idea is to create many low intensity changes generated by a great variety of regional actors, instead of focusing on a limited number of single cases of remarkable innovation – which leaves the problem of dissemination unsolved and unsolvable, as exemplified by many national work life programmes including those in Scandinavia, Germany and elsewhere. Action research created several methods to animate ‘dynamic situations’ which would otherwise not take place; these include dialogue conferences, network co-operation, the establishment of development organisations (or, to use one of Gustavsen’s terms, “change generating mechanisms”) and the building of development coalitions in regional development processes (see Ekman Philips et al. in this volume and the literature indicated there).

The crucial point of the new action research approach is to integrate the ideas and interests of as many regional stakeholders as possible, thereby introducing an element of industrial democracy and participation into regional development. In this conception, regional development is seen as a variegated package of incremental innovation processes. Moreover dissemination and implementation are included in the regional development and innovation process itself. They are no longer seen as a separate task to be solved after obtaining results, as is the case with change concepts or single case-based experiences.

Instead of observing and analysing from outside, research is a productive partner within innovation and regional development processes. It is used in a ‘distributive way’. This concept acknowledges the fact “that knowledge does not travel from event to event purely through research channels”. On the other hand, research can never fully take over the construction of a development process nor any single event. There are in fact “two processes of ‘diffusion’ running in parallel: one within the research community, one among the people concerned”².

To practise research, and especially action research in regional development and workplace innovation processes means that knowledge production is integrated into development and innovation processes on the basis of experience as well as of theory. This has been an aspect of classical action research from the very beginning in the 1940s, formulated as the “knowledge is in the action”. The distinction from traditional academic understanding and practice of knowledge production is “that all conclusions are inputs into new action rather than in self-contained theories” (Gustavsen, l.c., p. 94).

The distributive use of research within innovation and development processes has yet another dimension, as pointed out by Gustavsen in this book. The growing attention paid to the regional context in policy as well as in research changes the relationship between the local and the central – in other words between the nation state and regions. This relationship is at present characterised by “long

distances between the top and the bottom and a strong division between representing and being represented, working and thinking, producing and innovating, learning from work and learning from texts". Gustavsen's perspective, leading his activities in initiating, organising and running national work life programmes in Scandinavia is "the transformation of the challenge of industrial democracy from the traditional nation state framework into the contemporary one of networks and regions." The latest Norwegian programmes were especially devoted to and successful in creating networks involving a great variety of regional actors, and – even more importantly – in developing and implementing instruments to create network and regional development generating mechanisms within both enterprises and organisations.³ These activities are again in line with the notion of continuous, incremental change processes, opening and including opportunities for participation to a great variety of actors within enterprises/organisations as well as in regions. In both contexts people treat each other – as Gustavsen puts it – as equal partners and not as 'organiser' and 'organised'. Compared to "normal" practices in organisational change processes, especially in enterprises, as well as in development relationships between the nation state and regions, this is at present not much more than a perspective of social change; but it is a perspective which includes enough potential to initiate and guide broad social movements towards industrial democracy. In this field the editors see a task for action research in the future.

A framework for the renewal of workplaces and regions

With characteristic insight, Gustavsen opens this volume by arguing that innovation is a collective act, grounded in interdependence between firms and actors within the broader network of social relationships. Drawing on the Norwegian experience of public policy intervention since the war, he points to the emergence of regional interaction as an effective locus for network building, or more specifically the organisation of "development coalitions" with potential for stimulating and diffusing innovation. Such coalitions are grounded in open and inclusive dialogues between diverse partners. Researchers can become informed participants within such coalitions, contributing a specific type of knowledge to the development process while at the same time providing partners with opportunities for critical self-reflection. Action research, in this sense, becomes a key resource in the regional toolkit. Recent policy programmes such as *Enterprise Development 2000* and *Value Creation 2010* have provided fresh opportunities for action research-based intervention at regional level, establishing Norway as an important laboratory for leading-edge practice. Claussen's contribution later in the volume reinforces this

message, demonstrating that regional networks are powerful not just because they can lead to the sharing of knowledge but because they animate dialogue capable of translating generalised constructs such as ‘total quality’ into locally-owned concepts of practice.

Acknowledging Gustavsen’s insistence on innovation as an interactive process, Totterdill and Hague shift the focus of attention to the workplace. Drawing on an analysis of case study evidence from over a hundred European workplaces, they argue that work organisation is not a rational, linear process leading to an end state. Rather they see it as a complex and contextualised process of dialogue, learning and organisational innovation based on interdependent processes in which workplace partnership and employee involvement, job design and teamworking, and the creation and distribution of knowledge, are the principal organisational components. (This argument is further developed by Ekman Philips et al. in their chapter on organisational innovation in the healthcare sector.)

Totterdill and Hague suggest the possibility of a ‘high road’ of workplace innovation in which convergence is sought between organisational performance, quality of working life and employment. Travelling the high road is based on a negotiated balance between inclusive dialogue *within* the organisation and multi-lateral interaction *between* the organisation and its wider environment. However examples of the high road remain rare on the ground. Sustainable workplace innovation requires abundant opportunities for shared knowledge creation and learning. As Banke et al. demonstrate later in the volume, building dialogue and creating the conditions for sustainable workplace innovation requires considerable understanding and skill. Imaginative approaches are needed to weaken inertia and resistance to change, and the chapter provides some compelling case study evidence located within a sound conceptual framework. The role of coalitions and of an effective policy framework in developing and disseminating such approaches is vital, and once again regions can be an effective focal point for the organisation of these types of intervention.

A key test of regional policy lies in the extent to which it helps build and maintain an abundance of resources for organisational learning and innovation. Ennals brings together several threads from the two preceding chapters, arguing that an understanding of the obstacles inhibiting new forms of work organisation enables us to identify significant gaps in the policy framework at European, national and regional levels. Evidence from several countries demonstrates that regional development coalitions (“regional workplace forums”) supported by action research provide a context for sustainable innovation. Such a policy model would address key EU goals in relation to social partnership and competitiveness while at the same time recognising the diversity of the European experience. However Ennals makes clear that the European Commission, the EU member states and the social

partners have considerable ground to cover before it can be claimed that a coherent policy framework is in place. Enlargement of the EU will undoubtedly make this process more complex, while at the same time offering an even richer portfolio of practice and experience to support learning and innovation.

Finland offers an increasingly quoted example of policy innovation, the *National Workplace Development Programme* (FWDP). In principle, as Koski and Piirainen demonstrate elsewhere in the volume, the programme offers an interesting model for other national policy makers as well as for their regional counterparts in the larger countries. The programme's emphasis on inter-company learning, and on capacity building within partner organisations, provides an innovative complement to the more traditional casework in individual companies. However the Finnish experience shows that in practice it is actually rather hard for policy makers and programme managers to break away from a casework approach in favour of directing resources to build less tangible and less measurable network assets. This difficulty is responsible for the fact that the FWDP has not been successful in its attempt to integrate workplace development policy into Finnish innovation policy.⁴ The authors point out as one possible reason that the programme has differed in many ways from mainstream Finnish innovation policy. Nevertheless, as they conclude, the Finnish Workplace Development Programme "can justifiably be considered to be an interesting experiment to integrate social innovation into a national technology-oriented innovation policy".

Some countries however remain resolutely resistant to the development of substantial national programmes or structures. In the UK, a long-term gap at the heart of national policy provided the context for the creation of the UK Work Organisation Network as a coalition of researchers, social partners and policy makers (see Ennals, Ford, & Totterdill, this volume). Such networks, though lacking either formal state endorsement or long-term funding, can act as important animators of dialogue and action in support of workplace innovation, operating at both national and regional levels. The UK's experience may therefore be of value to other European countries in comparable situations.

Building regional competence

Coalition building, the creation of new organisational capacity and the development of new institutional roles are interwoven themes that recur throughout the different chapters. The book contains two detailed case studies of coalition building. Claussen's account describes the re-animation of three existing enterprise networks in the south west of Norway around issues relating to organisational development. In contrast Ekman Philips et al. describe the creation of a develop-

ment coalition designed to generate changes in healthcare provision in the West Skaraborg region of Sweden, involving both organisational development and improved inter-organisational working. These case studies share at least three factors in common. Firstly action research was identified as an appropriate methodological framework in which the researchers became part of the project team. Ekman Philips et al. provide a succinct illustration of how this works:

“The researchers had no ‘better truth’ than any other participants in the dialogue, but did have specialist competencies in organisation theory and local development methodologies, and thereby contributed with strategies for the process of change. The researcher role was to demonstrate that there are choices in how we organise work by systematising the experiential reflections of the participants and contributing to joint knowledge creation from practice.”

Secondly, both the Norwegian and the Swedish activities took place within the framework of a broader publicly funded initiative. In the Norwegian case the national *Enterprise Development 2000* programme provided a context within which opportunities and methodologies for network creation and development were actively sought and debated. In Sweden the opportunity for network animation was provided by an EU research and development project, *Innoflex*, designed to identify the conditions for convergence between organisational performance and quality of working life, with a strong empirical component focused on inter-organisational learning networks (see www.innoflex.org.uk). In both cases the wider programmes play an important role, not just in resourcing network development activities but in providing access to broader areas of debate and practice.

Thirdly, the role of intermediate organisations is central in both case studies. Rogaland Research, a foundation closely associated with the local University College, led the Enterprise Development 2000 activities in south west Norway. In Sweden the Skaraborg Institute, established ten years earlier to build healthcare research capacity in the region, worked closely with the National Institute for Working Life in designing and facilitating coalition building activities.

These examples raise wider questions of organisational capacity within regions. The existence of organisations such as Rogaland Research and the Skaraborg Institute, often designed to work in the spaces ignored by statutory bodies such as local authorities and universities, can be vital in animating new thinking and practice. As semi-independent organisations, and perhaps accountable to a wider group of stakeholders, they can work in more flexible and creative ways than their parent institutions. In many European regions the creation of such organisations could be seen as a policy priority, and certainly a precondition for building effective development coalitions. However the Scandinavian experience stands in contrast to that of other countries such as the UK, where a more traditional solution has been adopted to address the deficit in organisational capacity. Re-

gional Development Agencies were established by the UK government in 1999 as a means of ensuring 'joined up' delivery of national targets for social and economic regeneration. Although the agencies are still at an early stage in their development, sceptics are beginning to doubt whether they will be effective in developing sustainable internal competence in the regions given an extremely high level of performance management from the centre. The danger is that regional actors become harnessed and directed towards the delivery of national targets rather than building indigenous development coalitions with their own agendas.

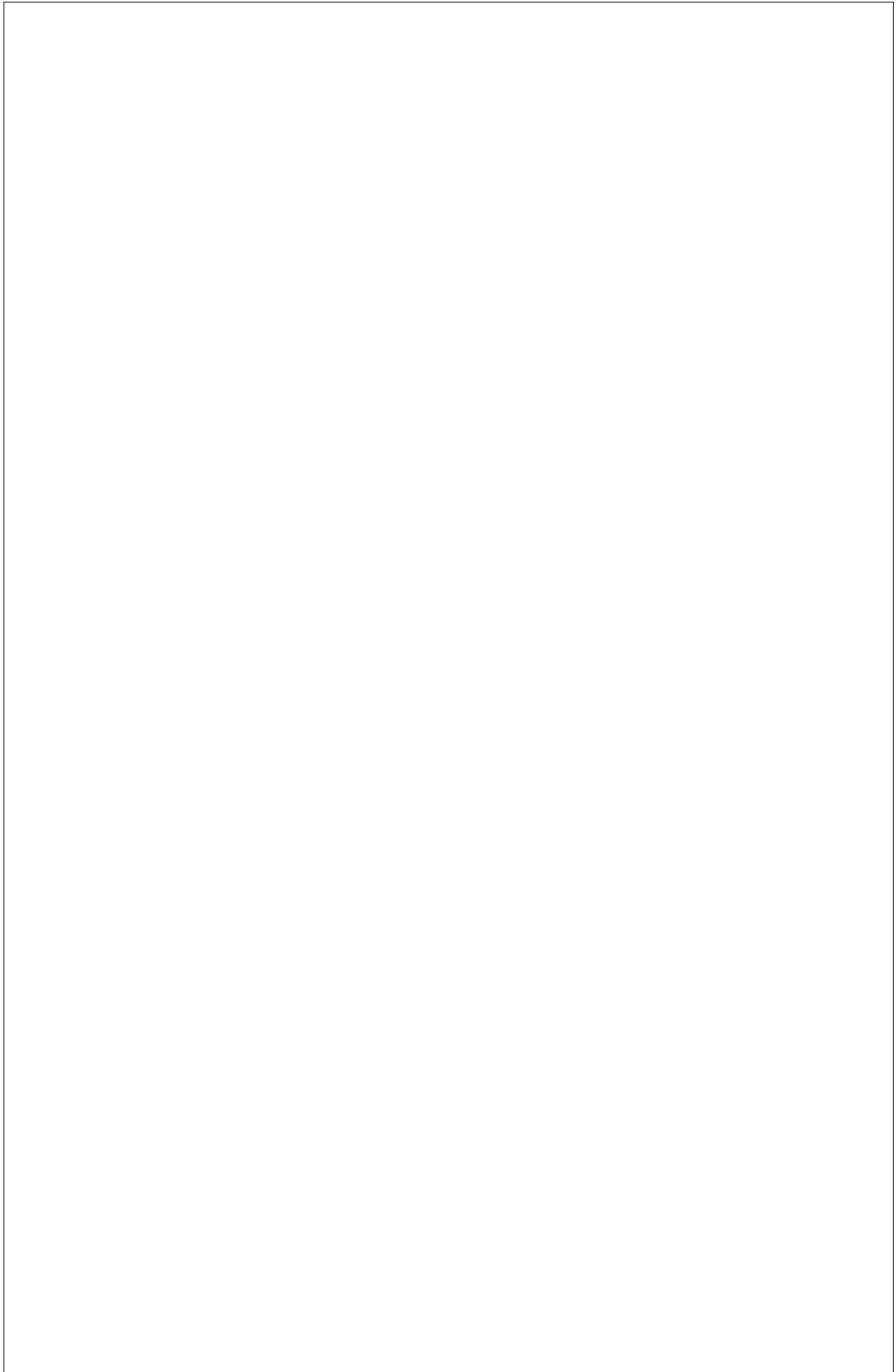
Regional capacity building may also suggest the need to develop new roles for existing organisations. In Sweden the 'third task' agenda offers universities the opportunity to play a much more active role in regional development processes. However such changes have inevitably met resistance. Brulin describes an action research project designed to promote the third task through 'mutuality in knowledge formation between universities and their communities' – in short, no less than a new epistemology of research and higher education based on enhanced interaction between researchers and practitioners. This emphasis on shared knowledge creation is echoed by Lantz and Totterdill in their argument for the "stakeholder university". They warn that the burgeoning market for consultancy offers temptations for financially challenged university administrations, and that the 'third task' may well be interpreted as an opportunity for a third income stream. Lantz and Totterdill suggest that this represents a missed opportunity for universities. Using the example of organisational development, they argue that universities are uniquely placed to develop inter-company networks that promote exchange of experience, while at the same time generating new knowledge about workplace innovation and its consequences for the wider regional context. Such interaction certainly enriches university teaching and research; it also offers the potential for new income generation while avoiding epistemologically dubious engagements with consultancy. In a quite different field, biotechnology, Heil and Lacroix explore the impact of a French *technopole* on knowledge creation. They argue that interaction within this new organisational environment is leading to a blurring of traditional divisions between basic research and its commercial exploitation, with profound but as yet unclear implications for the scientific community and the ownership of knowledge. Most of the contributions to this book deal with the engagement of existing companies in opportunities for innovation and development. Heil and Lacroix however deal with the creation of an entirely new sector of regional economic activity, one grounded in scientific knowledge but whose growth is consciously designed and mediated through a coalition of public and private organisations.

Van Klaveren also addresses the need to develop new institutional roles, this time in the context of trade union participation in regional development within

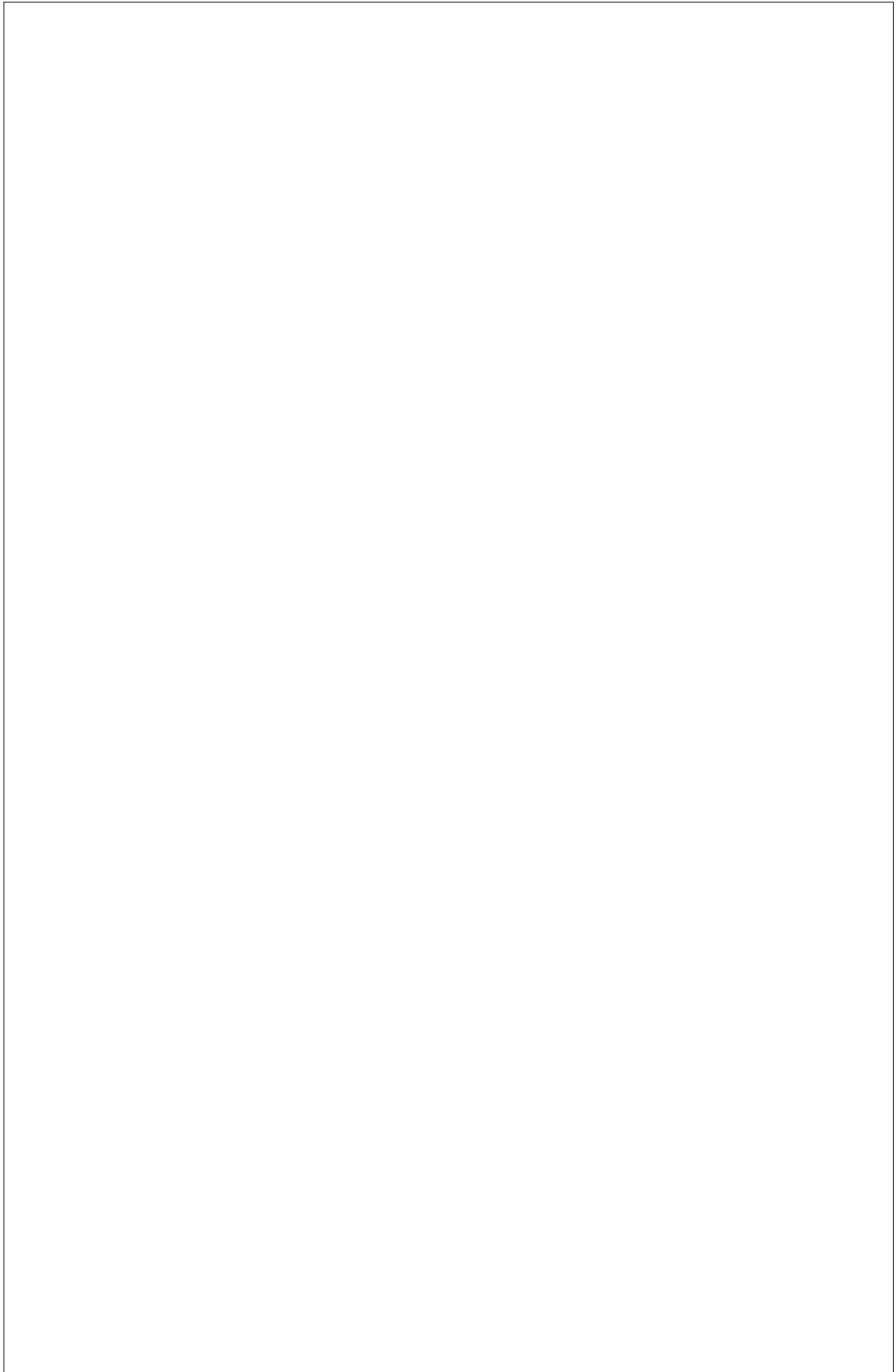
the Netherlands. His case study shows that the process of adaptation is complex and difficult for trade unions, involving considerable dialogue and piloting before the required competencies and organisational practices become embedded. Likewise Beese et al. warn that the emergence of regional development coalitions in Germany challenges traditional trade union organisation and discourse. Yet regional economic initiatives do provide an opportunity for new forms of trade union engagement, geared towards the production of “collective goods” such as employment and vocational training. Again the chapter highlights the role of action research in elaborating the scope, potential and conditions of such engagement.

Notes

1. See Björn Gustavsen “Action research and the problem of the single case” in *Concepts and Transformation*, vol. 8:1 (2003), pp. 93ff.
2. Gustavsen, l.c., p. 95.
3. See Oyvind Palshaugen “The competitive advantage of development organisations” in *Concepts and Transformation*, vol. 5:2 (2000) and “Discourse democracy at work: On public spheres in private enterprises”, *Concepts and Transformation*, vol. 7:2 (2002).
4. This has been the case in other national workplace reform programmes as well. See for example the German Humanization programme and its successors since 1974. Facing both open and hidden resistance, especially from employers’ associations, they gave up their initial attempt to develop a broader (high road) innovation strategy compared to the mainstream innovation concepts, with the same result as in the Finnish case: workplace development policy is, if it takes place at all, supplementary to the process of innovation (see Fricke in *Concepts and Transformation*, vol. 8:1, 2003).



Key themes



Participation and local organisation

Björn Gustavsen

Introduction

As network organisation – in all its different shapes and forms, industrial districts and regions, clusters and innovation systems – grows in significance, it also becomes of increasing importance to locate these forms within the context of a broader social order. In some societies, such as Italy, certain forms of local organisation – in particular regions – seem to have a history of their own and to represent autonomous forms of social organisation. In societies with a stronger nation state – such as the Scandinavian ones – there is a tendency to see local/regional organisation in a different light: as some kind of subsidiary under the nation state and with tasks that are largely given by this state. Whereas, in the first case, local organisation is a direct response to certain functional needs and requirements, in the second case, it is an indirect response in the sense that its emergence is dependent on the nation state deciding that certain tasks are better dealt with on a lower level. This difference in point of departure has, in turn, some major consequences for the kind of discussion generated by the emergence of local organisation. It has, furthermore, major practical consequences in the sense that in the traditionally strong nation states the development of local/regional organisation is interwoven with state policies and measures in a way that does not seem to be the case in societies with stronger traditions of autonomous regions, at least not to the same extent. In these interdependencies, there are today a number of tensions and the evolution of regional organisation is not necessarily a smooth process. In this paper some aspects of this process will be described and discussed, with reference to one specific country: Norway.

Innovative organisation

If we follow Toulmin (1990) and see the roots of the modern in the Renaissance rather than in the pure thinking of the seventeenth century philosophers and mathematicians, the relationship between the central and the local has been at the core in the whole evolution of modernity. The city-states in which the Renaissance generally emerged clearly had a hierarchical social organisation with their full share of abstract symbols, power-based organisation and major social differences. Within this framework, however, a kind of innovation system emerged, centring on workshops of artists, craftsmen and intellectuals, organised around efforts that would, today, be called innovation projects, embedded in broader networks of social relationships that enabled the human resources of the time to move in and out of a continuously changing landscape of such projects. When principals like Leonardo da Vinci's contemporary Lorenzo de Medici promoted this kind of organisation it was not only to enhance his own legitimacy but also to promote the development of knowledge and the creation of artefacts within architecture, technology, art and culture. There was fierce competition between principalities throughout civilised Europe in these areas. The winner would have to ensure that relevant forces were developed, organised, and given working conditions that could produce the best. To achieve the best it was understood that there was a need not only for doing but also for thinking and that these functions had to be strongly integrated. Rather than turning practice and reflection into radically separate activities, as came to happen later, the Renaissance made its huge advances just by combining them. Today, there is a growing recognition that if modern science is to be founded on any specific earlier period then this is the period and not the time of the pure thinkers like Descartes, Newton and Hobbes (Toulmin 1990; White 2001).

While it was recognised that a strong combination of practice and reflection was needed to achieve the level of performance characterising the Renaissance, this level of performance also put society under pressure. During the centuries that followed it became more and more clearly recognised by the churches and states of Europe that a freely-moving innovative organisation was a threat to the traditional order of society and much effort became directed at curtailing the Renaissance-inspired movement of knowledge and innovation.

The conflict reached a temporary settlement with the emergence of the democratically organised nation state. In this type of social order the people are given the ultimate authority in the sense that the people elect a parliament that constitutes – with some exceptions – the highest level of formal authority in society. This removed the need to legitimise the state in some source outside and beyond the state itself, be it God, Natural Law, a Social Contract, or some other source.

With the state established to serve the people, it could be expected that the people would cause the state to introduce just those orders that the people found most appropriate, for instance a Renaissance-kind of innovative organisation. This, however, is a somewhat too simplistic perception of the nation state and the way in which it functions. While the democratic nation state could offer democracy, there also emerged other social characteristics, such as long distances between top and bottom, between centre and periphery; a growing degree of differentiation and specialisation; a growing reliance on texts rather than personal relationships in the organisation of society. The nation state came to sustain the division between deciding and doing, thinking and acting, that had characterised many earlier societies as well, but the development of bureaucracy and technology gave the nation state far more powerful tools. In certain respects social distances increased rather than decreased, the substitution of life-world experience with texts, of the concrete with the abstract, grew more prominent rather than less. Eventually, the nation state was in danger of turning itself into what Habermas (1962) calls the plebiscite-acclamative society where the purpose of the people is to turn thumbs up or down to whatever is proposed by or from the top, but little more.

It has never been a practical policy to seek the re-establishment of the theory-practice relationships that characterised the Renaissance, or – more correctly – the spearheads of the Renaissance, but that a reversal of the continuous centralisation of the nation state had to emerge is also clear. There is much to indicate that the contemporary movement towards local organisation actually is this reversal (Toulmin 1990). The purpose of this paper is to look somewhat closer into this process within one particular society – Norway – and within one particular area: working life.

Participation and the challenges of industrialisation

The education and communication necessary to ensure the broad participation called for by the democratic nation state was made possible by the process of industrialisation. This process however generated new challenges for the idea of participation. From the latter part of the 1800s on, this led to a debate about democracy under the new industrial conditions that gave rise to the concept of industrial democracy, and not only in Norway.

Nonetheless, the first major step of practical significance did not emerge until after the end of World War II. The Norwegian government in exile in the UK during the war years had placed this issue on the agenda as a part of the settlement to be made after the war. This led, in the autumn of 1945, to the introduction of joint labour management production committees (works councils) in all companies

above a certain size; initially this was as low as 20 employees, over the following years this lower limit was raised. Although the system had been tried out in some industries in the UK during the war years it was actually quite an innovation to introduce it as a general order under normal conditions (Dorfman 1957). These committees also came to introduce – more or less explicitly – some of the challenges associated with the notion of industrial democracy.

While the relationships between labour and management took the form of negotiations in an adversarial scenario, through representatives, over quantifiable objects, the production committees attempted to enter new terrain. First, although the committees themselves were made up of representatives, the links to those who were to be represented were supposed to be strong and continuous; otherwise the rationalisation potential inherent in using the skills and experiences of the workers could not be mobilised. Second, although production committees could be arenas for negotiation they were not intended to be arenas for negotiation only. Other, and more co-operative, forms of work were to be initiated as well. Third, while time and money could be themes in the production committees, they were also intended to raise issues like productivity, rationalisation, health and safety and more; issues that were not always expressible in simple, quantifiable terms. Fourth, although the concept of production committee indicated an orientation towards the shop floor, they could also deal with issues on higher levels of the formal organisation such as budgets or personnel policy.

As far as is known, these challenges were not met in a uniform way. Different committees came to evolve in different directions. Some became, for instance, an extension of the bargaining system while others evolved in a direction resembling the quality circles that came to appear many years later. Some turned their attention upwards to managerial issues while others gave most of their attention to the shop floor. Some solved the various dilemmas by not doing anything.

Over time several committees, appointed by the government or by the joint committee between the Labour Party and the Confederation of Trade Unions, looked into the issue of industrial democracy which led to specific debates (the most important were the Aspengren-committee (1965) and the Eckhoff-committee (1971), both named after the respective chairmen). In these debates the schisms and dividing lines characterising the production committees continued but also appeared in new forms. Around the middle 1960s the idea of promoting industrial democracy had crystallised into some main positions:

First, a distinction could be made between positions that placed the main emphasis on upwards-oriented issues, often associated with concepts like management and power on the one hand, and those that placed the main emphasis on the shop floor on the other. Within the first category a distinction could be

made between the proponents of extended negotiations and the proponents of re-organisation of the enterprise.

For some, the role of the representatives was not only the main one but the only one. When representatives were given more scope for furthering the interests of the workers, industrial democracy had been achieved. For others, however, the issue spanned a broader range and gave rise to a need to consider the mobilisation of the rank and file. On this point two rather different views could be identified: One can be called the sluice-gate view, according to which the workers, when given the right to stand up, would actually stand up and more or less take over the running of the company (Anker Ording 1965; Coates & Topham 1970). Another can be called the competence development view, where the main point was that in addition to the formal changes there would be a need for changes in the learning possibilities associated with ordinary work roles so that the employees could acquire the competence needed to take an active hand in the running of the company (Emery & Thorsrud 1969).

Whereas the sluice gate view would call for little more than formal changes, the notion that competence would be called for, opened the door to a new series of questions: How could this competence be developed? What sort of competence would be needed?

Again, at least two different positions emerged: The training approach depended on the notion that the employees could be trained – in particular through new versions of the idea of vocational training – to fill new roles in a more democratic enterprise organisation, while the learning within the job approach argued that the main source of competence development is the job itself, but such learning could – due to, for instance, Taylorist forms of work organisation – not be presumed to automatically take place. Special measures would be needed (Emery & Thorsrud 1969).

The 1960s and 70s were, on the whole, a rather lively period as far as the issue of industrial democracy is concerned and Norway was certainly in the lead. In sequence and in parallel, several different initiatives emerged: The existing system of production committees was made more differentiated. For instance, a distinction was introduced between department level councils and enterprise level councils, providing an answer, at least in formal terms, to the problem of downwards versus upwards orientation. A special body was established between the labour market parties to supervise the implementation of the relevant agreements and even to take new initiatives. Employee representation on the company board was introduced: in any company with 50 employees or more the employees were given a representation of one third, or a minimum of two; in enterprises employing at least 200 a company assembly was introduced as a body between the board of directors and the general assembly with a one third employee representation (Engelstad &

Qvale 1977). This body was, by the way, found to be rather cumbersome and was eventually abandoned. From the middle of the 1960s onwards a series of experiments with autonomous forms of work organisation was launched in selected work sites (Emery & Thorsrud 1976). To some extent in parallel with these experiments and to some extent as initiatives of their own, a number of new training schemes emerged. In Norway, as in Sweden, initiatives of this kind are often raised in the central negotiations between the labour market parties, making it possible to ensure programmes of a certain scope (one example is a training scheme called Improved Work Environment that reached more than 10% of the total work force over a few years: Gustavsen 1986). A broadening of the significance of worker participation appeared in this period when a major health and safety reform came to stress the active participation of those concerned as key to the success of the reform and a section dealing with work organisation was written into the Work Environment Act (Gustavsen 1980; Gustavsen & Hunnius 1981).

A general characteristic of the sum total of the reforms is that they were tailored to fit the patterns of the nation state and the social and organisational order prevailing within such a state. The Parliament and the Government decided on the broad principles; the ministries developed the more specific rules, guidelines and procedures; various public authorities took care of control, supervision and specific decisions; enterprise level actors were expected to comply with the reforms on the basis of information, training and threats of being sanctioned. The reforms were, furthermore, designed in ways that reinforced rather than challenged the ordinary enterprise organisation: employee representation on the company board was based on the idea that the board is the main governing body of the enterprise; the co-operation council on the assumption that a committee-type body can play a meaningful role within all the main processes of a complex enterprise organisation; extended rights for the safety delegates on the assumption that the unions will give the same kind of backing to a safety delegate as to a negotiating shop steward, and so on. Consequently, the tensions between the local and the central, the top and the bottom, between thinking and doing, between representing and being represented, between abstract knowledge and concrete knowledge, between learning from texts and learning from work continued to be living realities. The reforms tried to deal with all aspects but they did not to any great extent consider the point that the various aspects did not always stand in a harmonious relationship to each other but could give rise to tensions and conflicts.

Towards the end of the 1970s, an implementation deficit started to emerge. In a follow-up on the health and safety reform it appeared that only the larger enterprises were developing the composite action programmes that were called for in order to implement the reform at enterprise level, and many of these programmes were conventional in the sense that they emphasised traditional problems like

technological hazards, noise, and similar, while they were fairly weak on work organisation and related topics (Gustavsen 1986). The various efforts relating more directly to industrial democracy – such as employee representation on company boards and extended tasks for the various bipartite councils – seemed, on the one hand, to function quite smoothly but it was, on the other hand, difficult to trace more substantial changes in patterns of organisation and decision-making at enterprise level as a consequence of these reforms (Engelstad & Qvale 1977). Studies of the implementation of the Co-determination Act in Sweden (Hammarström 1980) showed much the same kind of picture. In fact, compared to the background and intentions of the reforms of the 1970s, an implementation deficit could probably be found in most, not to say all, countries. It may have been most noticeable in countries such as the Scandinavian ones because of the fairly high level of ambition behind the reforms, but it could be seen elsewhere as well. Although the overall society level efforts to change working life in, say, the United States were more modest, they appeared against a background of studies that indicated quite dramatic problems, such as *Work in America* (HEW 1973) and *Crisis in the Workplace* (Ashford 1976).

While the 1970s had been the decade of the reforms, the 1980s became the decade of second thoughts. These could go in various directions. One possibility was to have a renewed look at the implementation problem and launch new efforts along the same lines as the reforms had originally done. Another way of reducing the implementation deficit was to scale down the ambitions behind the reforms. The third, and more radical, response was to take a new look at the basic thinking behind the reforms: their perception of change and of what kind of measures can really be expected to produce change.

What actually emerged in most societies was a mix of responses. In some cases renewed efforts were made, in other cases it was a lessening of ambition. The latter was seldom made explicit but there is little doubt that the 1980s, in most countries, saw a significant reduction in the political pressure behind change and reform in working life. In this paper we will, however, focus on the third response: the emergence of regional and local patterns of organisation and activities.

In the second thoughts of the 1980s, the United States and Europe took somewhat different directions. Starting with the publication of *In Search of Excellence* (Peters & Waterman 1982) the gloomy perspectives of the 1970s were, in the US, replaced by a new belief in the potential of management. With the proper motivation, education, tools and consultants, management could solve any problem and meet any challenge. From then on, what amounts to a second managerial revolution has appeared in the US backed by a large number of strategies for improvement (Pascale 1990). Other actors, such as the unions, which were quite strongly on the scene during the health and safety debates of the 1970s, are moving

into the background, so are public reform policies. Europe, however, has moved in a somewhat different direction. Although the picture in Europe is far from homogeneous, what can loosely be called regionalisation and other forms of contextualisation have emerged more strongly. Rather than seeking a course where one type of actor – be it management, as in the case of the US, or some other type – is elevated to a leading position at the expense of all other actors, the European development has been more strongly characterised by seeking new frameworks for all the actors.

The agreement on development

Although with roots in previous developments and experiences, the new direction can, in Norway, be dated back to the early 1980s and a new agreement on workplace development that was made between The Norwegian Confederation of Business and Industry and the Confederation of Trade Unions. The agreement was made within the context of a renewal of the so-called Basic Agreement between the social partners in the form of a special addendum on workplace development. Formally speaking this addendum was – and is – a fairly modest text, declaring joint support for local initiatives to set issues of work and organisation on the agenda and offering a modest economic and professional support to such initiatives (Gustavsen 1985, 1993, 2001). It did, however, shift the emphasis from structures to procedures.

Whereas in all previous efforts the idea was, in some way or another, to introduce a particular organisational order – production committees, autonomous groups, health and safety project groups – the agreement on development essentially introduced a *discourse on organisation*. The underlying idea was that before the enterprise level actors could decide what ideas and patterns were most appropriate they needed to take stock of their own situation – what are our challenges, problems and possibilities? – and move from there to looking into what to do and what ideas about organisation to apply. Rather than strengthen the influx of ideas from outside it was seen as more appropriate to strengthen the local actors' ability to make the most fruitful choices.

A second main characteristic of the agreement was the idea of *broad* or *direct participation*: all concerned should be brought into the process. This was in many ways a trade-off between the employers and the unions: the employers wanted management in the individual enterprise to play a more forceful role in the development of their own enterprise rather than be passive implementers of whatever was demanded or suggested from outside; management should take charge of the situation and shape it according to its own interpretation of needs and challenges.

Traditionally, the unions looked more favourably on externally enforced patterns since these could be generated through a political system that was generally more open to union influence than enterprise level processes. However, there was a growing recognition on the union side that society level solutions were associated with major implementation problems and the unions accepted a new approach providing that employees in general were included in the process.

Obviously, the procedural element in participation was not new. The agreement on development did, however, give this element a stronger position and, furthermore, did introduce specific measures that could be applied by the local parties in this context.

The core element here was the dialogue conference, a procedure that was worked out together with research. The dialogue conference is described and discussed elsewhere (Gustavsen & Engelstad 1986; Gustavsen 1992; Raftegård 1998; Shotter & Gustavsen 1999) and will not be treated in detail here. In principle, it is an event based on a sequence of discussions in groups with short plenaries for reporting and summarising in between. The themes of the group discussions can vary in detail, but generally start with visions for the future and proceed to challenges that need to be met, ways of meeting them, and how to continue the process. Participants generally constitute inverted Ts, that is: all levels are represented but the bottom level more broadly than the other ones. The ideal number of participants for each conference is about 40.

In addition to the dialogue conference the agreement could support projects and project co-ordinators. Beyond the general requirements concerning openness and participation the notion of project was completely open. By project co-ordinator was meant a person with a mandate from management as well as from the local union to co-ordinate between various internal development initiatives and between internal processes and external sources of support.

A special board was appointed to deal with the supervision and implementation of the agreement in addition to which it was equipped with a secretariat of its own. The main reason for the secretariat was to have travelling representatives that could go into direct dialogues with the enterprises. Two representatives of research were invited to join the board, one of them the author of this paper.

The first decade: Scattered discourses

About 450 individual enterprises came to use the agreement during the 1980s, in most cases in the form of a conference but in a number of cases also in the form of mixing the ingredients of the agreement: conferences, projects and project co-ordinators (Gustavsen 1993). Sometimes several conferences were held in se-

quence. Sometimes the limit of about 40 people was transcended and replaced by larger events, even with more than one conference in parallel and interacting with each other.

Most of the conferences were organised by and for one enterprise. There were a few cases where a number of enterprises – with the potential of forming a network – joined with each other to discuss together, one case was a number of automobile dealers (Pålshaugen 1988).

The discussions to emerge in the conferences generally pertained to conventional themes: productivity, work environment, training, and similar. In spite of the conventionality of the themes, the discourses were found to be useful and refreshing; new perspectives and new angles emerged, actors that had previously never spoken to each other discovered areas of joint concern, and much more happened during these events.

Of all the enterprises that used the agreement in this period, relatively few came to effect more deep-going changes. The number that went on from, say, a conference to broader and deeper efforts was about 30. The few attempts at forming networks led to little. Consequently, the efforts of this decade can be characterised as scattered conversations: here and there in the vast sea of organisations and actors constituting working life there emerged elements of a new kind of conversation which, in most cases, appeared to die away again.

The next initiative: Industry programmes

The agreement was given eight years of running time before, in 1990, it was taken up for revision. One could imagine that the board of the agreement would consider terminating the initiative since relatively few of its users had performed development in depth. The fact that quite a substantial number of enterprises had made an effort did, however, persuade the board to move in a different direction. The challenge was seen not as a lack of interest but as a lack of the resources and contexts needed to make the initiatives mature into substantial development.

In this revision it was decided to step up the agreement and its supportive resources to achieve broader and more deep-going effects.

A core element in this context was the introduction of industry-wide programmes. In Norway, the employees as well as the employers are organised on a branch or industry basis, such as the engineering industry, the printing industry, the paper industry and so on. The central organisations wanted to shift some of the responsibility for implementing the agreement over to these actors and thought this could best be done through getting the partners within each industry to develop programmes for their own sector. Such programmes eventually emerged,

primarily within the engineering industry, the printing industry, the meat and the fish processing industries (Karlsen 1994).

Even these programmes came, however, to play a transitional role rather than provide a new and permanent platform for network organisation. The reason was that while the individual enterprise could be too narrow a platform for strong and self-sustaining development processes, whole industries or substantial parts of whole industries were too broad. The industry programmes seem to have been perceived as too large and calling for co-operation between partners who did not really know each other. They could have shared interests, certainly, but shared interests are not the same as an interest in concrete conversation and co-operation.

The emergence of smaller networks

What did happen, however, was that within the industry-based programmes smaller numbers of enterprises started to turn to each other to form smaller networks; most typically with 5 to 15 participating enterprises, generally from the same industry but also often from the same region. Several dozens of such networks appeared over a few years.

The idea of networking was not new; but had – like so much else – appeared only in terms of scattered examples. One such example – a network of engineering firms called TESA – was formed as far back as 1957 (Asheim & Pedersen 1998) and played a role as early as the 1960s in the joint training programmes of the labour market parties. During the 1970s a so-called job design workshop was organised as an effort to diffuse experiences from the experiments of the 1960s and this workshop was based on six enterprises working together during each workshop cycle (Engelstad & Ødegaard 1979). Still possibly the largest enterprise network in Norway – Nordvest Forum (Hanssen-Bauer 2001) – was formed in 1989. Others started to appear in the same period, often linked to the establishment of technology parks and similar. However, it was not until after 1990 that the idea started to gain momentum. The smaller networks emerged as a more appropriate sequence to the single enterprise conversations of the 1980s than the industry programmes.

Conversational networks and the use of research

In the 1990 revision it was not only decided to introduce industry-wide programmes, it was also decided to seek co-operation with other institutions and resources that could help make the agreement gain further momentum. In this context, research was brought into the picture, eventually resulting in the pro-

gramme called Enterprise Development 2000 (Gustavsen et al. 1997). What role should research be given in this kind of context?

The main thrust of the agreement was not to expose the enterprise actors to still more ideas about what they could do but to make them able to take a grip on their own situation and make ideas about organisation serve their own purposes. Furthermore, this was to be done through collective efforts under broad participation with conversations as the core vehicle. This did not mean that ideas about organisation taken from the global market should be neglected; their introduction should, however, take place in a context of recognised local needs and emerge as responses to these needs.

As a point of departure, research had to locate itself within the conversations that emerged among the enterprise level actors. To be a partner in conversation means to relate to other actors in certain ways (Shotter & Gustavsen 1999).

In particular it means to be actively engaged in the conversations and not to be, say, a fly on the wall noting down what the other actors say and then writing about it afterwards. On the other hand, research was not supposed to take too much room and, in particular, not to lecture. In this context, lecturing is understood to be setting one's own agenda rather than listening to the local actors and then presenting views which base their legitimacy on sources outside the local conversation, ie in theory not in itself accessible to the local actors. Rather than these extremes, the labour market parties wanted something in-between, especially concerning the design of the conversational encounters themselves.

The experiences from the 1980s within the older version of the agreement indicated that the way in which the conversations were organised in terms of arenas, participation, themes and forms of dialogue could have a decisive impact on the fruitfulness of the efforts of the local parties. Research was expected to be able to enrich the conversations in terms of design of conversational events. Such design is a continuous process with a large number of different versions of the basic idea which have to be worked out in each specific context.

However, while the labour market parties were sceptical towards high profile research roles, they did accept that there was a need to enrich the development processes through feeding in more ideas and suggestions than the local partners generally managed by themselves. While lecturing was not in demand, what could be in demand was knowledge-based responses to the challenges, problems and needs of the local parties. The contributions from research would, under these conditions, not appear as lectures but as part of the interplay within the conversation itself (Shotter & Gustavsen 1999).

These conversations would have to take place first and foremost between the actors of each separate organisation, but to achieve exchange of experience in broader circles they should also cross organisational boundaries. To work together

the enterprises (and research) had some learning to do and this suggested that the initial forms of inter-enterprise collaboration should take place in networks of modest size. Consequently, the programme started in the kind of small network that was just emerging. When competence in inter-enterprise collaboration started to become apparent, the networks could be expanded if there was a need to attain more mass.

The core unit of the programme was called a *module*, defined as a set of enterprises and researchers in co-operation. In actual practice, the pattern became more complex. In some cases one research group could work with more than one network. Claussen (this volume) gives an example of a module consisting of three networks; in other cases there was initially no network to relate to at all and the researchers had to try to build this kind of relationship between a scattered group of individual enterprises. In still other cases some of the enterprise partners formed a network while other partners operated as individual enterprises.

Altogether seven modules appeared: the southernmost operated by researchers at Agder Research in Kristiansand, the northernmost by researchers at the University of Tromsø. Gustavsen et al. (2001) and Levin (2002) provide descriptions of each of the modules, done by the researchers involved. In most cases the programme started from scratch in the sense that there were few if any previous contacts between research and enterprises and much of the relationships had to be built from zero. Much learning and mutual adaptation had to take place. Through the active involvement of the labour market parties in the design and management of the programme, space was given for these trial and error efforts; the social partners did not want to press their members into relationships and activities about which they could easily have second thoughts and research benefited from this. Depending on definition, somewhat in excess of 10 configurations corresponding to the idea of a small network participated in the programme, about half were created as a part of the programme (three are presented in Claussen, this volume).

Diffusing the idea of networking

This programme reached its end by the summer of 2001. It was succeeded by a new initiative called Value Creation 2010, which, as the name indicates, is intended to run for about 10 years. In this programme one main purpose is to diffuse or disseminate the learning from ED 2000. One could imagine that this process of diffusion would focus either on the structural characteristics of networks or on the content of the solutions worked out within fields like quality control, co-ordination of production, and similar. This, however, is not the case. The prime object of the diffusion process is *the specific forms of work* associated

with the idea of network. The diffusion process is, furthermore, expected to take place not through spreading knowledge about networks but by organising new groups of enterprises into networks. Obviously, to persuade new enterprises to join each other in networks there is a need for some arguments based on previous experience; often people from enterprises already involved in networking are acting as ambassadors to new enterprises. The point is, however, not to prolong the argument but to move as fast as possible into a work situation where the enterprises can start to gain experience by actually working together. In this way, the three networks described by Claussen (this volume) have multiplied into eight within the same region. As far as challenges and tasks are concerned these networks are rather different; what they have in common is that they constitute small networks, that is networks where it is possible to actually work together across enterprises boundaries.

The formation of regional partnerships

Whereas in ED 2000, the process was largely one of establishing relationships between groups of researchers and enterprises, the VC 2010 process is more complex in the sense that the idea of regional partnership is more strongly applied. By this is meant, like in many other European countries, a co-operation between actors with responsibility for supporting development processes, such as public development funds, regional authorities, the regional offices of the labour market authority, the regional representatives of the labour market parties themselves, and similar. In some of the regions such partnerships are already well developed, in other regions they exist in more rudimentary forms and in still others not at all. A side-purpose of the programme will consequently be to help form and strengthen such partnerships.

While ED 2000 largely worked on its own in that the participants were a limited number of modules clearly and explicitly related to the programme, this pattern is changing under the new initiative. A regional partnership will, in most cases, be involved in more initiatives and efforts than those emerging directly out of VC 2010. Many of these efforts share some of the characteristics of networks, although they have often emerged with little concern for the organisational dimensions of co-operation. Examples can be so-called business gardens, or business parks, an initiative promoted by a special state agency, generally resulting in aggregates of small enterprises being located in the same place. Technology centres, innovation centres and similar also exist to a substantial degree and insofar as such centres each have a number of users there is a potential for networking. The State Fund for Economic and Regional Development has a specific programme

for network support. A number of other examples could be mentioned (cf. below). Through the partnerships contacts can be made with such constellations of actors. Even where there is no partnership to mediate we see that contacts develop with new actors and actual or potential networks of actors. In fact, not much more than half a year after the launching of the new programme, discussion is going on with more than fifty actual or potential networks of some kind or another with a view to co-operation (Gustavsen 2002). The reason why a number of new groups of actors turn to VC 2010 is that they want a stronger focus on organisation. The enterprises which find themselves in, say, a business garden may discover that in day-to-day operations they share little more than the canteen. The vision of doing things together that is often behind such co-operation is more difficult to make true than was expected. There emerges a need for somebody to take some specific steps in terms of, say, conferences, project groups or other platforms for joint activities. Within this framework VC 2010 will provide more specialised contributions within areas of organisation and will often be complementary to other research groups working on, for instance, technological issues. In this way the networks are approaching the idea of more complete innovation systems where there is often a broad range of external actors serving the enterprises (Lundvall 1992; Edquist 1997).

In the emergent picture there is much variation between the networks; they range from concentrated business gardens to looser but broader networks spanning substantial geographical areas like Nordvest Forum; from efforts with an initial focus on technology to efforts with an initial focus on human resources development; from single industry networks to industry-crossing networks; from networks with private enterprises only to networks with different types of organisations, and so on. If there is one single common denominator it is that most are what is here called small networks. Offering concrete research assistance to concrete actors a programme like VC 2010 comes into contact with what can be called working communities. Whereas a cluster or a region can be any set of enterprises that exhibits certain characteristics in terms of number, location, density and the like, irrespective of what concrete social relationships – if any – exist between them, VC 2010 meets actors who actually are working together or are at least prepared to do so. For a working relationship to exist between people the relationship must meet demands that have to do with nearness, familiarity and trust; qualities that often place restrictions on the size of a network.

VC 2010 is one window through which the development of work, enterprises and society can be seen. This window does not allow the observer to see everything but in a small society like Norway it is reason to believe that it gives a perspective where the main outlines are reasonably clear. Networking is a growing activity but still largely limited to networks of limited size, say, up to about 5000 work-

places. Even in these networks there will rarely be direct contacts between all 5000; the pattern is rather that there are activities going on throughout the network as a whole where each arena for participation is linked to other arenas in such a way that each person in principle has at least one door through which he or she can access the whole. On the other hand: when networks are often presented as larger systems – clusters, industrial districts, regions and substantial innovation systems – employee participation and the access of all concerned to network activities are seldom included. This is, in the view of this author, a definitive weakness, not least if we see the emergent network society as a broad response to the internal tensions of the modern nation state. The strength of the nation state was, after all, that it could offer democracy and unless new forms of organisation can not only offer democracy but actually improve on it, they will sooner or later create major tensions and even open conflicts rather than learning and progress for everybody.

It is mentioned that some 50 networks can be seen from the position of VC 2010; not all of these, however, fulfil the requirements of a learning network based on broad participation since they joined VC 2010 to move in this direction, not because they are already there. On the other hand: there probably exist a number of networks that cannot be seen through the window represented by the programme. An overall estimate of network development on this level can be that there may be between 50 and 100 altogether in the country, each encompassing from a few hundred up to about 5000 workplaces. Excepting a few of the larger enterprises this constitutes the extent of innovation systems in the Norwegian economy at the moment.

Organisational challenges

VC 2010 is created to provide support to the organisational aspects of development processes. Above, some examples can be found concerning what this has implied in terms of research contributions to process design and content. In this section the purpose is to look more closely at the challenges facing this kind of research with an emphasis on those that are of particular contemporary significance.

Organisational challenges depend on a large number of factors. One of the most elementary of these factors is the number of actors that are to be reached by an initiative. There are some obvious, and major, differences between reaching, say, 5 people versus reaching 5000. In the following remarks this dimension of scale, or mass, will be the point of departure.

a. The work group

Any process of improvement and innovation implies work, which automatically introduces *the work group*, or the immediate context within which each individual performs his or her tasks. Ideas like networks, clusters and innovation systems are not intended to replace the work group but to appear as broader frameworks within which work groups are brought to function together.

On the work group there is a vast literature and there is little need to review this in the context of network organisation. In this context, everything we know about work groups can more or less be taken for given and we can proceed to the next level. However, even on the level of the work group there are certain points that emerge as particularly relevant within such a context as the one constituted by VC 2010.

One is that the main task of the programme is more to support development and change, less improvements in performance of given tasks. To highlight this perspective, the distinction between work organisation and development organisation has been introduced; work organisation is the kind of pattern applied when the purpose is to perform given tasks while development organisation refers to those work roles and work relationship structures that are called into being when the purpose is to change the tasks. The group constructions consequently lean towards units organised for innovation, towards arenas for generation of ideas, towards open dialogues and similar. In many ways the characteristics of innovative organisation defined about 40 years ago by Burns and Stalker (1961) are still valid; the challenge is not only to give them specific organisational expression but to do it in such a way that all concerned are brought into the process. This has implied that ED 2000 as well as VC 2010 has placed much emphasis on arenas designed to promote broad participation. Claussen (present volume) exemplifies this kind of arena in the form of what is, in the enterprise concerned, called storage room meeting. A storage room meeting is a meeting where people get together to discuss within their own workplace and according to need rather than plan. This is one example of a broader range of arenas that can be called workplace meetings, that constitute one of the backbones of a participation-based innovation strategy. Other examples are the active use of employees in project groups, the frequent use of conferences with inverted T participation and the gearing of such bodies as the co-operation councils and the work environment committees to development tasks rather than purely to tasks of negotiation and administration (Falkum 2000).

b. The network

The next level is the one where the efforts of various groups are co-ordinated so that larger complexes of tasks can be approached. Co-ordination means, in this

context, several processes of organisation: the identification of tasks to be performed, the creation of the work groups and related units of organisation called for to handle the tasks, ongoing co-ordination of activities between the groups and the construction of the final product or output on the basis of all the contributions. In classical theory of organisation these functions belong to the enterprise and in principle they still do. In the networks, however, the boundaries surrounding each enterprise are to some extent dissolved and the network takes over some of these functions (Claussen, this volume).

If the notion of group is used to cover all arenas and units that can be co-ordinated through face-to-face interaction, the notion of group can cover up to around 100 people since the outer limit of workplace meetings and even conferences lies around here. The drawing of an exact boundary is neither possible nor important: what is important, however, is to apply notions of organisation that are consistent with the idea of broad participation. An exclusive concentration on very small groups - often highly-educated experts - who work intensively together for a long period of time is not consistent with the idea of making innovation based on broad participation.

The next level, then, can be said to cover the terrain between the face-to-face encounter and up to the size of the largest of the small networks presently found in the Norwegian economy. At the moment they seem to have a mass of about 5000 workplaces; the Sunnhordland industry network covered by Claussen (present volume) is one of the largest; the number of participating enterprises at the moment is 20.

c. The network-generating context

Still the largest forum for inter-enterprise co-operation in the Norwegian economy is Nordvest Forum (Hanssen-Bauer 2001). With about 50 owners and a further 100 users, Nordvest Forum links about 150 organisations - public and private - with around 15,000 workplaces. When this is not used as the upper limit of network organisation it is because the functions of Nordvest Forum are double-edged: Nordvest Forum organises a number of arenas and events where all members have access and many participate in each. Insofar as the joint arenas and events trigger off an interest in organising broad development - and innovation processes within specific enterprises these are, however, organised in smaller networks. In Enterprise Development 2000 the participants were four networks: one made up of an industrial group in engineering; one of a similar group in fish processing; one of two furniture producers; one of a hotel, a local air transport company and a producer of transformers for the hydro-electric industry (Hanssen-Bauer 2001). This means that there is actually a functional split occurring within Nordvest Forum

itself. On the one hand specific development efforts on the level which is called the small network are initiated and co-ordinated, on the other hand the function of providing meeting places, ideas, and other raw materials for specific initiatives emerge as a task in its own right.

It seems reasonable to distinguish between these two types of functions. This third level can be called the network-generating context (cf. Alasoini 2003). To actually be able to enter into a fruitful relationship of co-operation with specific other enterprises each enterprise must get the idea from somewhere and there must be arenas where specific possible partners can be identified. Nordvest Forum co-ordinates, furthermore, the relationships between their own enterprises and external resources – such as research – and provides collective memories and store-houses of experiences in terms of reports, seminars, training programmes where what is learnt in specific projects can be made subject to reflection and so on.

Nordvest Forum performs this function through organising events and training programmes. In fact, the first initiative to emerge when Nordvest Forum was formed in 1989 was a management training and development programme called Management in Transition. It emerged, however, that this kind of programme acquired an enhanced effect just because the participants came from the same region and could link the Nordvest Forum initiative to the bonds and ties that generally exist within a regional context anyway (Snow & Hanssen-Bauer 1993). Stepwise, specific development initiatives involving not only management but employees started to emerge in some of the member and user enterprises.

Another example of network functions on the same level can be found in the Gnosjö region in Sweden (Brulin & Gustavsen 2002). The Gnosjö region of four municipalities and approximately 85,000 inhabitants is still the most famous of regions in the Nordic countries. With conventional industries, largely small firms, a relatively low level of formal education and no institutions for higher education within the region, it has maintained a position as the second fastest growing region in Sweden (after Stockholm) for decades. This is generally ascribed to the relationships existing between enterprises on the one hand and public authorities on the other within the region. In this region, however, it is not an overall forum for training, information exchange, dialogues and similar that functions as network generator but The Gnosjö Industrial Development Centre. Being a small development organisation owned by local actors the main purpose of the Gnosjö IDC is to continuously create projects. The projects can pertain to many different themes ranging from technological ones to themes like integration of immigrants in the local labour market; the development of managerial roles for women, and the like. Within the framework of each project a number of local enterprises are invited to participate. To some extent the projects are, in this way, used to create new relationships between enterprises but since this is a region with many

and dense pre-existing relationships the projects are used also to revive and focus relationships and to strengthen them in terms of actors involved.

In terms of simplified models the Nordvest Forum approach can be characterised as a discourse forum while the Gnosjø one can be seen as a project factory. They both perform approximately the same kind of function but in rather different ways. The function can be called generation of those relationships that can trigger off the formation of actual networks.

In the continued development of networks this generative level today emerges as the most critical one. There are other mechanisms than those indicated by the Nordvest Forum and Gnosjø examples. Circulating development conferences is a third possibility, to some extent used in VC 2010 and in several contexts in Sweden, ie a development programme in the health services (Ekman Philips 2003) and in a joint effort between the National Institute for Working Life and the Swedish Office for European Union Programs (Shotter & Gustavsen 1999). Technology diffusion programmes, technology centres, business gardens and similar can work in the same direction, so can the third task of the institutions for higher learning (Brulin 2000). Sometimes modest economic support can be sufficient to trigger off networking between enterprises. Further mechanisms can be network-promoting initiatives from public agencies working in the interface to the enterprises, such as the employment agencies and the labour inspection.

The mass, or scale, of this level must, of course, be defined in at least as tentative a way as is the case for the other ones. As indicated above, the discourse forum function of Nordvest Forum covers around 15,000 workplaces. Gnosjø is significantly larger, with a regional workforce around 50,000. Often, no real figure can be given. Many initiatives emerge on the assumption that there is a certain mass out there that will eventually join the initiative, without anyone having any clear idea concerning the volume of this mass, nor indeed of the extent to which there really is a potential mass of interested actors.

Since this is the most critical dimension in the further development, it also follows that it is a critical dimension also for research. What roles can or should research play on the network generating level? This is a major theme in need of its own analysis. In this context a few remarks only are possible:

First, it will generally be over-ambitious for research to imagine that it can constitute a network-generating context by itself through, say, diffusing research-generated ideas. This kind of diffusion confronts so many problems that it is hardly practical on a general level. Research must, consequently, work together with others. Within the context of VC 2010 the point of departure was an alliance with the labour market parties, eventually growing into a broader alliance with the emerging regional partnerships.

Second, since the partnerships, as well as the networks towards which their efforts are addressed, vary, it follows that network-generating tasks vary as well. As seen above a number of different measures are at play in this field, and although they can be identified on a general level their specific shape, content and mix will vary from region to region as well as over time within each region. The role of research will depend not only on what measures are applied but on their specific form and context.

Third, the core challenge on this level is not so much constituted by each separate measure as by the interplay between them. For, say, a project factory, a discourse forum, a technology centre or a conference series to function as a network generating force there is a need to locate each project, each discourse, each technology diffusion initiative and each conference in time and space in such a way that they can create ripples in the water effects. Each event must stimulate the broader whole by providing new momentum to existing processes, recruiting new members to existing networks, generating new networks and so on. This must, furthermore, be done under conditions where even research will not know more about existing conditions, actors, interests and processes than what emerges through the network promoting events themselves. Only by calling a conference will it be possible to find out if there is any real interest in working together that can be converted to a development process through a conference. As one initiative follows upon another, as networks are formed and become operative, as results are starting to emerge, the knowledge about conditions and about what works increases. A region that initially emerged as a foggy landscape acquires lines and contours and the development efforts can be given a continuously firmer footing in terms of knowledge, actors and relationships. In securing this continuously firmer footing research plays a critical role. Often there will be elements even of conventional research in this role; the point is that research performs its tasks in a continuous interaction with the regional actors and from the point of view of improving the process. Such research can, in turn, provide perspectives that are fruitful even outside the region, but often in a complex process of learning from differences rather than in the form of generalities to be applied everywhere (Ennals & Gustavsen 1998).

Regions and governance

Nordvest Forum, and even Gnosjø are, in spite of their volume, still significantly below what can be called a region in the European sense where many encompass populations the size of Norway. What is evolving on this level?

Norway is divided into 19 administrative regions. With a population not much more than 4 million this gives an average around one tenth of the European one of 2 million. Each of the regions has its own political-administrative apparatus with two basic elements. One element represents the state and performs state functions on a regional level. The core actor is an appointed official, usually with a background in the national Parliament, Government or central bureaucracy. Around this person there is a certain administrative apparatus. The other element is a regional parliament that functions as a co-ordinating body on the level above the municipalities. In spite of its small population Norway is divided into about 450 municipalities making for an average of more than 20 municipalities in each region. The regional parliament – or perhaps rather council – also has an administrative apparatus.

The role of the regional councils has been strongly debated in recent years. Until recently their main task was to organise the public health services within the region. The health services are, however, reorganised. The state has taken over the ownership and they are now organised into five health regions, each with its own board and administration. This left the regional councils with less than half their previous tasks and the question has emerged of how to fill the vacuum. One line that has evolved in this context is to step up their role in economic development. In performing their new role they are supposed to form partnerships with other relevant actors on the regional level, such as the regional representatives of the labour market parties, the various state agencies for economic development and similar, roughly along the same lines as in Sweden, but also in many other European countries.

The main task to appear on this level can be called *governance*. As network organisation has increased in scale and momentum it is more and more commonly recognised that there emerge problems of governance: network development cannot automatically be expected to appear as a consequence of the same kind of initiatives and efforts as those that characterised the older forms of administration.

The development of partnerships is, at the moment, quite uneven in Norway. While the regional challenges are much more pronounced in the North, it still seems to be the South that makes the strongest advances in partnership building. VC 2010 is in contact with the majority of existing or emergent partnerships and is therefore able to make at least a preliminary assessment. Agder, which is the absolute south, consisting of two administrative regions – East and West – seems to be the most active in the country, followed by the partnerships in Rogaland and Hordaland (Claussen 2002), the two next regions up along the west coast. Further north, as well as in the inland regions, the activity level is falling off. Nordvest Forum is located on the northwestern part of the west coast and breaks to some

extent the pattern. Nordvest Forum is, however, private and not directly linked to the regional partnership.

What seems to characterise the strong partnerships is the ability to *contribute to network-generating contexts*. Networks do not make themselves and unless the element of governance in the region is oriented towards supporting the formation of networks the process will not necessarily be blocked, but it will certainly take much more time.

In pursuing this task, the partnership can try to stimulate potential network actors directly, and/or promote network-generating arenas. To what extent do they pursue any of the alternatives?

While on the one hand being key elements in the transition from the nation state to network society the partnerships are also subject to much of the tensions associated with this transition. Their legal and political status are a product of the nation state while their tasks to a large extent emerge from forces that aim at establishing alternative patterns of organisation driven by forces closer to the grass roots.

The activities within VC 2010 will, in 2003, to a substantial extent be directed at the partnerships. All research groups are asked to give the programme a short report on their experiences with these relationships and the reports will form the basis for a more general report from the programme. The further plan is – in accordance and maybe co-operation with the Ministry of Regional and Municipal Development – to organise a partnership conference with a view to intensifying the exchange of experience between the partnerships. The purpose is to draw attention to the tasks and challenges associated with establishing network-generating contexts on a regional level.

Concluding remarks

As indicated by the presentation above there is little doubt that something is going on in Norwegian society and that this something has to do with a transition from the organisational patterns of the nation state and towards what can loosely be called regional or local patterns.

Much of what occurs in this context can be seen in the light of network organisation. In a sense, network organisation is easy to characterise because it corresponds, to a large extent, to those patterns that naturally grow between people when they treat each other as equal partners and not as 'organiser' and 'organised'. This notwithstanding, network organisation can be promoted through various means and measures.

The experience recounted above indicates that this promotion does not constitute one single kind of task, nor one single sequence of events. Rather, what challenges are posed by the process towards 'network society' depend not only on the historical context in which the process unfolds, but also on how far it has developed. The above presentation indicates, for example, a series of different phases with different tasks associated with each phase. Whereas, in the 1980s, the challenge was to make enterprises open up for dialogical forms of work, in the 1990s the challenge shifted towards the organisation of co-operation between enterprises. In the last year or two issues pertaining to regional governance and the formation of partnerships have come to the fore. Each phase builds, however, upon the previous ones.

Compared to traditional efforts to promote industrial democracy the core difference is that organisational orders are not superimposed from outside but are created by the actors concerned themselves. In the processes now unfolding in a number of local contexts there is much less separation between training and learning on the job, between planning and doing, between thinking and acting, between top and bottom, centre and periphery. It is not that all these differences have disappeared and that all actors within regional networks, technology parks and similar are now Renaissance heroes each able to fully merge thinking and doing into peak original performance. What we find in everyday life is somewhat more pedestrian but yet a number of the social and organisational distances of the nation state *are* shrinking and *are* being replaced by new relationships opening up new possibilities for bringing formerly separate actors, concerns and functions together on the same arenas.

The emergent forms of local organisation constitute a new context for research. Research is not only subject to contextualisation and differentiation as pointed out by, for instance, Gibbons and colleagues (1994). There are at least two further dimensions to what happens:

First, there is a decentring in the sense that research more and more moves into local contexts and in such a way that each specific local context decides much of the characteristics of the tasks of research (Bergström et al. 2000). Smaller units, each strongly woven into specific local contexts, are replacing uniform systems of ideas and big centres. To compensate for the reduced size of each unit, even research has to develop more of a network type organisation within itself.

Second, the boundaries between research and action are becoming more and more blurred. When the drift towards the local seeks much of its reason in the need to break some of the traditional patterns of the nation state and achieve an improved integration between thinking and doing, between reflecting and acting, between learning from texts and learning from experience, research cannot expect to stay outside the process and end up as the only actor that avoids the practi-

cal side of the tasks. In fact, this process seems to be well on its way already. When Greenwood (2002) stipulates a major gap between action research and other forms of research, it is the view of this author that he may argue more from a US perspective than a European one. While there is little doubt that there are major trends in the direction of contextualisation and localisation in European research in general, action research must, on its side, transcend its historical basis in small group perspectives and micro-level interventions. There is a need to place much more focus on what may be called low-intensive but distributive interventions emerging from a need to develop strategies for learning by doing in large and complex landscapes.

While the region and other forms of meso-level organisation are emerging more and more strongly as the new meeting ground for concerns and topics that have tended to be seen either within a small group perspective or a global one, this does not mean that this level is taking over completely. It is primarily a question of a rebalancing of focus and a stronger concentration on arenas and processes on the in-between levels. Nor does it mean that all problems associated with work, organisation and democracy are solved as soon as they are posed on this level. What a network and regional perspective allows us to do is to bring together, on the same arenas, concerns pertaining to all aspects of work and competence development rather than dividing them between, say, working and training, and to close much of the gap between thinking and doing, between texts and experience, and between work and innovation. Admittedly, this can be done on group level as well but the small group as such lacks the capacity for reaching scale, or mass. Unless the group is embedded in a supportive environment, group solutions will be unstable and lacking in long-term growth capacity.

Along with the shift towards the local and regional there is a growing focus on small and medium sized enterprises. These enterprises in fact constitute the main bulk of enterprises in all economies: the difference lies in the number and significance of large enterprises. While the new emphasis does not provide the platform for a new approach to problems associated with the large enterprises, such as an increasing split between work and capital, an increasing income differentiation, and new forms of managerialism, it allows for development strategies that can bypass these problems and focus on other challenges. If regional strategies are successful they may, of course, turn small enterprises into large ones and eventually confront the region with all the challenges to democratic society posed by the large enterprises. At the moment, this is a modest worry within the Norwegian economy.

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Workplace innovation as regional development

Peter Totterdill and Jeremy Hague

Introduction

It is sometimes argued that the design of work organisation is principally an internal issue for companies and public service providers, one in which external bodies have very little legitimate interest. In contrast this chapter argues that workplace innovation is the product of complex social interactions, not just inside the organisation but between the organisation and its wider group of stakeholders. Moreover the outcomes of such interactions have economic and social consequences that reach far beyond the boundaries of the individual organisation.

In particular the regional setting within which the organisation exists acts as a gateway to knowledge and resources able to inspire and support workplace innovation. Likewise, through its impact on competitiveness and employment, workplace innovation can have a profound effect on economic and social conditions within the region. Yet in many parts of Europe explicit support for workplace innovation plays no part in regional development policy.

On the one hand, successful and sustainable approaches to work organisation draw extensively on opportunities for learning and dialogue created by social capital including research, specialist business services, formal or informal networking, education and training provision and the system of industrial relations. As other chapters in the volume show, regional actors such as universities (Brulin; Lantz & Totterdill), intermediate organisations (Claussen, Gustavsen, Ekman, Philips et al.) and trade unions (van Klaveren) can play critical roles in creating the conditions for sustainable workplace innovation.

On the other hand policy makers and social partners also have a direct concern with what happens in the workplace. As we argue later in this chapter, changes in the pattern of work organisation affect both the ability of Europe and its regions to compete in increasingly volatile global markets, and the ability of public services to meet higher expectations from citizens. However work organisation design also has a considerable impact on a much wider range of factors. For example:

- Job-related illness is of growing concern to policy makers because it represents an increasing drain on stretched health service resources; moreover sickness absence exacerbates the problems of tight labour markets resulting from demographic change. New forms of work organisation can have a direct impact on workplace health because of their ability to reduce repetitive and stressful work.
- The consequences of an ageing workforce present major economic and social challenges for Europe. Given increasing expectations of health and longevity, encouraging older workers to remain in employment must constitute an important part of the response to labour market shrinkage. New forms of work organisation and their potential to enhance quality of working life must play a key role in this response.
- Policy objectives within the EU's *European Employment Strategy* (http://europa.eu.int/comm/employment_social/employment_strategy/index_en.htm) have consistently underlined the need for an adaptable workforce capable of responding to increasingly volatile economic conditions. Not only does adaptability affect the competitiveness of Europe but also its ability to prevent widespread labour market and social exclusion as a result of economic change. The employability of individuals is directly related to non-vocational competencies such as teamworking, problem solving and communication skills. Employees with experience of new forms of work organisation are much more likely to have acquired such skills, thereby enjoying a more robust position within the labour market.

Prosperous and socially sustainable regions are likely to be those in which enterprises increasingly compete on the basis of continuous product and process innovation: a knowledge-based economy requiring high skills and engagement from its workforce in return for high levels of individual and collective welfare. This is competitiveness based on a broad concept of social partnership, recognising that failure to engage and develop all employees and citizens undermines the pool of talent and threatens the social cohesion from which innovation grows.

Traditional approaches to work organisation and management cannot deliver this type of competitiveness, which requires work to be redesigned in ways that enable all employees to use their talents and creative potential to the full. Regional policy makers and social partners therefore have a special interest in building the social context needed to animate and support evidence-based approaches to workplace innovation.

Yet we argue that work organisation remains an under-utilised resource for Europe's policy makers and social partners. This represents a wasted opportunity to build competitive and socially inclusive regions throughout Europe. Regional policy makers and social partners alike can take sides – in favour of approaches to

work organisation that combine both economic and social benefits – and against those that sacrifice long-term competitiveness and innovation for short term gain. This stands in sharp contradistinction to those models of regional development grounded in the attraction of mobile capital at any social cost, including low wages and transitory or unrewarding jobs.

The high road of workplace innovation

What should we expect work to be like in the 21st century? ‘Diverse’ is perhaps the most likely response from even the most casual observer of present day Europe. Differences in work are marked between, for example, the famous small firm clusters of Northern Italy, the paradigmatic team-based organisations of Scandinavia, the re-engineered corporations influenced by US or Japanese management theory, and the persistent rump of traditional Fordist organisations. The emerging concept of a ‘high road’ has, in recent years, tried to give meaning and shape to this evolving diversity. The evidence base for the high road can be found in the experiences of hundreds of companies during a period of forty years (see for example Trist et al. 1963; Emery & Thorsrud 1969), all of which changed their thinking about human and organisational factors. It has no prescriptive form but the high road does distinguish between organisational strategies based on sustained innovation and those based on short-term cost-driven factors.

Above all the high road suggests the possibility of convergence between values and objectives previously seen as being in opposition to each other. Can Europe achieve sustainable competitiveness and high levels of employment *through* the enrichment of working life? In short can we unite customer satisfaction and job satisfaction? In many ways this discussion is inseparable from a broader one about the nature of European competitiveness itself. Short-termism driven by shareholder expectations of rapid and continuous returns certainly reduces the likelihood of such convergence; but equally it undermines the prospects for long-term business growth in global markets where Europe’s competitive advantage is increasingly seen in terms of the ability of enterprises to reinvent their products and services on a continuous basis (Andreasen et al. 1995; see also Blackaby 1979, for a classic discussion of short-termism and the competitiveness of the UK economy). In contrast the high road proposes a model of European competitiveness based on sustainable capacity for innovation, both inside the firm and in its wider environment.

The journey to the high road is very problematic and there is no evidence to indicate the existence of a mass movement in this direction – indeed rather the opposite (European Foundation 1998). Yet evidence is there to suggest that the

potential for such convergence is more than utopian fantasy. The Hi-Res project,¹ a recent analysis undertaken on behalf of the European Commission, sought to piece together these fragments of evidence in ways that show what the full picture might look like – in much the same ways as an archaeologist tries to reconstruct the shape of a mosaic from just a fraction of the original pieces. This report provides some evidence based on an overview of the current literature, and an analysis of more than a hundred case studies. In particular the project aimed to provide a better understanding of the high road by analysing the concrete experiences of organisations throughout Europe as they struggle towards change. Crucially this is not just about the dynamics of change inside each organisation, but the extent to which workplace innovation is supported or impeded by the wider environment in which the organisation exists.

The first requirement is to establish a clear and usable definition of ‘work organisation’. Experience suggests that it is commonly used as an umbrella term covering many types of work practice both inside and outside the workplace. In our view this is unhelpful, diverting attention from the core focus on *workplace innovation*. While we have not attempted a rigid definition we have focussed on *those factors in the work environment which determine the extent to which employees can make full use of their competencies and creative potential, thereby promoting job satisfaction and personal development*.

This importance of this ‘high road’ approach is that it seeks to identify the potential for ‘win-win’ outcomes – the scope for convergence between organisational performance, employment and quality of working life. This stands in stark contrast to ‘low road’ approaches driven by short-term contingency and/or cost considerations. However the ‘high road – low road’ distinction reveals a significant degree of ambivalence. At an instrumental level the language and tools used by practitioners of the high and low roads demonstrate remarkable similarity. Concepts of teamworking and autonomy, for example, play a central role in both cases yet there are marked differences both in the processes that characterise the introduction of such innovations and in their effects.

The danger for the high road lies in the seductive nature of the ‘quick fix’ for managers under continuous pressure from customers and shareholders. Management consultants and organisational gurus continually stress the ‘bottom line’ benefits of change, emphasising immediate and tangible returns in terms of cost reduction and customer satisfaction. In practice such returns are rarely achieved without costs to employees and, arguably, to longer term competitiveness. Not only is the empowerment and participation of employees defined within strict parameters in this low road approach, but it can also lead to job intensification rather than job enrichment (for example Skorstad 1992; Turnbull 1988). Apparent autonomy can be granted to employees with the implicit understanding that,

individually and collectively, they will internalise business imperatives thereby removing the need for direct supervision (Peters 2001). This places employees in contradictory and typically stressful situations, compelled to achieve externally driven targets in ways which can often only be realised through self-exploitation. There is no doubt that such experiences of change in work organisation are common, leading to widespread scepticism and resistance to further workplace innovation. Apart from their adverse effects on workplace health and well-being, the job-intensifying aspects of low road innovations damage ability to create a workplace environment in which employees make full use of their competencies and creative potential to make improvements and innovations in products and processes. In other words short-term productivity gains may be traded off against the innovative capacity required for sustainable competitiveness. Job intensification may also produce further instability in the form of increased employee absence and turnover.

While the high road and low road share common organisational characteristics, they are distinguished by the nature of the discourse around which change is constructed. Low road changes, typically driven by narrow measures of productivity and cost control, are legitimised by narratives about 'best practice' and business need. In contrast high road approaches are defined by the common ownership of workplace innovation, grounded in organisational structures and practices that enable continual dialogue between management and employees, maintaining the possibility of achieving mutually advantageous outcomes. This dialogue is based on recognition by both sides that short-term gains in profitability or working conditions may need to be sacrificed to achieve more sustainable goals.

The high road focuses on improving organisational performance and competitiveness through continuous innovation in products, services and processes. The enlargement and enrichment of jobs is integral, allowing employees more control over their working environment and greater opportunities for innovation thereby enhancing learning, workplace health and quality of working life. Benefits identified from case study evidence include enhanced rates of innovation, greater responsiveness to customers, improved productivity, better quality, cost reduction and lower staff turnover. Increased competencies resulting from such jobs enhance the employability of individual workers in increasingly insecure labour markets. At the macro level higher rates of innovation in products and services, combined with greater functional flexibility in labour market skills, lead to faster economic growth and new job creation.

The high road can be readily understood and agreed as a 'headline' concept, but it is much harder to define as a set of principles acceptable within the context of different research disciplines and contrasting national experiences. Indeed it would be inappropriate to portray the high road as an internally consistent

model equally applicable throughout Europe. The whole sphere of work organisation is, rather, a contested terrain on which different forces and interests interact continuously. This interaction creates a process of evolution in which hybrid outcomes reflect both the organisation's economic and social context, the nature of the dialogue within the organisation and the unique process of learning and experimentation it has experienced.

What distinguishes the high road from other approaches is that this process is grounded in the optimal resolution of contested stakes through inclusive and open dialogue involving both internal and external stakeholders. The question, however, remains: how do companies climb towards the high road of work organisation? How do they develop and capture the talents of a motivated and self-disciplined workforce?

Arenas of organisational change

We have briefly shown what the 'high road' is and why it is central to the future of competitiveness and employment in Europe. From this analysis however it is clear that it will not be easy to get there. The 'road to the high road' cannot be travelled through slavish adherence to a list of best practices or by attempting to follow a rational step-by-step process. Rather the 'high road' is essentially a process of continual learning, experimentation, adaptation and innovation.

Beyond 'best practice'

While the logic of 'best practice' is pervasive, the supposition that there are definitive ways of organising – even for different types of enterprise – remains problematic. It is also inconsistent with the many findings that innovation and creativity are the key to sustainable competitive advantage, since 'best practice' largely relies on mimicking the innovative practices of others. We stress that workplace innovation cannot be defined in terms of the adoption and implementation of a series of blueprints to change discrete aspects of an organisation.

Although the traditional way to accomplish change is through the application of generalised concepts to specific problems according to a predetermined set of rules, it is now increasingly argued (see for example Fricke 1997; Gustavsen 1992) that this approach has emerged as a roadblock rather than a motor for change in organisations. It is important, rather, to understand the complex learning paths which characterise change in real situations. Pettigrew (1987) for example is very critical of a-contextual approaches and argues for greater focus on the internal and external contexts which drive, inform and constrain change. Such commentators

criticise the common perception within management texts that change is rational, incremental and thereby conducive to the use of normative change models. They argue instead that change is a dynamic and uncertain process that emerges through the interplay of many factors (Hague 2001). In this analysis, the high road is a struggle to achieve a virtuous circle in which reflexive practices inside the organisation capture employee knowledge and experience while simultaneously stimulating the absorption of knowledge and experience from external sources. This creates a dynamic interaction between product or service innovation and organisational change.

Case study data provide useful rich description, but its translation into 'key lessons' has been notoriously difficult. Part of the reason for this lies in a replication of the 'one best way' logic whereby analysts have attempted to make universal generalisations which simply cannot be supported empirically. Even those checklists or 'key learning points' which make no claim to universality have often failed to offer much more than a list of organisational truisms – useful, but failing to go beyond managerial commonsense (see for example Buchanan 1999; Collins 1998; Dawson 1994). Another difficulty of the checklist approach is that many of the issues appear discrete when there is evidently considerable overlap between points of advice. It is difficult to tackle issues like 'partnership', 'teamworking' and 'culture' separately because the boundaries between them are obviously blurred.

Finally, many change recipes suggest that transformation occurs through a rational and incremental process. Lewin's analysis that organisational transformation occurs through linear 'freezing-unfreezing-refreezing' processes has provided the theoretical basis for many contemporary change agendas (Burnes 1996). However a growing number of academics stress that the actual practice of change is far from tidy; rapidly changing markets, technologies and labour market expectations have rendered the logic of rational-incremental change redundant – even assuming their practical relevance in the first place (Pettigrew 1987).

An analysis is therefore required which:

- avoids prescription;
- allows for change processes to be explored in ways which recognise the complex and untidy path which change may take;
- moves beyond a list of 'key learning points' and offers opportunities for deeper analysis and exploration of the dilemmas and choices posed during the change process;
- facilitates a more integrated analysis of overlapping themes and issues;
- allows for the inclusion of external influences upon change processes.

A model for interpretation

External factors such as the market environment and the industrial relations context may well influence strategic choices made at the local level, but the approach challenges the suggestion that any single factor will explicitly determine the way in which an organisation will respond. The core of the interpretative model deriving from the Hi-Res project lies in understanding the complexity of the relationship between internal and external factors. Participation of employees from all levels of the organisation can be shown to improve the effectiveness and sustainability of change by utilising their detailed knowledge of work practices and increasing their sense of ownership of the outcomes. However the organisation should not be viewed as impermeable – multi-lateral interchanges of ideas and experiences with other organisations or intermediaries certainly enrich the quality of the innovation process. Similarly innovation processes within organisations may influence others in their sector, supply chain or region. Renewed research attention on sectors, company networks or clusters of interrelated activity may reveal how firms both learn from and contribute to the cognitive arenas in which they associate (Child & Smith 1987). Likewise external knowledge, ideas and experience may initiate a process of learning and experimentation within individual enterprises, but it is unlikely that there will be indiscriminate adoption of external solutions without some form of adaptation and shaping by local stakeholders.

Organisational boundaries are also becoming blurred in operational terms, with the increasing dispersal of production and innovation vertically through supply chains and horizontally through sectoral and knowledge clusters. Arguably the network will become the dominant organisational form of the 21st Century, a possibility considerably enhanced by advances in ICTs and the consequent emergence of the ‘virtual organisation’.

The Hi-Res analysis starts with the high road’s emphasis on competitiveness through the continual reinvention of products and services, which places a considerable premium on the ability of an organisation to harness the tacit knowledge and creative potential of employees. It is central to the argument that this involves much more than the ability simply to recruit and retain employees with the necessary aptitudes and competencies. It requires a work environment which fully engages all levels of employees in planning, quality assurance, problem solving and innovation (Cook & Seely Brown 1996). Building this work environment involves a complex and contextualised process of dialogue, learning and organisational innovation based on interdependent processes in which workplace partnership and employee involvement, job design and teamworking, and the creation and distribution of knowledge, are the principal organisational components. As we argue above, work organisation has to be seen as a reflexive process, not an end state.

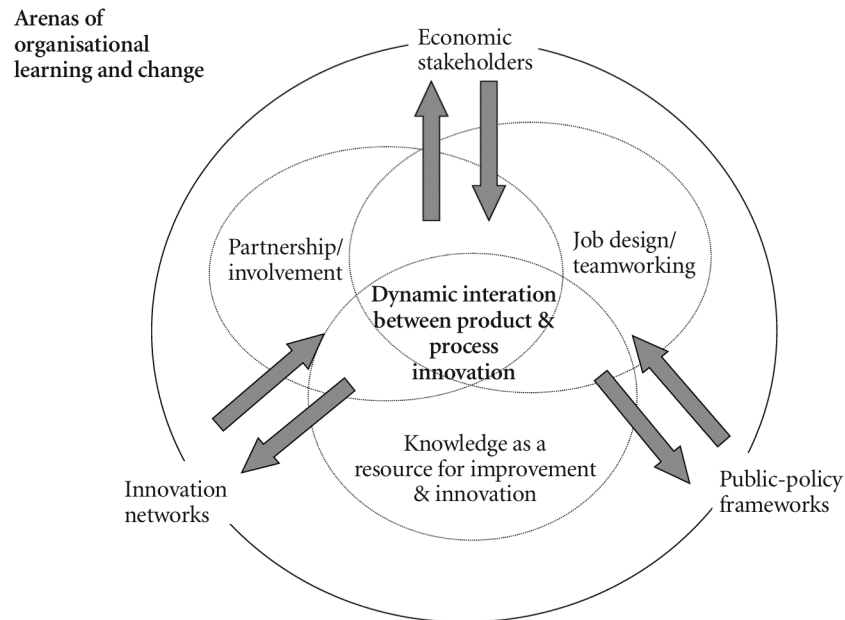


Figure 1. Arenas of organisational learning and change

Figure 1 identifies three organisational arenas of the high road characterised by a dynamic interaction between process and organisational design:

- knowledge, innovation and creativity are both valued and placed close to the heart of the work process at all levels of the organisation;
- partnership and dialogue establish the preconditions for a workplace environment in which the instigation and ownership of innovation are widely distributed;
- teamworking becomes a defining characteristic of all aspects of work, both routine and developmental. In this sense, it emerges less as a formulaic model than as an approach to work organisation which broadens job design and challenges both hierarchical and horizontal demarcations in order to optimise levels of agility and innovation. It also provides the day-to-day context for enhancing the quality of working life.

Between these organisational spaces lie a number of more intangible and interpretive 'cultural' practices which both determine and are determined by the structure of work organisation. Communication, commitment and trust lie at the heart of sustainable change processes, and can be seen to lubricate or impede the process of organisational and service innovation.

These key organisational components interact with other dynamic contextual factors, notably new technologies. New technologies can broaden job profiles, increase the delegation of responsibilities to individuals and teams, widen the distribution of information, and increase the speed of product or service innovation. Technological change becomes integral to the process of organisational development, facilitating adaptation and adjustment in ways of working and learning. The challenge is to secure maximum coherence between technological possibilities and organisational needs rather than simply optimising the relationship between the machine and its operator.

As the model depicts, many issues for organisations are overlapping. For example, to support innovation through partnership and involvement, organisations may need to create 'design space' (Bessant 1983) or organisational 'slack' (Boer 1991). Engaging employees in partnership practices may occur independently of their work tasks, but wider participation in decision-making also may directly impact their task environment. The intersections between the change arenas, therefore, provide the opportunity to discuss the interconnectedness of change activities. The activities highlighted in these areas are tentative, and there may be other issues which could be explored in these areas. In summary, the model is not intended to be prescriptive, but aims to be a framework in which change processes can be explored and in which the strategic choices of organisations can be visualised and deliberated.

This arena perspective underlines the complexity of moving organisations towards the high road. During this change process many obstacles arise to cause delay, reversal and distortion. It is these obstacles which lie at the heart of the need for careful policy intervention.

The characteristics of new forms of work organisation

We have argued that work organisation must be seen as a continuous process of innovation, reflection and learning across the whole organisation, and not as a series of discreet change initiatives designed to achieve predictable end states. In any given example, new forms of work organisation represent the cumulative outcome of that process.

Sustainable organisational change requires sustained innovation and resourcing: there are few successful 'quick fixes'. Critically the task is not to try and catch up with 'best practice' but to develop a strategy firmly orientated towards the creation of innovative and self-sustaining processes of development (Belussi & Garibaldo 1995; European Work & Technology Consortium 1997). Perhaps one of the most important resources for change is the development of a culture which

values research, negotiation, experimentation, critical appraisal and redesign over many cycles. An innovating organisation must also recognise that setbacks are inevitable and that a 'blame culture' only stifles experimentation.

Organisations do not operate in a vacuum. The learning organisation is good at networking; it is close to all its stakeholders; it accumulates, distributes and uses knowledge effectively from a wide variety of sources. Change may also involve looking for external knowledge, assistance and support. As other chapters in this volume show, social partners (Beese et al.; van Klaveren), business support organisations (Claussen; Ennals, Ford, & Totterdill; Gustavsen) and universities (Brulin; Lantz & Totterdill) may all help to resource workplace innovation. Internal solutions may be inspired by critical appraisal of different models of leading-edge practice in external organisations, while opportunities for peer-exchange and review may also alleviate some of the 'loneliness' of the organisational innovator. Comparing divergent alternatives, perhaps through visiting other organisations, has been shown to be effective in supporting organisational innovation. External facilitators, who can be seen as neutral brokers between the interests of different stakeholders, have been particularly useful in supporting the development of the partnership practices which subsequently underpin other organisational innovations (see for example Hague, den Hertog, Huzzard, & Totterdill 2003; Savage 1999). Recent experiences have shown that developments in networks between companies can form a productive platform for bottom-up approaches by bringing employees together to work on common development tasks. Likewise new tools and methods, such as employee videos, job swaps between companies, forum theatre and café seminars facilitate the sharing of employees' experiences and creativity (see Banke et al. in this volume; also Banke & Holsbo 2002).

Management values and attitudes deeply affect the nature and effectiveness of the change process. The necessity for 'top down' senior management commitment has been identified by many researchers and the Hi-Res analysis confirms that this is of crucial importance in securing the legitimacy and effectiveness of 'bottom-up' change strategies. At *Cederroth International*² the entire management team backed the change process, and the managing director chaired the steering group which drove the initiative. This gave a clear message to local managers that the new ways of working must be supported. But in a number of the Hi-Res case studies senior management backing was not obtained until some way into the process, which slowed it down. The change project at *Carlsberg's* bottling plant, for example, was not driven by top management and took a long time to achieve results as consequence.

Effective change requires widespread involvement and participation across the whole workforce. Innovation arises in part from making it possible to question established expertise, received wisdom and authority:

We're actually constrained by our own mind-set . . . the constraint is the organisational hierarchies we work in, know of, or feel, are our norm as a culture.
(quoted in Jervis 1998)

Many managers understandably find the implications of this difficult and threatening. Such potential obstacles need to be anticipated and addressed, often through the significant redesign of management roles and responsibilities as well as by developing new management competencies. When *Philips Lighting* introduced self-managed teams, managers found it hard to let go of control and to stop assuming it was their responsibility to deal with problems. Training was necessary to help the managers adopt a new style of leadership where they supported workers and encouraged them to use their own initiative when problems arose.

Supervisors also need new skills. They may either have to develop different behaviours, becoming facilitators and coaches, or may acquire new responsibilities themselves as self-directed teams take on some of their previous work. In organisations such as *NKT Cables*, operators and supervisors are trained together in the new ways of working. The management function within organisational structures is often redesigned to remove the supervisory role and any other jobs where teams take on responsibility for previously discrete functions such as planning, dealing with suppliers or quality.

However while proactive management and leadership play an essential role in creating the conditions for workplace innovation, change can rarely be 'managed' in a linear, planned way. The idea of the 'change agent' leading successful innovation from the front needs to be challenged. A condition of successful change appears to be that it is multi-voiced, messy and unpredictable (Engeström 1992). Some more imaginative examples of practice actively embrace chaotic and widely dispersed possibilities for organisational innovation. *Ericsson Radio*, for example, has introduced a number of staff at all levels of the organisation as 'inspirers' with a specific brief to 'sense the feeling' of the organisation, identifying possibilities for innovation which combine improved performance and enhanced quality of working life (Hague, den Hertog, Huzzard, & Totterdill 2003).

The road to permanent change in methods of work organisation is long and winding. Even if a company acknowledges that its way of organising work is out of step with its production and sales opportunities, there will be a considerable degree of inertia which curbs innovation. The existing system will have established a kind of equilibrium through decades of adaptation. Products, markets, machinery, layout, buildings, corporate culture, the qualifications of managers and operators, planning systems, software, pay systems, productivity targets, supplier networks and so on will have been integrated with each other in such a way that intervention to change individual elements will have no permanent results (Banke et al. 1999).

In summary we have tried to develop a perspective in which organisational renewal is inspired and resourced by both external and internal factors; it portrays change as the dynamic interplay between people, structures, technology, cultures, histories, resources and the wider environment. Using the three conceptual arenas outlined in Figure 1 – organisational knowledge, partnership and teamworking – the analysis seeks to identify the common challenges, choices and design principles characteristic of high road organisations, aiming to avoid the prescriptions of some change management recipes and checklists. The approach stresses the interconnectedness of development strategies in these arenas, seeking to avoid the problems associated with reductionist accounts of change which focus on single factor effects and linear causalities. Organisational innovation is not a rational, incremental process and any attempt to capture its complexity will have major failings. However it is hoped that the approach developed here facilitates a more dynamic portrait of the characteristics of the high road.

Knowledge, innovation and creativity

As we have argued, knowledge, innovation and creativity are seen as the driving forces for the company of the future. It is increasingly the intellectual capital of an organisation – not the physical capital – which creates value and growth. Innovative potential is seriously constrained by Tayloristic models of work organisation that separate the conception and planning of work on the one hand from its execution on the other. This separation fundamentally challenges the ability of employees to exercise control and autonomy in their working lives (Hague 2000); equally it denies organisations access to the tacit knowledge and experience gained by employees, and limits the scope for product/service innovation and functional flexibility.

In practice it is difficult to define the characteristics of effective knowledge-centred organisations. Constantly changing customer and market opportunities ensure that there can be no universal formula for organisational design and practice, though it may be possible to identify the strategic dimensions. Steven Goldman et al. (1995) summarise the types of agile behaviour crucial to smart organisations in terms of:

- customer focus;
- commitment to intra- and inter-organisational collaboration;
- organising to master change and uncertainty;
- maximising the impact of people (entrepreneurial culture) and knowledge (intellectual capital).

In the innovative organisation, employees at all levels require an overview and insight into information across all aspects of production and service delivery: only then can they work creatively on new solutions. At *BorgWarner*, for example, all employees are entitled to see all the company's financial records, and twice a year the two plant managers address the entire workforce on the state of the business. *East Midlands Electricity* also adopts an open book policy, sharing business and market data with the workforce in a previously unprecedented manner.

Fricke (1983) places considerable emphasis on democratic participation in the workplace as a precondition for mobilising the innovative competencies of employees, stressing the need for involvement in formulating the aims of innovation as well as in the process of implementation. Amplifying this message, Kreienbaum (2001) provides a first-person account of building democratic participation as a means of harnessing employee ideas and knowledge for process improvement. This perspective is missing from much of the literature on the knowledge-based organisation, though reinforces the Hi-Res model's insistence on the interdependence of the three arenas of organisational learning and change summarised in Figure 1. Harnessing the knowledge and creativity of the workforce cannot be considered a discrete management objective, detached from wider concerns with involvement and participation at both strategic and workplace levels.

Employee knowledge coupled to intelligent use of technology is increasingly the most valuable asset for an organisation in improving its capacity for innovation. French and Bell (1990) define an organisation's problem solving and renewal processes in terms of its ability to:

- constantly generate new ideas;
- translate these new ideas into products or services;
- ensure the widespread distribution of knowledge to employees throughout the organisation.

When *Cap Gemini* merged with *Ernst & Young Management Consulting*, the new organisation set out to offer its customers integrated solutions in the fields of both strategy and IT consulting, in other words a new synergy between technical and business skills. To support the new approach an inventory was made of good practice at global and national level in both enterprises; most of the IT consulting practices came from *Cap Gemini* and most of the management and strategy practices came from *Ernst & Young*. A comprehensive portfolio of working methods was thus made available to all employees in the new organisation. As part of its organisational change initiative a construction company, *Skanska Sweden*, sought to reduce production times, improve quality, cut costs and increase motivation. The company recorded the new working routines across its portfolio of projects that were then put on a company intranet for all to access. Unfortunately the as-

pects of work that this project sought to change were mostly undertaken by white collar workers; blue-collar workers were in any case excluded from the sharing of information and knowledge because they lacked access to computers.

Current experience suggests that the practice of knowledge management is not as successful in achieving the vision as it should be. Practice is predominantly technology oriented, with the primary emphasis on databases capable of capturing and centralising employee knowledge and experience. Little attention is directed to the limited use of knowledge management systems in actual practice (Damodaran & Olphert 2000), to the limited integration of such systems into the achievement of company goals (Strikwerda 2000) or to democratic workplace organisation as a precondition for widespread knowledge creation and distribution (Fricke 1983). Much of the literature only demonstrates the technological possibilities of databases, ignoring the social and organisational practices that facilitate the accumulation and utilisation of knowledge in workplaces. Indeed it often implicitly treats employee's intellectual property as a commodity to be expropriated, rather than recognising it as the basis for establishing participative forms of work organisation.

Stimulating and guiding the knowledge and innovation process is clearly crucial. Drawing on the results of an action-research project in Germany, Fricke (1983) emphasises the need to liberate employees' often suppressed potential for innovation through learner-managed processes combining education and action within the workplace itself. Moreover knowledge needs to be continually refreshed by embedding complex patterns of internal and external interactions within working life.

An important distinction has to be made in this context between two important concepts: the learning organisation and learning within organisations (Shapiro 1998). The distinction between the two is that the former represents more than the sum of the people within the organisation: organisational structures, cultures and practices can bring about learning and adaptation within their own right. Thus Garvin (1993) refers to the learning organisation as:

an organisation skilled at creating, acquiring and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights.

At the most basic level, learning in this context can emanate from repeated tasks and activities which result in progressive adaptation and greater efficiency. At a higher level however the learning organisation progressively modifies its structures, technologies, practices and cultures to maximise and utilise the learning capabilities of its people (Shapiro 1998; Stalk et al. 1992).

Critically:

Although organisational learning occurs through individuals, it would be a mistake to conclude that organisational learning is nothing but the cumulative result of their members' learning. Organisations do not have brains, but they have cognitive systems and memories. (Hedberg 1981)

Organisational structures, technologies, practices and cultures either help or hinder organisational learning and innovation. This re-emphasises the importance of the distinction between individual and organisational learning. Argyris (1979) distinguishes between single-loop learning (in which the need for improvement is identified by individuals but where the objectives and policies of the organisation remain essentially unchanged) and double loop learning in which the organisation has the capacity to reflect on itself and to develop appropriately adaptive behaviour (Shapiro 1998). In this context double-loop learning can clearly be identified as an essential precondition for the reflexivity characteristic of the high road, echoing the emphasis on dynamic balance between organisational innovation and product/service innovation. However there is also widespread agreement that organisational learning is dependent, at least in part, on learning by individuals within those organisations (Shapiro 1998). The need therefore is for a better understanding of the nature of knowledge and how it is manifested within organisations.

Most definitions of knowledge follow Polanyi (1966) in distinguishing between tacit and explicit knowledge. Tacit knowledge is typically learnt by doing and not articulated. Explicit knowledge can be learned in a number of ways – from books, courses or group interaction for example. Nonaka (1994) focuses on the way in which knowledge is created in organisations through conversion:

- from tacit to tacit knowledge, for example in team-based organisations in which the sharing of experiences and perspectives is facilitated through observation and practice;
- from explicit to explicit, achieved through social processes including meetings, team development, inter-team communication, the documentation of existing knowledge and the shared use of IT systems;
- from tacit to explicit, which takes place through meaningful dialogue in which team members are able to articulate practices normally taken for granted;
- from explicit to tacit, a process closely linked to experimentation and learning-by-doing.

Nonaka argues that the creation of organisational knowledge rests on a 'dynamic interaction' between the four modes of knowledge conversion. Certainly this shifts the focus from individual learning to the interaction of individuals within the organisation. From this perspective, the design of work organisation determines the extent to which the conditions for such interaction are provided through the

provision of opportunities for dialogue, teamworking and innovation in day-to-day work. For example *Esbjerg Centralsygehus*, a Danish county hospital, found that lack of interdisciplinary co-operation was a barrier to creating both physical and social space for dialogue between staff, and has developed team-based work practices to address this.

Autoliv, a Swedish manufacturer of automotive products, set out to develop teamworking as a means of using more of the organisation's knowledge in its production and development work. It introduced just-in-time techniques, target-monitored teams and new approaches to product development. As well as generating faster reactions to market requirements, a better capacity to meet delivery deadlines and lower costs, the result has been a considerable improvement in the capacity for innovation with turnover increasing by 800% over ten years.

Regular team meetings play a key role in everyday co-ordination, though the ability to capture and share experiences, and promote reflection, may well require additional investments of time. Weekly meetings may provide the opportunity for deeper reflection on working practices. A Dutch building company, *Hollandse Betongroep*, has self-managed construction teams. They write task plans, manage their own budgets and are responsible for safety, quality, logistics and materials, as well as for completing the construction work on time. There is a weekly meeting where all these issues are discussed, but which also provides opportunities for dialogue on a wider range of issues and can be a significant source of workplace innovation.

As these case study examples suggest there is widespread evidence to suggest that teams are the key learning unit in organisations (Argyris 1992; Kofman et al. 1993; Senge 1990; Stata 1989; Takuchi & Nonaka 1986), though it is critical to understand the characteristics of team practice which make this possible. Nonaka (1990) refers to the role of 'redundancy' (perhaps better described as organisational slack): in short providing the organisational spaces in which individuals can come together to share knowledge and to consider new perspectives. As several of the Hi-Res case studies demonstrate, this both challenges traditional hierarchical and horizontal demarcations and demands that all employees have equal access to company information and creative opportunity. *Ericsson Radio* in Sweden, for example, actively encourages all employees to use its "Green Rooms" at any time for personal reflection, de-stressing or creative dialogue (Hague, den Hertog, Huzzard, & Totterdill 2003). This approach stands in stark contrast to those accounts of Japanese quality circles in which each worker is expected to contribute suggestions for improvement at regular, perhaps weekly, intervals (Guest 1998) – a distinctively 'low road' approach to innovation.

Likewise the measures used to assess organisational performance are critical to sustaining knowledge creation and creativity (Jervis 1998). In an environment

which places a premium on the ability to reinvent products and services continuously, 'productivity' needs to measure an organisation's level of innovation and not just its quantitative outputs.

However the organisational locus of innovation is becoming hard to locate (Jervis 1998). Innovation is increasingly associated both with intra- and inter-organisational networking rather than individual research teams or enterprises, a factor which will be discussed in the section on teamworking later in this chapter.

In summary we have argued that organisational performance increasingly relies on the ability to develop and deploy employee knowledge as a shared resource for continuous improvement and innovation. It is this which drives the emergence of new forms of work organisation in Europe, hinging critically on workplace partnership and involvement, job design and teamworking, as well as employment patterns and the use of technology. These issues are explored below.

Workplace partnership, involvement and participation

Differences in workplace social partnership in EU member states reflect wide variations in European culture, industrial relations heritage and trade union strength. In Germany for example works councils have legal rights and work closely with trade unions, which themselves enjoy certain constitutional guarantees. In contrast in the UK, with its strong voluntarist tradition (see the chapter by Richard Ennals in this volume), employers and government will not willingly embrace legally empowered models of employee representation. Scandinavian co-determination approaches are frequently cited as having produced an approach to industrial relations in which both parties share a sense of responsibility for the success of the organisation. The Netherlands also has very low strike figures and a well-established system of works councils. Dutch unions are much weaker than in Germany and works councils therefore operate almost independently from trade unions.

There may also be differences between sectors in particular countries, such as that between the pattern of industrial relations traditionally seen in manufacturing with its high union density, and that seen in the service sector where union densities tend to be lower. There may also be differences between the public and private sectors.

At its most basic level workplace partnership is a way of dealing proactively with industrial relations issues, ensuring early consultation on pay and conditions, employment changes and organisational restructuring. However emergent thinking moves workplace partnership away from its traditional focus on industrial relations, recasting it as a potentially important driver of, and resource for, organisational innovation in the broadest sense (Dawson, Hague, Knell, & Totterdill

2002). In Ireland, for example, social partners and government identify workplace partnership as central to the modernisation of work organisation (Savage 1999; Sharpe & Totterdill 1999). Involving employees in both design and implementation activities can help to ensure 'ownership' of the process and alleviate some of the problems of inertia and innovation decay seen in many projects. In this respect, partnership is not viewed as another managerial fad for coercing employees to endorse management strategy, but a framework for animation and driving innovation.

The Irish experience demonstrates that participative forms of work organisation can have beneficial effects on the climate of industrial relations. Many organisations were prompted to move to partnership by a history of poor industrial relations, manifested in strikes, which prompted both management and unions to conclude that there must be a better way of relating to each other. At *Waterford Crystal*, for example, a three-month strike, a 25% cut in wages and a halving of the workforce was a grim starting point for a partnership relationship, which began in 1994 with the signing of a new agreement. Since then unions and management have worked constructively on the restructuring of the plant's manufacturing function, backed by heavy investment in training and information and consultation. The case study evidence shows that this process has not been without setbacks, but that structured dialogue can at least identify the potential for gainsharing through workplace innovation.

Partnership and participation in their fuller senses have to permeate all levels of the organisation. Representative structures and measures such as partnership agreements, works councils or employee directorships may play an important role in anchoring partnership firmly within the practice and culture of an organisation. However they are not in themselves sufficient to ensure the direct involvement of employees in day-to-day decision making, enabling their full knowledge and experience to be utilised in identifying opportunities for innovation.

Direct forms of partnership may be introduced to deal with a wide range of issues, for example:

- steering and informing organisational change;
- reviewing performance at all levels of the organisation;
- initiating contact with other stakeholders;
- devising alternative reward structures;
- reviewing working practices and working time;
- considering technological options;
- introducing teamwork;
- implementing family friendly policies;
- assessing and reviewing the role of management;

- harmonising partnership and industrial relations developments;
- anticipating potential legislative impact.

In part such direct employee involvement is a product of effective job design and teamworking (see the next section of this chapter) but wider measures such as permanent partnership forums (Savage 1999) or ad hoc change conferences (Gustavsen 1996) – both of which establish avenues of dialogue bypassing conventional line management structures – are important ways of maximising the innovative potential of employee involvement and participation.

Blue Circle Cement moved to high levels of employee involvement and participation as a result of a partnership agreement entered into when the company faced difficulties in the 1990s. Blue Circle has mechanisms for both representative and direct participation. Local action teams bring together managers and shop stewards at each plant to discuss ways in which plant efficiency can be improved. These local teams quickly identified dozens of ideas to improve the operation of the plant. In addition there is a company-wide action team consisting of 16 shop stewards, four works managers and four head office personnel. There are also improvement teams comprising process and craft workers taken off their normal duties, who go round their own plant identifying and implementing improvements. Membership of these groups is rotated among the workforce. Other mechanisms enable shop-floor workers to make suggestions for change which are then signed off by the unions.

Of course the development of effective partnership practice may require considerable resourcing in the early stages, but in the longer term strategies based on employee involvement are seen to provide more effective and sustainable outcomes. In the same way training and development may help employees to participate in collaborative practices, and this can be particularly crucial for employees whose work experience has previously been limited to isolated and fragmented tasks.

Indeed 'bottom-up' approaches need careful preparation and the use of validated tools to promote dialogue and organisational learning. Above all there needs to be an acceptance by management that lean, cost-driven organisations can rarely be innovative organisations. As the previous section of this chapter argued, a degree of slack is needed in which dialogue may take place, both to create change and to support continuous improvement. In the case of *Vestre Kirkegaard*, a Danish municipally-owned cemetery in which gardeners and maintenance workers secured more direct participation in day-to-day work, a key factor in the success of the project is that 'there was time and space for discussions about work organisation', and that this allowed the workforce gradually to become committed to the project. The process was led by employee representatives (it had been the employees' idea to instigate the project) and a union consultant funded by

the municipality. Employee involvement and participation also challenges senior and middle management prerogatives, exposing decisions and styles to greater scrutiny. At a minimum this requires the acquisition of new competencies by managers. In practice, however, middle and senior managers rarely appear to receive training in the new ways of working.

Finally partnership has been observed to advance in organisations where trust can be established between stakeholder groups. For some organisations this may extend to agreements on employment security, for others this may mean removing some of the symbols of hierarchy and privilege such as management car parking spaces or staff-only canteens. Communication structures which integrate partnership practices with day-to-day workplace and management issues are of critical importance. Partnership forums and change conferences, for example, need to give great consideration to membership, wider consultation and the communication of key decisions. Partnership may also be extended into areas of financial participation or gainsharing. This may include a range of practices from rewards for suggestions schemes to profit-sharing or share-ownership.

Job design and teamworking

Partnership from the high road perspective moves beyond representative structures and participation mechanisms to make a direct impact on the task environment. Building a workplace in which employees can develop and deploy their competencies and creative potential begins with job design. According to standards of job design developed in The Netherlands (TNO 1995), for example, employees at all levels should be able to assume responsibility for day-to-day decisions about work through co-operation or communication with others. Systematic opportunities should exist for problem solving through horizontal contact with peers. The ability of the employee to adapt the execution of work to changing demands, circumstances and opportunities is an essential prerequisite for occupational learning and reduces stress. The job should contain demonstrable opportunities for analysis, problem solving and innovation, in which the working environment is a place of learning. A high frequency of horizontal and vertical contact is required to support problem solving, learning and innovation, taking the form of ad hoc co-operation, formal and casual discussions, and possibly social contacts outside the work sphere. 'Distributed intelligence' throughout the organisation is also required to support problem solving, ensuring that knowledge and expertise are widely shared or readily accessible by individuals throughout the organisation. However, effective job design must develop in synchrony with the wider organisational context. The key concept here, once again, is teamworking.

Teamworking has been one of the defining characteristics of new forms of work organisation, with deep roots in European thinking about management and organisation dating back to the work of the Tavistock Institute in the 1940s and 50s. More than two-thirds of the case studies analysed in the Hi-Res project involve some form of teamworking and, though the sample is not designed to be representative, this gives an indication of its significance as an organising concept in workplace innovation. Other research evidence, for example the Employee Participation and Organisational Change (EPOC) study, also stresses the importance of teamworking while demonstrating that high road approaches are not widely used (European Foundation 1997).

The current interest in teamworking dates back to its rediscovery in North American manufacturing during the mid-1980s, since when the concept has spread widely into other areas of work. Among many other recent examples the Hi-Res study has shown that team-based approaches can be found in financial services, health, government and transport. *Interpay*, a clearing house for inter-bank payments in the Netherlands, introduced self-managing teams within an ICT department employing 125 people. *Esbjerg Centralsygehus*, a Danish county hospital, reorganised a surgical ward along team lines. The 48 nurses, four secretaries, three consultants and a number of temporary junior hospital doctors are organised in a team structure designed to break down interdisciplinary barriers and to improve the standard and continuity of care. An increase in competition and more demanding customers prompted *Province Gelderland*, a Dutch civil service department, to adopt a new model of work organisation based on teams, while a Swedish transport company also adopted teamworking to help it deal with the increased competition and the need for customer orientation that resulted from deregulation. A more unusual example is *Vestre Kirkegaard*, a Danish municipally-owned cemetery employing skilled and unskilled gardeners, and maintenance workers. Employees heard about a municipally-funded project to reduce sickness absence and decided to take part. The project involved a transition from heavily supervised work to a new approach in which employees took more responsibility for tasks and had more influence on planning.

In almost any context the scope of a team's responsibilities can include any or all of the following (Procter & Sherrin 2002):

- work allocation;
- work pacing;
- staffing issue such as recruitment and training;
- improvements to the process.

However 'teamwork' is increasingly used to describe such a diverse range of workplace situations that arguably the term has become meaningless. While team-

working may refer to a general 'sense of community', or a limited enlargement of jobs to enhance organisational flexibility, in a high-road sense teamworking will involve a radical re-appraisal of jobs, systems and procedures, throughout the whole organisation.

Mueller and Purcell (1992) attempt to clarify the modern conception of teamworking by drawing on the definition used in GM/Opel:

- the team works on a common task;
- its work is spatially concentrated and it has a recognisable territory;
- the allocation of tasks is largely organised by the team;
- the team encourages and organises the acquisition of multiple skills;
- it has decision-making power over time and appropriate means;
- there is team spokesman/leader;
- the team has some influence on who will join it.

IDS (1992) defines teamworking as "the formal organisation of the workforce into distinct, permanent teams of workers". What distinguishes a team in the sense used here from a collection of workers who merely work in the same department is the degree of autonomy enjoyed in relation to formal line management structures. However it is also necessary to consider the quality of dialogue and innovation which takes place inside the team. If teams are to be more than decentralised units for the production of a given product or service, all team members must have the potential for a high level of reflexivity unconstrained by internal demarcations and privileges (Gustavsen 1996). Teams in which the specific knowledge and expertise of each team member are valued and make a tangible contribution to product and workplace innovation meet important criteria for convergence between enhanced productivity and enhanced quality of working life.

What is important here is that the concept of autonomous working groups emerges as a spontaneous, intuitive response to certain working conditions (Buchanan 1997). In contrast to more recent organisational approaches such as Business Process Re-engineering it was not something invented by consultants and imposed upon organisations. Rather it emerged from much more fundamental considerations about the way in which work should be organised and its value is therefore likely to be longer lasting. In Buchanan's words, teamworking is subject to an 'eager and enduring embrace'.

Yet as both macro-level studies and case study evidence demonstrate, effective teamworking is far from common practice in Europe. The majority of organisations make no more than concessionary efforts to introduce team practices. Even where a focused attempt is made to introduce teamworking, the reality often falls far short of the potential. Buchanan and Preston's study of a 'manufacturing systems environment' within a producer of high-precision components concluded

that the 'radical potential' of the cellular team structure was not being realised. Many of the Hi-Res case studies reveal a long process of experimentation, learning and refinement. In order to capture the benefits of teamworking a full understanding is required both of the concept itself and of its wider implications for the way in which organisations are managed, especially its interconnectedness with the knowledge creation and workplace partnership practices discussed earlier in this chapter.

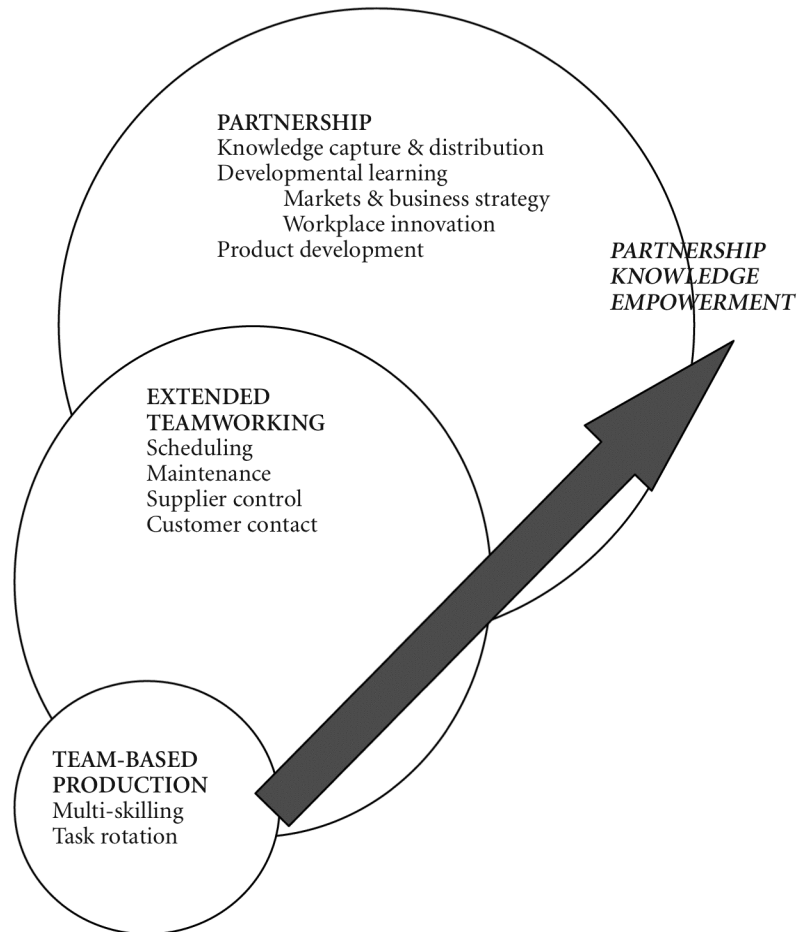
Integrating teamwork, partnership and organisational knowledge

We have argued that teamworking cannot be seen as an isolated innovation within an organisation. Rather it has much wider implications for work organisation and management, and in the high road context is closely interwoven with the knowledge and partnership dimensions discussed above. This is illustrated in Figure 2 which demonstrates the relational pathway between teamworking and the wider organisation.

Team-based approaches can be designed according to both low road and high road rationales. Teamwork can mean little more than multi-skilling and job enlargement on the floor of a factory, office or clinic. At this basic low road level, functional flexibility achieved through job rotation can achieve tangible gains for the employer, though in many such cases job enlargement can result in greater employee pressure and stress rather than job enrichment. The *Ecco* case is interesting in this context: when the Danish shoe manufacturer piloted a lean production system, the employees turned it down because the resulting job enlargement generated too much stress. Management supported their decision and the company reverted to its home-grown group working system which, although characterised by complete job rotation, gave employees greater control over day-to-day decision-making.

Certainly the extent to which teams enjoy control over the work environment is critical. Thus high road teamworking achieves flexibility but does so by enabling employees to take overall responsibility for the production of the product or service. Within the team this will involve significant latitude for autonomous scheduling and planning. However it will also lead teams into external problem solving and innovation through direct involvement with customers, suppliers and other parts of the supply chain, rupturing the organisational boundaries of 'classic' workgroups (Hague, den Hertog, Huzzard, & Totterdill 2003).

Extended teamworking is evident in *Volvo Aero*, Sweden, which manufactures jet engine components. The company integrated blue and white collar workers into teams which independently plan and carry out their work, taking responsibil-



Source: Hague, den Hertog, Huzzard, & Totterdill 2003

Figure 2. Teamworking, partnership & organisational knowledge

ity for contacts with suppliers, programming of machines, production technology and quality assurance. They also determine the level of overtime to be worked and can allocate free time of up to one day. The organisation has built on its experiences from these production units, appointing 'methods owners' who have the responsibility for supporting the production units and encouraging technical development with the provision of in-depth expertise. Cross functional product teams have also been established.

Inter-organisational teamworking between customers and suppliers is likely to increase with the emergence of complex product networks facilitated by ICTs and involving frequent horizontal collaboration between employees at all levels.

Extended teamworking of this sort offers a positive trajectory for quality of working life, offering scope for personal development through self-direction, building wider relationships and participation in both operational and strategic innovation. At this point teamworking begins to blend seamlessly with partnership and knowledge creation, becoming the locus for active involvement and participation for employees at all levels. Teamworking becomes a mode of operation within the organisation as a whole, embracing the types of workgroup described in the Mueller & Purcell definition cited above, but also creating much wider opportunities for dialogue, reflection, creativity, innovation and improvement by cutting across horizontal and vertical demarcations.

Individuals may therefore be involved in several teams dealing with different levels of activity, from day-to-day operations to strategic development issues. For example, in a hospital context a nurse could be involved in a specific ward or clinical team, a 'pathway' team designed to provide patients with integrated care across different functional boundaries, a development team concerned with issues relating to the nursing profession, and an organisation-wide clinical governance team. In the high road, the common factors which define such diverse teams will not be in terms of structure or membership but rather in the nature of practices relating to dialogue, decision making and accountability. High road teams, whether operational or developmental, will become arenas in which the knowledge, experience and creative potential of all participants are captured, and in which the force of the better argument – rather than the force of managerial prerogative – is the principal determinant of outcomes (Gustavsen 1992; Senge 1990).

This new fluidity in team-based working is closely linked to increased pressures for creativity and innovation in the production of goods and services. The Tayloristic separation of day-to-day operations and development functions has long been understood to extend the trial and error cycle in the introduction of new products and services, inhibiting flows of information between operational and developmental functions and preventing the tacit knowledge of operational employees from being utilised within the innovation process. Likewise operational staff have to deal with the consequences of poor fit between the design of new products or services and their actual delivery, often leading to repeated iterations in the development process.

Ecco confronted this problem head on. The work had traditionally been carried out on Taylorist production lines, all of which had 20 employees, each performing one simple task. Then the work was reorganised around autonomous groups consisting of six or seven employees, each able to carry out all the production tasks and take part in decision making. This resulted in increased productivity and employee satisfaction. Machinists are now able to discuss, challenge and modify the orders received from the designers and technicians, and are expected to

generate practical guidance that will make production cheaper, easier and more attractive. In effect, they are debugging new designs before they are sent to subsidiary companies for manufacturing.

ABB Cewe, a Swedish manufacturer of electrical switchgear, took clear action to close the gap between design and production functions by relocating development engineers onto the shopfloor. A distance of 30 metres along the corridor, it was argued, was sufficient to prevent adequate flows of information and knowledge between the two areas of activity. Direct involvement of production employees in the development process has reduced lead times, reduced production difficulties and enriched jobs. Similar results were obtained when *ABB LVS* integrated activities such as marketing, order processing, assembling and testing into the work of the teams.

Such initiatives which simultaneously challenge both horizontal and vertical demarcations remain rare, but provide a vivid illustration of the 'radical potential' of teamworking in building high road organisations.

Resourcing and sustaining organisational innovation

We have argued that work organisation is a reflexive process based on dialogue and negotiation, not a blueprint focussed on an end state. Running through this analysis of emerging forms of work organisation is a pervasive recognition of the need to develop and deploy the full competencies and creative potential of all employees; this is needed to achieve sustained innovation in products, services and processes, to make work a more rewarding experience, and to enhance democracy at the workplace (see Fricke 1983). This presents the organisation with a need for learning and experimentation in a number of interdependent arenas relating to the stimulation of knowledge and creativity, workplace partnership and employee participation, and job enrichment and teamworking. These arenas offer the strategic and the operational potential for convergence between performance and quality of working life. Sustainable outcomes are those that emerge through painstaking workforce dialogue, participation and testing based on an explicit commitment to reciprocity in the employment relationship.

The high road organisation needs to be well networked, able to draw on rich strands of thinking, research and practice from a wide range of sources. An abundance of learning resources, dialogue and opportunities for interaction are required to sustain change and this presents challenges for the EU, national governments, social partner organisations, development agencies and the research community. The regional setting is an effective focal point for learning and dia-

logue between actors, and regional policy has a clear role to play in creating such abundance.

Public policy measures and workplace innovation

As we have suggested, the spread of high road organisational innovation is limited in Europe. This can be explained by a number of mutually reinforcing factors including:

- low levels of awareness of innovative practice and its benefits amongst managers, social partners and business support organisations;
- poor access to evidence-based methods and resources capable of supporting organisational learning and innovation;
- lack of knowledge-based business services and other publicly provided forms of support;
- the failure of vocational education and training to provide knowledge and skills relevant to new forms of work organisation.

We have argued that this amounts to a missed opportunity for economic and social development, undermining European goals for competitiveness and employment (see also the chapter by Richard Ennals in this volume). Actions by public policy makers and social partners are of proven value in addressing these problems through, for example:

- a. the provision of knowledge-based services and other publicly provided forms of support as a means of raising awareness and resourcing workplace innovation;
- b. the creation of opportunities for networking and peer exchange between companies as a means of learning through shared experience;
- c. the capture and dissemination of knowledge and experience from workplaces across Europe to help understand emerging trends and to inform learning and dialogue;
- d. the widespread provision of support for action research to pilot innovative approaches to change, especially in new contexts;
- e. the creation of development coalitions at regional, national and transnational levels to close the gaps between key actors and stakeholders with an interest in work organisation;
- f. the provision of access to training capable of building the competencies associated with new forms of work organisation.

In recent years a number of exemplary initiatives have been developed to address these issues in some European countries; the *New Work Organisation in Ireland*

Programme (Savage 1999; Sharpe & Totterdill 1999), the Norwegian *Value Creation 2010* programme (see the chapters by Claussen and Gustavsen in this volume) and the Finnish *Workplace Development Programme* (see the chapter by Koski and Piirainen) are amongst several frequently quoted examples (see also Business Decisions Limited 2000). Typically these programmes combine several of the elements listed above, involving close co-operation between public policy makers and social partners in both their design and delivery. However the potential effectiveness of such targeted intervention has to be measured not only in terms of supporting change in the individual workplace but in raising awareness and disseminating experiences more widely. In short, does intervention contribute to a wider climate of change in which new forms of work organisation become part of the 'common sense' of management and workforce thinking? As Ennals, Gustavsen and Koski and Piirainen demonstrate elsewhere in this volume, these wider policy objectives typically prove difficult to achieve in practice.

Targeted intervention to support workplace innovation has been highly effective for many of the Hi-Res case study organisations. In Denmark, *Ecco* secured EU Brite-Euram funding for its project to develop a flexible production system for moulded footwear. A principal aim was to achieve a technical design capable of providing qualified and motivated employees with jobs which were as interesting and healthy as possible. Partners in the project included leading machine and system suppliers, while the Danish Technological Institute sought the optimal use of human resources both in designing the new system and in the day-to-day running of the resulting system.

Some organisations have been involved a series of supported projects, each building on the success of previous initiatives. In 1989, the Danish company *Mammut Work Wear* participated in a pilot project to develop work organisation as part of a joint initiative led by the machinists' trade union and the clothing and textiles employers' federation. In 1991 it took part in an EU Brite-Euram project to develop sewing machines designed for teamwork. In the second half of the 1990s Mammut worked with a Greek enterprise to increase employee participation and encourage continuous improvement, supported by the EU's ADAPT programme.

Another initiative, Project Job Swap, involved three Danish organisations – *Carlsberg*, *Bang & Olufsen* and *Grundfos*. Employees swapped jobs for a week in order to deepen their understanding of teamworking. The project was supported by the European Social Fund and led by the Danish Technological Institute.

Hi-Res case study organisations also benefited from support and intervention at national, regional and sectoral levels. The introduction of autonomous group working at *MalacoLeaf* was prompted by a 1992 Danish Parliament action plan to halve monotonous, repetitive work before 2000. *Esbjerg County Hospital* developed teamworking in a surgical ward with funding from a partnership initiative insti-

gated by the employers' organisation, the association of Danish County Councils, the Danish Trade Union for Public Employees, the Danish Nurses Organisation and the Junior Hospital Doctors' Association.

Similarly support for workplace partnership from the Irish government resulted in large numbers of enterprises establishing workplace partnership agreements. The *New Work Organisation in Ireland Programme* co-ordinated by the Irish Productivity Centre (Savage 1999) was supported by the social partners and provided training and facilitation to develop partnership-based approaches to workplace innovation. Most of the work of the programme involved setting up partnership structures which enabled management, trades unions and employees to confront challenges on a joint basis. *Honeywell-Measurex*, *Anord*, *Sifa* and *Tegral* are amongst the Hi-Res case study companies to benefit from the Programme.

Regions as a focus for workplace innovation

Learning and innovation are typically very localised, not placeless, processes. It is therefore important to discover and to strengthen the characteristics of effective and dynamic systems that support learning and innovation at regional level – for example the types of bridge that can be built between academic research, social partners, business support organisations 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, reflection and action. Likewise inter-organisational learning networks at regional level also influence innovation. 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 (see Lantz & Totterdill, in this volume; also Bessant 1995; European Work & Technology Consortium 1998; Friedrich & Lantz 1998).

At the European level, diversity of experience between regions is an important learning resource. In terms of organisational development there is considerable divergence yet much common ground between, for example, Northern European approaches to workplace development and the Italian industrial districts (Belussi & Garibaldo 1996). Both are characterised by partnership and co-operation within firms, between firms, and between social partners and the state. However each manifestation of partnership and co-operation 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.

Public policy must promote a wide range of opportunities for collective learning about the design and implementation of new approaches to work organisation, 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 organisational structures reflect both creativity within the workforce and interaction with external knowledge and experience. Organisations need to draw on good practices 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. For public policy therefore, the test of successful intervention lies in "the extent to which 'technical' expertise ... ceases to be traded as a consultant's 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 subsidised training or consultancy" (Middleton & Totterdill 1992). In particular spatial proximity and the ability to achieve a critical mass of activity by harnessing the energy and knowledge of a wide range of actors offer strong arguments in favour of intervention at the regional level (Farrands & Totterdill 1993).

Gaps in the public policy framework

Despite the evidence of successful intervention, a high level of fragmentation can be found in public policy and business support frameworks across Europe. In England for example the comprehensive network of local *Business Links* that provide business development support to SMEs rarely addresses work organisation as a resource for company competitiveness. Comparable shortcomings can be found among the regional business support infrastructure in most EU member states, including those countries such as Sweden that have a substantial history of intervention at national level (Lantz & Totterdill, this volume).

The policy gap can be summarised in the following terms:

- There are too few spaces in which those with expertise in work organisation come together to compare and consolidate knowledge. Rather, in many areas of business support, there is a wide range of institutions each engaged in relatively isolated activity, often leading to an excess of competing models and approaches. Clearly this confuses employers and weakens the momentum of change. There is a need for the active brokerage and synthesising of knowledge.
- There are also too few spaces in which companies can come together to share experiences and identify common needs. Business support organisations typically focus on individual casework, missing the need to resource and sustain

change through shared learning and peer exchange. Employer learning networks are thus relatively rare in many parts of the EU and there is a need for measures, especially at regional level, to animate and support exchanges of knowledge and experience over extended periods. The potential for such intervention is explored further in the chapters by Claussen, Gustavsen and Lantz and Totterdill.

- Knowledge about work organisation is often reduced to a consultant's commodity or a recipe, yet as we have argued there is ample evidence to show that this rarely produces sustainable change. More sophisticated tools and resources are needed to overcome obstacles to workplace innovation and ensure long-term results. These should focus on establishing continuing dialogue and improvement rather than on technocratic or top-down organisational fixes.
- It is well understood that the integration of research and practice is weak in much of Europe (see the chapters by Brulin, Heil, & Lacroix; Lantz & Totterdill, each of which explore this theme in different ways). Universities are unlikely to achieve the task of bridging this gap on their own. Intermediate institutions which link research knowledge with business practice are common in some parts of Europe but not in others. New types of organisation may therefore be needed to support and disseminate evidence-based approaches to workplace innovation.
- In EU and national programmes alike there is often little active management of outcomes to ensure the widespread distribution of new knowledge or innovative practice. Individual projects or initiatives, however successful in their own terms, are never enough. The need is to ensure that publicly funded activities contribute to a managed process of cumulative and collective learning, reducing duplication and enhancing their combined impact.

Further analysis of policy gaps can be found in the chapter by Richard Ennals. In summary we are arguing that the focus of policy intervention must lie in building intangible assets: coalitions, networks and other 'soft' structures which enrich day-to-day access to knowledge, experience and dialogue for a wide range of actors. Because such assets are grounded in social interaction, regions and localities provide the most effective locus for capacity-building intervention. The problem for policy makers however lies in the very intangibility of such outcomes. Politicians and public auditors demand visible outcomes that offer demonstrable value for money. Measurables such as the number of trainees achieving a formal qualification can be monitored; intangibles such as network building and dialogue animation create real difficulties for transparent evaluation. The consequence is that too few public servants in Europe have such activities built into their objectives and work programmes.

Challenges

The modernisation of work organisation in Europe cannot be achieved by a few simple policy measures. Rather it poses far reaching challenges for individuals and institutions alike:

- *For the individual* – seeking opportunities for acquiring and developing the technical and non-technical skills associated with new forms of work organisation.
- *For employers and employees* – accepting that change is inevitable, messy and uncertain, and that it requires considerable learning and experimentation. However it also offers real scope for ‘win-win’ outcomes.
- *For trade unions and employer organisations* – broadening their roles as proactive, knowledge-rich sources of animation and support for the modernisation of work organisation.
- *For intermediate bodies* - such as universities, regional development agencies and business support organisations – creating capacity and expertise in the field of work organisation and playing a proactive role in distributing knowledge, establishing new resources and building networks.

While regions and member states have an important role to play, attention must also be focused at EU level. European policy makers and social partners also need to understand the nature of workplace innovation and its wider implications for economic and social goals. In particular they need to develop a framework in which activity at the national level is animated and resourced. Critically such a framework can translate the diversity of European experience – in the workplace, at the level of organisational theory and at the policy level – into a common resource for learning and innovation. However despite the publication of the *Partnership for a New Organisation of Work* Green Paper as far back as 1997 there remains a significant policy development task ahead if Europe is to realise the full potential offered by new forms of work organisation. This suggests the need for several EU policy priorities, notably:

- creating a climate of awareness and concern amongst policy makers and social partners in Member States;
- building and resourcing capacity at regional level through, for example, the establishment of new centres or institutes, the creation of new national policy frameworks, learning from policy experience in other countries, establishing development coalitions between actors, and building accessible databases of knowledge and experience;
- ensuring that existing resources (such as the European Social Fund) are targeted effectively to support the modernisation of work organisation;

- acting as a broker to maximise exchange of knowledge and experience between regional coalitions across the EU;
- identifying fast-track strategies to support the modernisation of work organisation in applicant countries.

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Notes

1. The Hi-Res Project (*Defining the High Road of Work Organisation as a Resource for Policy Makers and Social Partners*) undertaken for the European Commission by a consortium of partners from 6 Member States led by The Work Institute at Nottingham Trent University. See Totterdill, Dhondt, and Milsome (2002) or www.hi-res.org.uk.
2. Case study summaries of companies cited in italics can be found at www.hi-res.org.uk

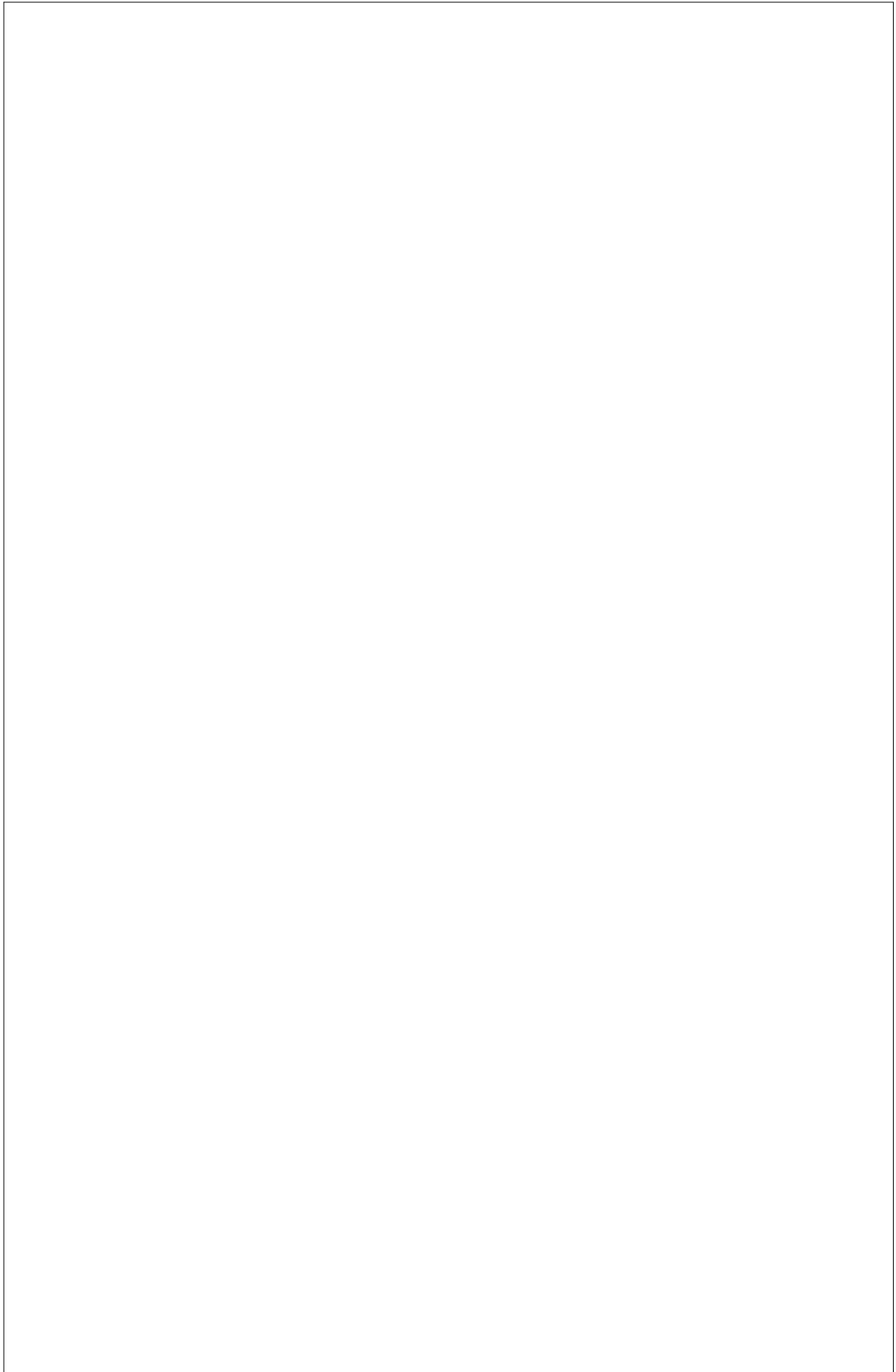
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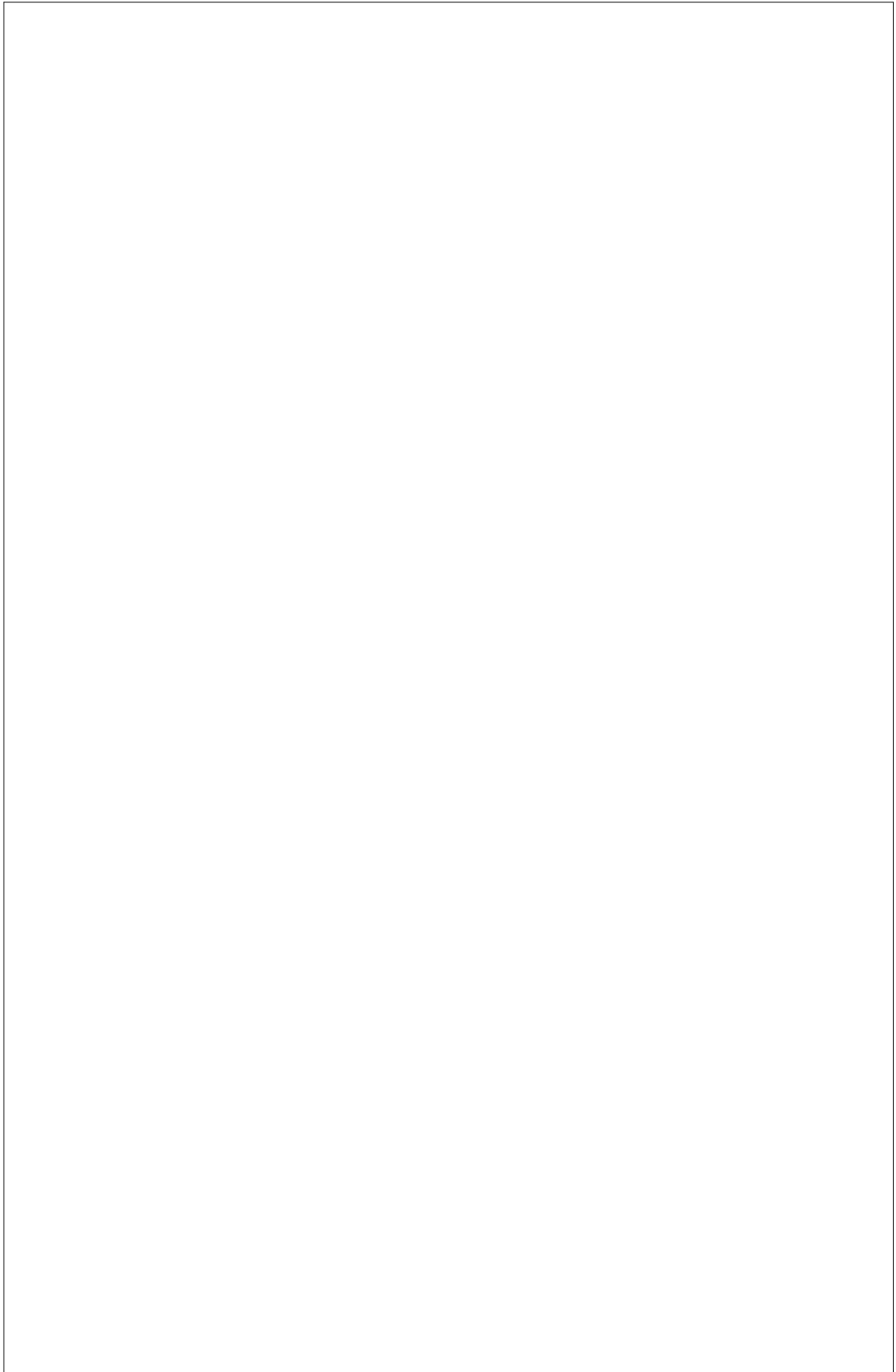
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Building coalitions



Participation and enterprise networks within a regional context

Examples from South-West Norway

Tor Claussen

Introduction

In Value Creation 2010, as well as in its predecessor Enterprise Development 2000, improvement and innovation are expected to emerge as a result of the interplay between three main factors: international trends and demands, employee participation in the working-out of responses to these demands, and thirdly networking between enterprises. When Rogaland Research became a partner in ED 2000, the challenge was to find partners and platforms where this particular interaction could be promoted with fruitful results for the enterprises concerned.

Rogaland Research is a research foundation, closely associated with the Rogaland University College. This university college is, in itself, one of a number that were established to distribute higher education more broadly across the country than had been the case with the more traditional universities. Rogaland Research operates in a number of fields, from technology via economy to social and organisational issues.

The Rogaland region – located on the southern part of the west coast with Stavanger as the administrative centre – experienced larger scale industrial activities only after the end of World War II. Prior to this period the economy was dominated by fishermen and small farmers. When an anthropologist from Great Britain studied the region in the 1950s (Barnes 1953) he found reason to actually use the concept of ‘network’ in his description of the region because this kind of social organisation was already quite strongly present, in particular among the fishermen where information related to catching, weather, sea conditions, location of fish, etc. was distributed through informal channels. Later studies have confirmed and extended his findings (Müller 1990). To what extent this sets this region apart from similar regions along the coast of Norway is an open question; that there was

an historical heritage in terms of networking in this particular region is, however, reasonably clear.

From the 1970s onwards, the manufacturing industries have been supplemented with a very strong development in offshore activity, due to the exploitation of the oil and gas resources on the Norwegian continental shelf. Rogaland is the main centre for offshore operations, being home to the headquarters of Statoil (The Norwegian state oil and gas company), the Oil and Gas Safety Directorate and the operational headquarters of a substantial number of other companies, Norwegian and foreign. The sum total of traditional and new industries has implied that Rogaland has the highest level of industrial employment in Norway.

While networking was an historical reality, and had even to some extent appeared also in industry (below), there was much to do before it could be given full payoff as a developmental force. Second, while participation was of course given practical expression in the Rogaland industries as in the rest of the country, the region faced the same challenges in bringing participation to life as a major developmental force under modern conditions. Third, while the Rogaland enterprises were as aware as enterprises in the rest of country – and indeed all over the world – of the need to develop new patterns of efficiency, flexibility and quality in production, and new levels of innovation in products and customer relationships, these demands were far from fully transformed into fruitful and adequate local strategies. Rather, all three main factors appeared as raw material for change more than mature processes.

The purpose of this contribution is to demonstrate how these three basic dimensions were brought to interact in specific strategies for improvement and change.

The network partners

Rogaland Research was, from the beginning, able to enter into collaboration with three existing enterprise networks. This was somewhat exceptional at the time when Enterprise Development 2000 was launched; most of the research groups that became partners in the programme had to put more effort into the development of networks as such. Networks were, of course, not absent in the Norwegian economy in the mid 1990s (Gustavsen, this volume), but networks that were well established, that had a mechanism for handling initiatives and internal processes as well as an interest in exploring the potential of organisation development based on broad participation, were not exactly common.

The three networks were:

1. *The Sunnhordland Industry Network.* This network consisted of 14 enterprises at the time, ranging from 12 to 1900 employees, most of them within the manufacturing sector. In the network as a whole about 5000 were employed. The network was characterised by one dominant actor, Aker Stord. Historically, this is a shipyard. Due to the offshore development, the production of offshore platforms as well as speciality ships for offshore activities had, however, become the main market rather than ships in a traditional sense. Some of the participants in the network were suppliers to this actor while others did not have any particular commercial relationship. The Sunnhordland network is not strictly a customer-supplier network but rather a network characterised by mixed relationships between the participants. The core issue in the initial phase of ED 2000 was to implement a Total Quality process in six of the companies. In addition, Aker Stord agreed to share its experiences regarding the utilisation of Total Quality.
2. *The TESA network.* This was founded as far back as 1957 and is one of the oldest enterprise networks in Europe. The membership consisted, at the time, of 13 enterprises, ranging from 60 to 800 staff members, with a total number of about 4000 employees. They were mainly small and medium sized industries, producing a variety of goods. These included agricultural products, antennas for boats, bicycles, electronic equipment, robots, advanced medical equipment, etc.
While initially formed for the purpose of sharing production, TESA had come to encompass a broader and broader range of issues, including organisation, management, business development and strategy (Asheim & Pedersen 1998). The network was in decline at the launching of the ED 2000 programme. One reason for this was a number of the members becoming more and more integrated into international business environments where foreign ownership dominated. The main purpose of the R&D collaboration was seen as a revitalisation of the TESA network around subjects like internationalisation, quality, business strategy, and organisation development.
3. *The Synergi network.* A co-operation between some of the major actors in the Norwegian oil and gas industry in which three of the companies had a national ownership structure, while the other two were branches of large international conglomerates. The total number of employees in these enterprises approached 100,000, but comparatively few were directly involved in the project. The purpose of Synergi was to develop a joint framework for the recording and analysis of near-accidents. The project was of a technical nature but called for some degree of participation in generating the relevant data.

Of the three networks, the first two were regional in the sense that all participating enterprises were located within the region. Synergi was more of a national and

international network. In addition to the co-operation between enterprises within each network, efforts were made to promote co-operation between the networks, specifically between the two local/regional ones. One of the results was an effort to introduce Total Quality processes in the TESA network based on the experiences from the Sunnhordland network. TESA was the older network and had to some extent been a model for the Sunnhordland network. During ED 2000 the balance changed and experiences from the Sunnhordland network became a source for exchange of experiences between the two networks and for learning within the TESA network as well.

In this chapter we will concentrate on the Sunnhordland Industry network, with some comparative comments and analyses relating to the activities in the TESA network. Both of these networks can be characterised as 'smaller networks' in the sense that Gustavsen (this volume) uses the term.

From informal to formal networking and the network as a "quasi-enterprise"

The Sunnhordland Region consists of eight municipalities and crosses the boundary between Rogaland and the next region up along the coast: Hordaland. It is basically a functional region, characterised by a number of islands and fjords, a glacier, by rivers falling from steep mountains and by a rough climate due to its location by the North Sea. Approximately 60000 people inhabit the region. More than 30% of the workforce is employed in the manufacturing industry, the highest percentage of employment in manufacturing in Norway. While the environment is, on the one hand, hostile, it has also offered ample business opportunities, due to major resources within fishing, oil, gas and hydroelectric energy. Entrepreneurship could pay very well.

History and culture did not only apply to networking but also to worker/management relationships and co-operation. Although a strong industrial tradition with strong unions and marked conflicts with the employers can be identified, there are also traditions of strong collaboration. Regardless of differences of interests, employees have made sacrifices and been willing to become involved in extraordinary tasks if this has been required to save workplaces and enterprises. This was the case when an electrical cable broke, which was connected to one of the world's biggest aluminium plants, located in the region. Huge masses of aluminium solidified. It took weeks of continuous hard labour to break up the solid aluminium and make the furnace operative. During this period the local workforce (and management) were subject to a continuous threat from the distant owners who declared an intention to close down the plant. After weeks of hardship, the furnace was again operative and the threat to close the plant elim-

inated. Huge investment followed this incident and the subsequent efforts made this aluminium plant into one of the most competitive in the world. The common crusade to save the plant exemplifies a culture that helps the region survive as an international competitive region despite the differences of opinions and interests that might prevail in the local and national working life relations.

As modern industrial activity became more prominent, a growing professionalism entered the scene. This process was strongly reinforced when the offshore industry, with its strong element of international standards, started to boom. Insofar as they wanted to participate in the offshore development, small and medium sized industries had to implement new organisational requirements, quality systems, health and safety procedures, systems for economic and project control, a culture for professional handling of customers, etc. At the same time it was important to maintain the dynamic and informal aspects of networking and industrial culture.

When the previously scattered enterprises of the Sunnhordland region decided in the early 1990s to form a network, this was partly because of the cultural traditions, and partly because they took their example from the TESA network and its history of more than 30 years. In spite of the traditions and resources for networking inherent in the culture, there was also a need for external support. This was the time when Enterprise Development 2000 entered the scene, with Rogaland Research as one of the participants on the research side. Looking for partners with whom to construct a 'module' (Gustavsen et al. 1997), Rogaland Research established contact with the Sunnhordland network.

The Sunnhordland network is organised as a 'quasi-enterprise'. Each member enterprise is a shareholder in a company that organises the network activities; the network has a board and a managing director; it has departments consisting of groups reflecting the functional structure of the enterprises. These groups are formed around subjects like finance, marketing, sales, production, personnel, etc. and the members come from the participating enterprises. The forms of work are projects, seminars and similar events where each participant meets people from other enterprises engaged in parallel activities. In this way the areas, departments, or functions of the individual enterprise are reflected on network level, making the network into a 'quasi-enterprise'.

The use of this kind of relatively formally structured co-operation from the beginning implied that the participating enterprises had to make a clear and unequivocal commitment to the network. When a network is formed in a more gradual and informal process, it may give the participants more time to develop their view on participation but it also means a much longer build-up phase.

The formal structure of the network was, however, not sufficient to create and sustain the intended level of commitment and activity. Several of the network groups showed little or no activity at the time when ED 2000 was introduced.

There was a waning enthusiasm among the participants. The network membership includes a number of small and medium sized enterprises and these enterprises generally expected to see results rather soon. The willingness to apply a more long-term perspective sometimes found among bigger enterprises was generally lacking.

Employee participation

Enterprise development in the ED 2000 programme, and the Sunnhordland network in particular, had as its point of departure the ways in which participation was expressed on the national level. As emerges from Gustavsen (this volume) various efforts had been launched over a long period of time to promote employee participation and industrial democracy.

The dominant actor in the Sunnhordland network – Aker Stord – had a full implementation of all representative bodies and arenas, which performed quite well. Specifically the department councils had been utilised as a tool to engage the employees in discussion processes at the local level. When ED 2000 entered the scene, Total Quality was the core theme.

Mediating the quality process through the department councils was intended to deal explicitly with the top-bottom split often found in quality systems in their international versions. They aim at mobilising the workers in general but are often silent concerning how this is to be done: Are the workers to be mobilised around something more or less given by international sources or local management, or are they to be given a say in the way in which the system is shaped to fit local circumstances? If the workers are to be given a say, is this purely on the informal level as management sees fit, or is it to be built on a more independent platform such as formal agreements? One reason why the various improvement ideas are often vague on this point is that while the need to mobilise the workers around such tasks as quality is hardly in doubt, there is actually quite a lot of dispute concerning how this is to be done. There are, for instance, major differences between the individualistically oriented, psychological contract-thinking generally prevailing in, say, the United States on the one hand, and the union-based relatively formalised pattern that constitutes the point of departure in, for instance, Scandinavia on the other (Falkum 2000; Gustavsen 2002).

The way the other enterprises in the network utilised the representative structures and formal arenas varied considerably. Even when they were fully implemented in a formal sense they functioned more as channels for top-down communication than as arenas for a genuine dialogue. Some of the enterprises did not even fulfil the required obligations specified in the agreements and laws. In a cou-

ple of the enterprises, the only contact between the union and management was during the wage negotiations taking place once a year. Looking at the network, and even the region, as a whole, the formal schemes for participation were functioning quite arbitrarily reflecting the point that they are filled with unsolved dilemmas (Gustavsen, this volume).

No wonder the employee participation upon which ED 2000 was built met with considerable scepticism among the managers of these enterprises. Thanks not least to the presence of Aker Stord, where the whole apparatus was in place, it was, however, possible to overcome these initial obstacles. Particularly important in this respect was the way Aker Stord utilised the department councils to mediate between management and the workers.

While the department councils can mediate between management and employees in general, they are, in themselves, representative bodies and not arenas for direct participation. They function, furthermore, in terms of meetings, not in terms of a continuous role in the enterprise organisation. The department councils can provide frame conditions for development but cannot in themselves perform development.

As indicated by Gustavsen (this volume) there are different views on what is needed to bring the development component into the picture. While some have promoted the sluice-gate view, others have argued the need for complex, long-term development activities to create the conditions for participation by the employees. The dialogue conference that was launched as one possible form of intervention in ED 2000, is based on a mid-way stand on this issue. It recognises, on the one hand, the need to form new patterns of organisation and co-operation to take care of development tasks (cf. the notion of development organisation; Pålshauge et al. 2001) but is, on the other, based on the assumption that the workers can represent themselves in a discourse, provided that the discourse is taking place under frame conditions where work experience is the basis for participation and principles like equal sharing of time are applied (Gustavsen & Engelstad 1986).

In the Sunnhordland network the dialogue conference was further developed and adjusted to function on two levels; the internal enterprise level as well as the network level. Each enterprise arranged two or three dialogue conferences over the years that they participated in the project. If the number of employees in any one organisation did not exceed 30–50, everybody participated, regardless of place and function in the organisation. With a higher number of employees, the enterprise was asked to select a representative sample of 30–50. Regardless of the way each enterprise chose to select the participants, it was required that union stewards, health and safety delegates and top management were included.

In comparison with the original version of the dialogue conference, some modifications were made, in particular in terms of a more elaborate process of

defining and assigning priorities to projects. The first step was to ask the participants, in group sessions, to suggest areas in need of improvement. The following were the three most frequently mentioned in this context:

- Establishing a process to implement Total Quality Management. In addition to the general quality movement, the enterprises in this region were also strongly influenced by the practices within the offshore industries where quality is a core issue strongly related to safety.
- Improving health and safety. Norway has relatively advanced and demanding work environment legislation that many of the smaller enterprises have difficulties in living up to.
- Improving internal communication. In most enterprises this was actually seen as the most difficult and demanding area, most in need of a long-term strategy.

When first set out, such suggestions tend to emerge as general and abstract. The next step, then, was to ask the participants to convert the abstracts into suggestions for specific improvement projects; for steps that could be taken or acts that could be performed to actually do something about the challenges. A broad range of proposals emerged, one example from one group ranged from improvement of outdoors storage layout via new welding equipment to a new personnel handbook, as well as new ways in which to facilitate communication within the organisation. The most typical proposals in this context were, however, the following:

- Establish the project team or teams needed to work with quality, and for that matter also with ED 2000.
- Establish a documentation process, including giving the project a symbolic and identifying name.
- Find ways of improvement in storage and layout.
- Establish new meeting places.
- Identify and map out challenges and improvement needs concerning communication.
- Improve on the production process.
- Find ways in which to link employee participation to customer relationships.

Among all the project proposals that emerged in this way, the participants were then asked to make priorities and, using a system of voting, each proposal was ranked. This was done in a two-step process: first, on group level, where each group made its priorities; second, in plenary, where each group presented its priorities whereupon the plenary merged the group proposals into a joint list of priorities. The final result of this selection process was intended to give a list of priorities based on consensus among those participating in the conference. Finally, each enterprise had to appoint a main project group to be in charge of implementation.

This group had to operate within the field created by the proposals that had finally been accepted by the plenary but was not fully bound by the given priorities. The project group was made responsible for performing a further evaluation in the light of concerns such as project efficiency and the visibility of results in the short and medium term. One of the main reasons for this was to meet a need for immediate and useful results, in the light of the fact that several of the enterprises were unaccustomed to working in this way and had their share of internal critics who would not wait to demonstrate their impatience.

To this fairly elaborate way of defining and organising projects was added a process of continuous assessment – continuing between conferences. If events indicated a need for revision, the project group could, by itself or in agreement with other actors such as top management, carry out modifications.

Inspired by the dialogue conference and the modifications presented above, the term Enterprise Development Conference (EDC) was introduced to characterise the process of implementing ED 2000 in the participating enterprises in Sunnhordland. EDC in Sunnhordland was thereby recognised as a specific local variation of the nationally and internationally recognised dialogue conference.

The dialogue conference is one way of building bridges between the formal and the informal and between the representative and the participative. Even the dialogue conference can, however, not function as the only arena in development processes. There is a need for further arenas and meeting places that can link the dialogue conference to specific ongoing development processes. One example from the Rogaland experience is the kind of meeting that came to be called ‘storage room meeting’: these took place in certain spaces where equipment and tools were stored for shorter periods of time. These meeting places were ‘natural’ places where workers gathered whenever breaks occurred during regular working hours. Participants were close to their daily working environment and could easily relate to specific challenges. Before this meeting place was organised, the employees had no specific arena where they could make their contributions to ongoing change processes. Challenges could not be faced and problems dealt with unless the safety representatives, the line organisation, the expertise, had become involved and taken responsibility. By the time these actors had become involved small incidences could have developed into more serious problems or accidents, or been forgotten. The ‘storage room meeting’ was an informal arena designed to encourage local knowledge, for communication about local problems and specific issues in the local context.

The ‘storage meeting’ did not only function as a forum where the workers could express their views, in many cases the points and suggestions emerging during these meetings gave rise to immediate action. Many workers, for example, did not understand what their specific contribution to the overall product was.

A particular instance concerns the introduction of an advanced vehicle for the transport of fluid metal, mainly aluminium. When this problem emerged, three-dimensional drawings were created and distributed that made it easy to identify each specific part and its relationship to the product as a whole. When the location of each part within the whole was identified, communication between the workers became far easier, leading to better quality and fewer losses. In this way the 'storage room meeting' overcame the limitations often inherent in more traditional suggestion systems where the road from suggestion to action is generally very long as well as non-participative.

Utilising the 'storage room meetings' for developmental purposes gave the development processes an anchoring on the shop floor. Although such an anchoring can be given different practical expressions, it is highly important that it is present. Through the network co-operation (below) this kind of meeting was also suggested to the other enterprises and was taken into use by several.

From the beginning, the researchers placed emphasis on pluralism in the introduction of practical steps and measures. It was recognised that there are different kinds of actors within the enterprise and different types of perspectives to be expressed, and no single type of arena or body can carry the whole burden of participation. Several new roles were introduced as well, for instance the role of development facilitator. As the name indicates, this is a role that is established to link activities and people, to adjust processes to each other, and sometimes to negotiate and solve conflicts. Facilitators came from the ranks of the employees as well as from management.

A participative process of development, improvement and change involves tasks on various levels. There is a need to create new orientations and commitments from key actors in the enterprise; a need to clarify interests and other frame conditions; a need to bring forth suggestions and other material with which to work; a need to convert this material into specific project efforts; a need to apply a strong element of learning by doing as the process unfolds; a need to secure the continued participation of all concerned, and much more. This does not call for one single type of measure nor for one single type of arena. Change and improvement is not just a question of, say, having quality circles, nor of having storage room meetings. The main point rather lies in the total set of bodies, arenas and processes and in the ability to define the right role for each of them. A co-operation council or a department council lends itself to use in the definition of frame conditions and policy umbrellas but not the actual running of development processes. A storage room meeting cannot in each meeting raise all the basic questions concerning the need for development, its consequences for wage systems and so on, but has to take as its point of departure that certain frame conditions are already defined. The dividing line between successful and not-so-successful development

runs between those enterprises that are able to establish all the core elements and functions and bring them to play together in a fruitful way, versus those who miss on one or both points. This is in itself a process of learning by doing but, if doing is to lead to learning, it has to be an open process subject to continuous feedback from what actually happens.

Networking between enterprises

As indicated above, the development processes were to be based on and fuelled by not only employee participation but also by networking between enterprises as well. Several measures were brought to bear on the strengthening of this aspect of the process.

The core element in this context was network conferences, with a frequency of two per year. Each enterprise participated with the managing director, the chief shop steward and the chief safety delegate. Several of the participating enterprises were also represented by other key persons. This pattern was intended to build bridges between the formal organisation and the emergent development activities. Main participants were the holders of well-defined and recognised formal roles in the enterprise organisation. Most important was the strong employee representation with the chief shop steward as well as the chief safety delegate.

Even though the actors from the same enterprise generally will establish discussion partners vis-à-vis each other, there are major new elements present in a conference of this kind. Contrary to internal meetings and discussions there are people from other enterprises present. The conference constitutes, furthermore, a new arena, differing in major respects from those arenas in which the actors have met previously. In combination with each other, these factors made these conferences into a powerful element in the change process.

One way of utilising the conferences was for each of the existing committees to use the conference output as a platform for its own work. A second was for the representatives from each enterprise to present their own ideas, priorities and projects to the other participants in the conference, for discussion and peer evaluation. In this way what initially emerge as processes within each enterprise could be held up against parallel processes in other enterprises. This kind of confrontation – or rather figure-ground positioning – can, in turn, give rise to very powerful learning processes.

The fact that there was more than one enterprise present made it imperative for each enterprise to have something to present and to offer in the conferences. This provided, in turn, each enterprise with a strong motive for doing something in between the conferences: for keeping up activities and processes. This motive

was reinforced by the fact that a number of the enterprises had business relationships with each other and had to act in such a way that they could not be seen as falling behind in, say, the implementation of quality systems.

The fact that the conferences were about development reinforced the focus of the participating actors on the themes and acts involved in the development process. In many enterprises there is a lack of recognition of the need to change and develop and there is often a need to strengthen the commitment of leading actors to this kind of task.

The major theme of the discussions was, in this phase, quality. Quality is a concept linked to an improvement wave with roots in the Japanese automobile industry but with a diffusion that eventually came to encompass the world and all possible types of activities. The concept points, on the one hand, to something everybody 'must do' and is, on the other, associated with a lot of procedures, techniques and systems that can help actors 'do it'. Such a concept has many advantages in the early phase of a development process because it combines a strong imperative with suggestions for practical action. It was soon discovered, however, that the suggestions for practical action could not be implemented in a mechanical way. Quality is not a set of performance criteria that can be established outside task performance and used to measure performance in a simple way. Rather, quality has to be seen as an integral part of all aspects of task performance. A strategy for implementation of quality cannot be separated from all the complex aspects of doing and learning characterising any ordinary job but has to be built into these characteristics. The need to secure employee participation has been mentioned already; numerous other points and circumstances demanded local adaptation as well. As the process rolled on, the whole notion of quality was transformed from a global abstract to focal points for local experience. The perspective changed from the implementation of quality manuals to local learning. The point in this context is not, however, to pursue the transformation of the quality concept as such – parallel transformations have occurred in numerous other cultures where efforts have been made to improve on quality – but to underline the role of quality thinking in the evolution of the Sunnhordland network. While it is reasonable to believe that there may have been other concepts that could have filled the same function, it is also clear that quality presented the enterprises with a challenge that not only trigger off fruitful development activities within each enterprise but did it in a network context as well. Being a 'global wave', the quality movement has to spread from place to place, from enterprise to enterprise, from region to region, something that means that the wave itself orients the enterprises towards learning from each other (Gustavsen 2002).

Diffusion

In attempting to effect development and change in working life, the issue of diffusion has been seen as a key one for decades. Its starting point was in the period when much thinking about change was linked to single exceptional cases – generally an enterprise or a part of it – and the problem was seen as getting others to do likewise. Unless the setting of a particular case can be applied to a larger number of workplaces and organisations it will, of course, not be able to exert an influence on say, national or regional economies, nor on industries in general.

Enterprise Development 2000 as well as Value Creation 2010 can be seen as having their start point in the diffusion problem rather than in the intention of creating ‘new cases’ (Gustavsen et al. 1997, 2001). Certain conditions were present when ED 2000 was formed, basically shaped around the recognition that there is little direct diffusion in working and economic life, if by that is meant a simple transference of patterns from one enterprise to a number of other enterprises. Rather, the achievement of broader change – or ‘critical mass’ as it is sometimes called – has to do with the ability to create parallel movements among a substantial number of enterprises. The role of Rogaland Research and its partners is actually an expression of this, since ED 2000 did not depart from one single strategic idea anchored in one single centre but rather aimed at creating development in a number of places according to a distributive pattern. From this, seven different modules appeared, with Rogaland as one (presentations can be found in Gustavsen et al. 1997, 2001; Levin 2002). With this distribution pattern ED 2000 could, of course, reach only a limited set of enterprises and actors, making the whole initiative dependent upon a process that could pick up impulses from the places of change and convert them into continued change as well as new places of change. What does this process look like in Rogaland and neighbouring regions?

Even though it is possible to talk about a region even – in social terms – in Norway there is still no automatic diffusion. Concepts like regions, clusters, networks and industrial districts can be misleading since they often build on the simple external characteristics of the enterprises – such as branch, proximity and similar – with little concern for the actual working relationships that exist between the enterprises (Gustavsen 2002). To take one example, Rogaland Research is at the moment developing a project among process industries in a region where a number of enterprises have existed more or less around the same fjord for about 100 years. To judge from simple criteria they belong to the same cluster, network, region and district but nevertheless had very little to do with each other before this specific project started. If we define network as working relationships rather than economic characteristics, the fact that something has occurred within a region tells almost nothing about the diffusion challenges. The region does, on the

other hand, provide some of the frame conditions within which to approach the diffusion problem.

The continued work on broadening the base for the change effort has led Rogaland Research in several directions. First, there has been continuous co-operation with two of the existing networks: TESA and Sunnhordland. TESA experienced a major revival of its activities during the ED 2000 programme, but has subsequently faced new challenges. The enterprises have held together for a long time but yet the network may be too small and undifferentiated to carry learning processes more or less indefinitely. Some of the participating enterprises are, furthermore, loosening their ties to the region and becoming more associated with external international and global relations. It is by no means sure that the dissolution of a network implies that it has not been successful. In fact, it can be a sign of the opposite. The participants might have reached a level of network collaboration in the local/regional context where further collaboration loses some of its significance. They might experience a useful continuation of networking fulfilled by moving into new learning contexts. This is especially the case with the members that have been linked to new ownership structures embedded in a wider global context. The networking activities embedded in the local/regional context seem on the other hand to survive, but with new members.

The Sunnhordland network demonstrates the most clear-cut success in several ways. Recently the number of participants has been growing and is now approximately 20. Members perform above average for their industry in most measurable ways. Most important is, however, that the Sunnhordland network is helping to initiate the formation of similar networking initiatives, both in different locations within its own region, and within the neighbouring regions.

A number of new networks have been formed – in Rogaland but also in Hordaland. It is as yet not clear which of the possible new configurations will mature into viable networks like the one in Sunnhordland highlighted in this chapter. What is clear, however, is that none of the new ones are exact replicas of the existing networks. Some of the new ones have a stronger element of public/private co-operation in the sense that the municipalities are more actively present from the start. In addition, some of the networks include branches other than manufacturing and offshore – such as process industry and tourism.

Presently about eight networks consisting of a total of approximately 66 enterprises participate in the different research and development activities in Hordaland and Rogaland. There is a shift in the focus of these activities from quality and continuous improvement, towards initiatives of a more innovative kind. While the offshore development two to three decades ago represented major new business opportunities, it has now passed the peak and gone into a phase of slow decline. While there will, in all likelihood, continue to be significant production, in par-

ticular of gas, for at least five decades, the demand for production platforms, speciality ships and other equipment is already on its way down. What orders do emerge, to an increasing degree, go to companies in other countries since Norway has a very high cost level. To what extent a breakaway from the grip of the oil economy will actually occur is still an open issue – for this part of the country as for the Norwegian economy in general.

While the six new network initiatives are the result of a process of diffusion, it is important to be aware of what is diffused, and in what way. One could imagine that what is diffused is a 'regional quality system' coupled to a need to form networks to be able to implement this system. Another possibility is that the object of diffusion is knowledge about networks, which will, in itself, motivate new actors to form networks. Neither knowledge about quality systems nor about networking is, however, at the heart of the diffusion process. At the heart is the impulse to form networks as such: the idea of joining forces to deal with challenges, whatever they are. This impulse generally has to be mediated through practical actors such as managers and union representatives from enterprises already involved in networking. When the impulse has taken root with new actors, and a movement towards the formation of a network is created, knowledge enters the scene. However, it does not enter the scene in the form of a 'package' to be delivered to the door of the new users, but in the form of the continued presence of the bearer of the knowledge, in this case Rogaland Research. As the process takes off and gains momentum, numerous challenges have to be met and the knowledge needed to deal with them is fed in gradually according to needs and circumstances. Research functions as an on-line resource and through contributions in real time.

The role as an 'inside network member' rather than 'external analyst' is not new nor is it specific to Rogaland Research, nor for that matter to other research groups participating in Value Creation 2010 in Norway. As emerges from several other contributions to this book we comprise a broader international trend. This trend does not simply reflect administrative adjustments within an otherwise unchanged research system. Rather, at its centre are major changes in the perception of how knowledge is to be gained and applied, in particular a break with the dualism between theory and practice, between thinking and doing, and between freedom and social relationships (Gustavsen 2001). This is not the context within which to pursue these issues further; it should be mentioned, however, that within the Norwegian context Rogaland Research is recognised as a pioneer in developing a research role consistent with the idea of 'doing from within' rather than, say, 'discussing from without'.

However, even the combination of an active, field oriented research organisation and a number of enterprises with the potential of benefiting from networking is generally not enough to create new networks, and in particular not to the ex-

tent needed to influence the regional economy as such. There is a need for a policy umbrella, or for what in Norway, as in Europe in general, is more and more often referred to as partnership.

When Enterprise Development 2000 was launched in the mid 1990s, it was in co-operation with the Norwegian Confederation of Business and Industry and the corresponding Confederation of Trade Unions. Both these organisations have regional offices, and the development of ED 2000 became strongly linked to the membership services offered through these offices. In this way the regional representatives of the social partners became linked to the programme, either in a steering or an advisory capacity. Sometimes contacts were established with other institutions with a regional representation, such as the State Fund for Economic and Regional Development, the labour market offices or the regional authorities themselves. Initially, these actors constituted more or less informal arenas where people met according to need and circumstance. During the last two years the government has, however, put more emphasis on the regional element in economic policy and given the regional authorities a more visible role. These authorities, for their part, are asked to form partnerships with other regional actors to find anchorage and diffusion channels for their initiatives. While most of the partnerships have so far been linked to the existing administrative regions, Rogaland and Hordaland have seen the emergence of a joint partnership. In this partnership the representatives of the labour market parties play a key role. Universities and other institutions of higher learning are also recognised as partners. Rogaland Research functions as secretariat for the partnership.

From the outset, the existence of such a partnership will increase the diffusion potential, even a prerequisite for diffusion. The choice to form a network arena and similar acts are not purely tactical responses to challenges in the market. To form and sustain a network demands resources, in particular in terms of time spent by key actors. For a network to really pay it needs to do far more than provide simple co-ordination of short and mid term processes. As demonstrated by the TESA network as well as the Sunnhordland network, there is an in-built tendency towards covering a continuously wider field of themes and issues. This means, however, that those actors that are to support the network have to deliver impulses over a wider and wider area. This in turn means that there will be limits to the role of each separate actor and a need to involve more actors. From this follows the need to identify and link a broad set of actors within and around each network. Each network must, over time, take on more and more the characteristics of an innovation system. 'Diffusion' consequently turns into a complex and long-term task of organisation. This task is in need of substantial resources, not only in terms of work capacity but also in terms of status, contacts and political pull. Reports,

talks, seminars and similar events can support innovation processes but cannot carry them (Ennals 2002).

The role of research

In ED 2000 the research efforts were concentrated on processes within each enterprise as well as on the interplay between the enterprises. The challenge was not only to offer relevant knowledge and other material for reflection and learning among the local actors, but to do it in the right context at the right time. Research, literally speaking, always has to feel the pulse of the process so as to know when to intervene and in what way. Representative as well as broad participation from the employees was emphasised. Common interests and challenges had to be mutually recognised through discussion and dialogue between the different interests and opinions expressed, both at the network and company level. Research played an important part in arranging these dialogues and discussions. In addition, research played an important part in the translation of international management concepts into local language and workable arrangements according to local culture and traditions.

In VC 2010 the partnership dimension has entered the scene much more strongly. Creating a partnership can be seen as a way of conducting action research related to community development. A broad range of participants from the two regions had to be addressed. Dialogues had to be established to create an overlapping consensus (Rawls 1987). Regarding the tasks and activities to be covered by the partnership, commitment and trust had to be built. As different participants in the partnership have pointed out on several occasions, the role of research was crucial in the process of creating the necessary trust and commitment between these different actors. Researchers engaged themselves both directly and enthusiastically in the process of initiating the partnership, mostly through an active role in arranging and participating in dialogue and discussion concerning the possibility of creating this partnership. At the same time action research aimed to play a neutral role as a facilitator and a catalyst, regardless of the different opinions and interests involved.

An important task for action research was also to build a common understanding of how to actually involve the actors, resources, research and higher education in real life change processes in enterprises and networks. While these are the actors that the partnership has to rely on to turn its goals into a reality, most of these actors had little or no experience in co-operating with each other, nor with forming networks nor of other ways of making up elements in a regional development.

In this context, Rogaland Research played a mediating role. Through ED 2000 Rogaland Research had developed its own ability to perform; it had become ac-

customed to working in close contact with practical actors, to understand their problems and their language; it had developed a certain degree of trust that could be used to further develop existing relationships or create new ones; it had developed a stock of knowledge that could be brought to bear on new situations and make research able to answer questions about what to do; being a 'third party' at enterprise and network level, it had provided research with the competence to function as a third party in other relationships characterised by differences of interest.

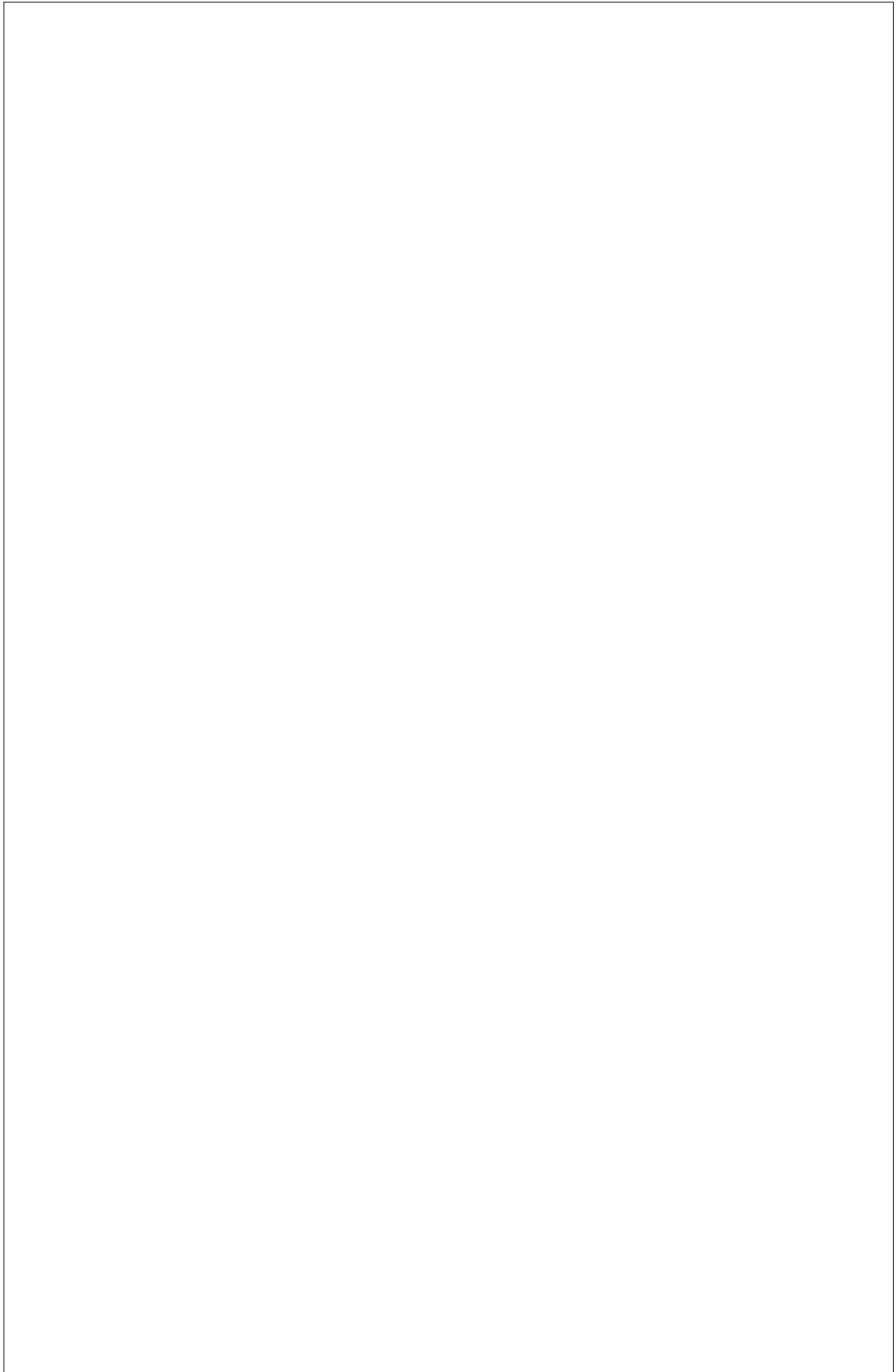
Along with the emergence of ED 2000 there was a growth in mutual trust and confidence between the actors involved. A certain element of trust is a prerequisite for any network collaboration and collaborative activities between research and industry. It contributes to a stock of legitimacy between the actors that can be used for the purpose of creating further development. This element of trust and legitimacy was an important outcome of the efforts in ED 2000, reflected in the continued development of the activities in this region.

The role of research is primarily one of social construction, where the main challenge is to create a new and innovative culture on a broad front – a learning region (Asheim 1996) – rather than to master and implement one specific set of techniques and approaches. The traditional debates within action research concerning various forms of collaboration, inquiries and other specific forms of work are not unimportant but they are not at the core (Greenwood 2002). Any method, any form of work, must always be used in a way that is sensitive to the context and makes it appear as a natural contribution to a series of ongoing events and discourses. Research is primarily a general resource, to be used as challenges appear and have to be dealt with. Research becomes a permanent element within 'the learning region' to move and change with the overall streams of events.

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Planning from without or developing from within?

Collaboration across the frontiers of Health Care

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Tony Huzzard

Introduction

This chapter highlights the unfolding of a development coalition over a two-year period in a Regional Health Authority in southwest Sweden. An account is given of a health development coalition designed to generate change and development in the organisation of health care activities. A central aspect of this coalition coming into being was the setting up of the West Skaraborg Health Project based on the Lidköping Hospital, the primary care providers in its vicinity, together with the six local authorities comprising the area served by the hospital in concert with a local research and development institute. Our aim in the chapter is to focus on the initial phase of the development project that has set up the coalition. The uniqueness of the scope and ambition of the project is such that it can be seen as a good example of innovative practice in the Swedish health care sector.

At the time of writing, however, the project was at an early stage and thus no overall evaluation can be presented here. Rather, we explore the motivation behind the project, its conceptual underpinnings, various project management issues, the role of research – as well as provide a short account of the initial development activities. Although any early reflections from the project are necessarily tentative, we nevertheless conclude that the participative approach adopted appears to have generated a considerably higher degree of commitment and motivation amongst stakeholders than previous change efforts.

The project, in its (wide) context, offers reflections of interest both to practitioners and the action research community. The aim of the project was to develop health care such that acute care would become the core activity of the hospital with routine care being transferred to the primary care providers and local authorities.

In such a way, care delivery would be closer to the patients, who would face fewer referrals and thus receive a higher standard of provision.

But changing the content was not the only issue at stake – also of interest was the way the processes of change were organised. The people in the coalition recognised the importance of creating a dialogue about what they wanted to achieve through developmental work and the best means of conducting it. A decision was therefore made that different development groups would participate in each other's discourses. Different development processes should be linked and that required a new set of social relationships encompassing a broad catchment area of participants.

The main vision of the regional health development coalition was that it would result in better care from the consumer's (patient's) perspective and needs. It would also lead to improvements in the work organisation and working environments of councils and the regional health authority through close working arrangements across traditional health care boundaries. In the macro sense it also aimed at increased value creation for West Skaraborg in the process of development and care. The realisation of such a vision clearly required new forms of working and inter-level co-operation – and this in turn required organisational change by the care providers and support services.

The approach to change and development processes drew its theoretical inspiration from action research based on inter-organisational learning and development through social constructionism, dialogue and pragmatism (Gustavsen 1992; Gergen & Thatchenkerry 1996). Knowledge, seen as shared understanding generated by developmental action (Ford & Ogilvie 1996; Huzzard 2000; Ekman Philips 2002), concerns both procedural knowledge of the process of creating developmental change and declarative knowledge of the content of health care provision and thus improvements from the perspective of the patient. Put simply, not only is there a focus on the content of the solutions, there is also a focus on how to organise the process of change.

The term 'patient at the centre' has become a central principle in health care management. But although this indeed may have an attractive ring to it, to be more than a mere slogan it requires to be underpinned by social relationships and knowledge of practical attempts to put it into practice. Equally, the matter of new organisational development processes in health care is of considerable interest to researchers in both the care sciences and those in organisation studies engaged in mapping out and conceptualising developmental dynamics in a large, trans-organisational context (Ennals & Gustavsen 1999; Clarke 2002; Ekman Philips, forthcoming). Our overall research questions can be succinctly stated as follows: "What are the requirements and demands of a collaborative health care system? And how can a strategy for development based on participation and creation of

social relationships form an alternative way of organising development processes and development tasks within health care?”

The main contribution to research is intended to be an empirically grounded relationship model for development and the provision of general knowledge about health care development processes based on local experiences in a larger societal context. Treatment of these broader aims, however, is beyond the scope of the chapter. Empirically, the chapter focuses on the setting-up of the development coalition and the activities arising from the first of three dialogue conferences (Shotter & Gustavsen 1999). Clearly, a key aim of the project was to secure as broad a range of participation and dialogue in the project as possible from the various stakeholders with an interest in its outcome. The securing of such participation and a shared commitment to the project's goals could be seen as a major prerequisite of making developmental change possible; yet just as in organisations elsewhere (Mirvis & Berg 1977; Argyris 1998), such broad-based commitment in health care has historically been extremely difficult to bring about in practice. Dialogue within the project is thus seen as the key to developmental change. This is wide-ranging and participative, including not only key actors from the front-line care professions but also administrators, local politicians and local pressure groups.

The background to change in the health care sector

By the 1990s in Sweden, the national health vision and discourse was to develop a care system where the patient/consumer was at the centre. At the same time, there was growing realisation of the need to change work organisation, of the need to collaborate both along the chain of functions and specialists, between care providers and consumers, and between administrators and politicians. These national sentiments suggested an increasing need to establish co-operation between the various care providers in the form of ‘patient pathways’ (see below) both at the local and the regional level. Moreover, patient demand for equal access to quality care across the country implied national standards (SOU 1999:66).

In other words, the sector has to be co-ordinated according to national standards yet at the same time adapted to a local context. This means a need both for vertical communication and horizontal integration between care providers, professional groups and so on. This demand for new forms of organising work and co-operation suggested the need for actors to take on board the perspectives of others as well as inter-organisational interaction and learning. New forms of organising were required in the form of innovation systems that firstly highlighted the significance of relationships (Brown & Duguid 1991; Shotter & Gustavsen

1999; Ekman Philips 2002) and secondly the significance of learning (Stein 1996; Huzzard 2000).

A key change driver in the health sector is thus the belief of politicians that the interests of the key stakeholder group – the patients – have not always been the central concern of health care administration. A key strategy document drawn up in the early phase of the West Skaraborg Project pointed out that the injuries or diseases of patients were very often the point of departure rather than the patients themselves. Many patients wanted greater participation in and influence over their treatment (Bäck-Pettersson & Söderström 2001). Moreover, patients were living longer, had higher expectations of the health service and technological developments were ongoing. All these factors were putting pressures on resources suggesting the need for greater efficiency. In practical terms this meant better co-ordination and co-operation between the various care providers and a more integrated view of care provision that eliminated unnecessary duplication and called for more simultaneous provision of care in time and space. Thus care should be closer to the patients, better contact was needed between patients and care providers and a greater role was necessary for primary care centres in the provision of the non-acute treatment that was hitherto the preserve of the hospital (Västra Götalandsregionen 2001).

It is well established from previous research that a critical aspect of successful developmental change is that it is concept-driven (Gustavsen et al. 1996). The key concept around which much of the early discussion took place in the West Skaraborg Health Project was the 'patient pathway'. Such a concept was coined in recognition that information exchange and co-operation had often worked poorly across both organisational and professional boundaries. Typically, patients would be referred from one care department to another without any connection between the departments or consistency of treatment. For example, a patient could be referred from primary care to a specialist and then to a laboratory for tests and then back to the specialist and then onward to an x-ray department. Due to resource problems, in-patients have increasingly been discharged from the hospital for further care at the primary and local authority levels, only to find inadequate care due to lack of communication between the different levels of care. Accordingly, referrals occur separately in time and space, as dictated by the needs of the health care bureaucracy. This inevitably leads to communication shortcomings, prolonged waiting times as well as difficulties for health care employees.

The idea of the patient pathway is to reorganise health care activities starting with the needs of the patients rather than those of the system. Moreover, it seeks to satisfy the demands of health personnel for a better working environment through participation, collaboration across boundaries and more autonomy in the labour process (Trägårdh & Lindberg 2002). As with process approaches to change in

industry, the idea of the patient pathway seeks to end the division of health care into separate functions so as to refocus away from adding value to the provider at each stage of delivery and towards a view where added value is seen from the perspective of the patient. In such a model of health care, both highly specialised care and other care activities are integrated in a patient-centred network.

Accordingly, a multiple-perspective approach was called for that put the interaction between patients and staff at the centre and saw care activities integrated into a single processual whole. Such an approach was clearly a radical departure from the current reality in hospitals characterised by a managerial logic that is driven by considerations of 'organisation-out' rather than those of 'patient-in'. The patient pathway as a concept is not unambiguous; rather, it has different meanings although it is clearly related semantically to process orientation. This organisational ideal assumes that members work to secure cost efficiency, become actively collaborative across traditional boundaries, increase quality in health care as well as become customer-focused. On the other hand, its usage in the project should not be seen as a hard model of process organisation for top-down implementation; rather, it should be seen in softer terms as a linguistic and cognitive tool for helping to develop new perspectives on health care from within through processes of local dialogue (Trägårdh & Lindberg 2002).

At the systems level, health care can be seen as a number of patient pathways, and health care management can be seen as managing the interaction between them. In West Skaraborg this management task needed to be undertaken from three distinct organisational perspectives: the hospital, the primary care sector and that of the local authorities. Each of these was deemed to require not only to embrace patient pathways and the principle of 'patient at the centre', but also better collaboration with each other. Patient-centred care required ongoing interaction between the patient and care providers. Yet those close to patients, particularly relatives, were also actors with key inputs into care processes. Finally, collaboration between the three levels of care – primary care units, the Lidköping Hospital and six local authorities – was deemed of crucial significance in the realisation of the new health care vision. Although the patient pathway sought to minimise the separation of service delivery in time and space that characterised the traditional health care model, the actor interaction described here necessarily had to have a dynamic character that took into account patient needs from the onset of disease or injury through to discharge. The precise way in which each of these aspects is related is depicted in Figure 1.

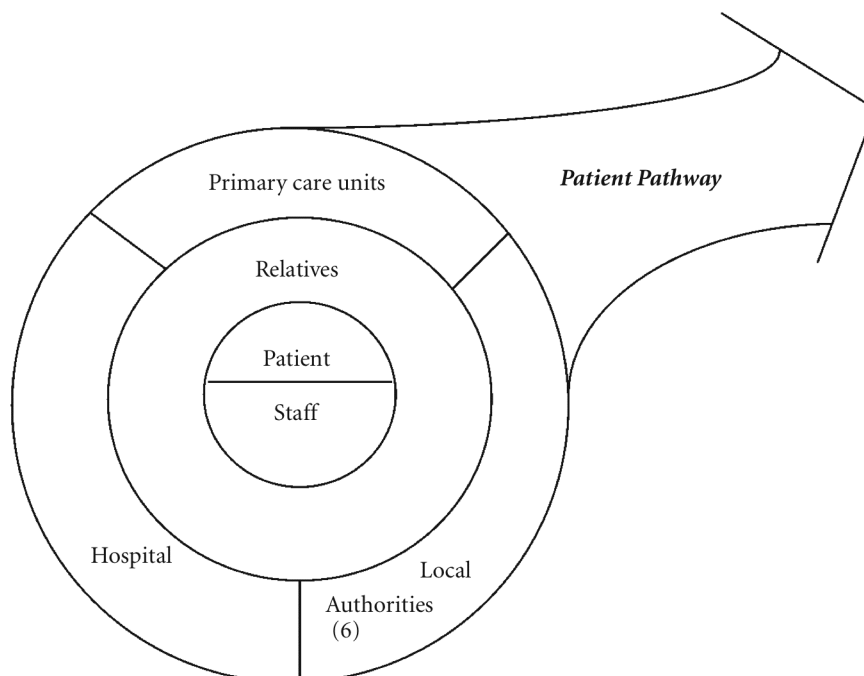


Figure 1. The patient pathway in West Skaraborg

The project

History and duration

The health development process started when the Board of Health of West Götaland (HHS) on 8th June 2000 made a decision on the future of the management of health care at the Skaraborg Hospital (SkaS). HHS, SkaS and the Lidköping local authority agreed to compile a report setting out the needs for the future health care and social services in the Lidköping area based on the perspectives of five key stakeholder groups. These were:

- Patients
- The population (in its widest sense)
- The region/local community
- Production (care management, ie patient pathways between local authority social services, primary care and hospitals)
- Co-workers (employees in the local authority, primary care and hospitals)

The tasks of the project were to:

- establish a regional platform for reflection, policy analysis, planning and action on important questions for future health care development where different actors including researchers could collaborate;
- describe the contents of the health care system, define the requirements and demands of the population and resources required for such a broad-based collaborative type of health care development process with the consumer (patient) perspectives and needs at the centre;
- establish a relationship-oriented strategy for the development of future health care;
- open dialogue between all actors concerned in order to plan a new health care system.

The Project would cover the geographical area comprising of most of West Skaraborg. This consisted of six local authority areas – Lidköping (population 36,802), Skara (population 18,305), Vara (population 16,044), Götene (population 13,016), Grästorp (population 5,924) and Essunga (population 5,835).¹ This is not a formal administrative area, but it has a common collaborative interest in creating a future health development region with Linköping Hospital as the 'district/regional' hospital for the area.

The initial phase of the project concerned the arranging of a regional dialogue conference and subsequent development activities in project groups (learning networks) lasting for a first period of one year and continuing for a further two years. But genuine change in West Skaraborg clearly needed a longer timeframe. Hence the research team saw the need not only for an initial conference, but also subsequent conferences for follow-up and evaluation. These would enable the networks to retain a total view of the development process, exploit synergies and identify emergent themes. The design of the conferences and networks underscored the idea that the project concerned co-operation across organisational boundaries. It was envisaged ex-ante that this insight would be a critical success factor in the creation of a new health care organisation and require the actors to act consistently in both internal and external arenas. The protracted period required for anchorage of all key stakeholders underscored the need for wide involvement to acquire the necessary legitimacy and shared commitment to make the project work. Participation and shared values would naturally remain the foundation principles in the future work of the project.

Research collaboration

The Project was not, however, the first attempt of the region to implement major organisational change: previous efforts had met the type of resistance only too familiar to organisational researchers (Argyris 1998). For example, one of

the West Skaraborg project networks, dealing with intermediate care, referred to a previous project that sought better inter-organisational collaboration. SOSAN, funded by central government and lasting for six years, had come up with tentative lessons, but no real solutions, largely because of entrenched organisational boundaries. On a more general level in the region, a view volunteered to us by a trade union representative on previous change efforts, was illustrative of the perceived problem:

We're very tired with change activities. We never get time to see what the organisational flow process looks like – and who does what. There are too many middle managers!

Whilst such a view may not necessarily be shared by all actors involved, it does nevertheless demonstrate the degree of mistrust about change that the project sought to overcome.

Accordingly, the region approached the Skaraborg Institute for Research and Development to assist in the development process by contributing research expertise in order to avoid the previously experienced difficulties in implementing change. The aim thereby became that of linking research and development. The Skaraborg Institute was established some ten years ago as a Foundation with a mandate to build research capacity within health care in the former Skaraborgs County District. The Skaraborg Institute was thus requested to present proposals on how research could support the Project's development processes, a task that required further collaboration with the National Institute for Working Life in Stockholm.

Towards the end of the 1990s, the Skaraborg Institute identified action research as an appropriate approach in health development generally, especially in the task of building research capacity in the Skaraborg County Administration Board. Action research thus became a part of other research strategies at the institute. As a research strategy, action research has in the past been used within a number of disciplines (see Toulmin & Gustavsen 1996; Eikeland & Finsrud 1995; Reason & Bradbury 2001). Moreover, the so-called third task of universities has led to intensive discussions on the role of academic research, its practical relevance and its contribution to society (Brulin 2001).

As stated in the introduction, the West Skaraborg Project can be described as a 'development coalition' (Ennals & Gustavsen 1999; Gustavsen et al. 2001b; Ekman Philips, forthcoming). Links were established between researchers and the leading actors in the health care sector in the region, and these links helped bind the various discussions together. Policy makers directly exchanged experiences with operational level actors. In such a context, the research team working on the project comprised just one group of actors amongst many. The researchers had no

‘better truth’ than any other participants in the dialogue, but did have specialist competences in organisation theory and local development methodologies, and thereby contributed with strategies for the process of change.

The research role was to demonstrate that there are choices in how we organise work by systematising the experiential reflections of the participants and contributing to joint knowledge creation from practice. This, however, required the researchers to be integrated into the development structures and processes. A research group was accordingly formed comprising researchers from both the National Institute for Working Life and the Skaraborg Institute. This group also co-opted practitioners from the various care sectors as sources of knowledge on the actual activities as they are situated locally. Such a structure enabled the ongoing interplay of theoretical and practical knowledge throughout the project.

The process of knowledge production was characterised by its transdisciplinary, non-hierarchical and heterogeneously organised forms. This type of socially distributed knowledge (Gibbons 1994) enables a broad range of different actors to take a more active role in the creation, in this specific case, of future health care. Knowledge seen as social and contextually bounded has a greater impact on the social relations between the participants than knowledge brought in by outside ‘experts’. This, moreover, facilitates a higher level of collaborative partnership in the development activities.

The setting up of the project and the vision informed by it represented a major challenge to the various stakeholders. New ways of working along the lines envisaged certainly implied a change in the way that those involved saw the provision of health care, as well as their roles in its practices. Such disruption in their existing routines and subjectivities can clearly be seen as an ‘occasion for sense-making’ (Weick 1995). Considerable equivocality was discernible in relation to the new structures envisaged within the policy document of the Region. Moreover, both the nature of this sensemaking and its processual linkages with processes of organisational learning (Huzzard 2000) appeared to lend themselves as interesting topics of research enquiry on a relatively unexplored topic at the inter-organisational level or, to be more precise, the topic of sensemaking and learning within a network of networks.

Project funding

As to funding, the initial activities were largely funded by the organisations taking part in the project. Specifically, the hospital, local authorities and primary care providers financed the working hours of the project participants, the networking activities, travel and training. The National Institute for Working Life and the Skaraborg Institute financed researchers and some training activities. In addition,

the links with the National Institute for Working Life enabled the project to draw on the resources of an EU fifth framework project, Innoflex, that aimed at identifying the conditions for convergence between organisational performance and the quality of working life. A key empirical component of Innoflex was that of inter-organisational learning networks – a method identical to that adopted in West Skaraborg. Innoflex accordingly provided funding for the first dialogue conference, travel costs for the Stockholm based researchers as well as an opportunity for international networking on health development issues. Further support was subsequently sought from various funding agencies within Sweden to enable the development coalition to continue its work for a two-year period after the Innoflex Project had finished.

The vision and process of patient involvement

The concept of patient at the centre has, as indicated earlier, been in use in the public discourse on health care and health care development. A further theme of the development process then was that of greater patient involvement in health care. This principle lay at the very core of the patient pathway. However, rather than launch into the change process with any preconceived ideas about how this was to be achieved, and moreover, given that the project groups and networks had a task of finding a sense of how to reorganise beyond the established boundaries, the project initially sought to involve patients in the dialogue of the project itself.

In the pre-project phase of strategy formulation, prior to researcher engagement, such dialogue was undertaken with patient associations, groups of people with disabilities and pensioner groups by means of a specially designed 'opinion card' that enabled patients to put forward views and opinions in a structured form. Moreover, opinions were encouraged in a special form included in a local newspaper advertisement: around 100 replies were received. This pre-project investigation indicated strongly that patients sought accessibility and close proximity to health care. Moreover, it underlined the need for better collaboration both between the care providing organisations and between personnel categories (Västra Götalandsregionen 2001).

The principle of patient involvement was subsequently carried forward into the project itself. This included being explicitly included in the development coalition as well as being invited to the dialogue conferences (see later section). The patient groups, including pensioners and people with disabilities, were subsequently encouraged to join the various networks undertaking the developmental activities by acting as resource persons; in particular this involved giving a patient perspective on the various ideas generated and their testing in practice. Other developments have become evident with some networks increasingly looking for

ways to enhance patient involvement. An example of this is the Palliative Care Network which, several months into the project, conducted focus group discussions with different stakeholders including relatives of the patients. In other project groups/networks, discussion continues on how to increase patient involvement.

Project vision: Health care from an innovation perspective

The idea that management of activities in the health care sector can be seen as an innovation system is based on a number of premises. When innovations are mentioned in a health care context, these have often concerned various medical and/or technological discoveries and inventions (Grimshaw & Russell 1993); they are not usually considered in relation to how health care is organised. But in health care, as in working life in general, we can see the emergence of complex patterns of production and co-operation where boundaries are constantly dissolved, reformed and re-established in new formats about which we still do not have concepts. These 'hybrids' often comprise the core of what has come to be known as innovation systems (see, e.g., Edquist 1997; Lundvall 1992). Our view of innovations has mutated to make a stronger focus on improvements in small steps over a long period with many actors involved rather than major steps taken by a limited number of actors.

A further aspect of current change is a tendency for health care to become increasingly patient-focused. This suggests an increasing need to establish co-operation between the various care providers in the form of patient pathways. Moreover, patient demand for equal access to quality care across Sweden implies national standards, which in turn implies changes in structures of communication entailing closer and more intense social relationships as a basis for generating innovative practice. New forms of organising are thus required that highlight firstly the significance of relationships and secondly the significance of learning. For example, a new work organisation does not automatically lead to increased quality and effectiveness. A new form of work organisation needs to be connected to a development process that results in a new health care delivery system in line with strategic objectives. 'Work organisation' is not just a theoretical concept, but also has practical meaning: it consists of people who have knowledge, feelings and creativity etc. Change in work organisation therefore requires a process whereby its individuals can construct development on the basis of their own experience and understanding of the local conditions.

Although a national consensus appeared to exist on the need to move to patient-centred care, no consensus existed on how to do it, not least on the implications for work organisation. Here it is useful to discuss two contrasting approaches to changes in work organisation. Firstly we can talk about a regulative approach whereby change occurs linearly in response to regulations of various

forms prescribed 'from above' in line with a planning philosophy. This clearly separates conception from execution and emphasises bureaucratic efficiency rather than innovation. Alternatively, we can talk about a generative approach whereby change is more emergent and is generated internally by the actors themselves from within the boundaries of the work system in which they are employed. The existing work organisation in the Regional Health Authority presupposed the former of these approaches, yet the adoption of an innovation perspective clearly required a work organisation that facilitated generative change. The challenge was that of designing change processes and learning mechanisms based on principles of respect for difference, arranged dialogue, and preparedness to listen that promoted all participants to work together in a non-aggressive way.

An innovation perspective on the organising of health care implies a stronger acknowledgement that each discrete operational entity develops its own solutions arising from its own conditions. A well-functioning organisation can, using this approach, neither develop through directly emulating others nor be managed on a day-to-day basis by means of taking on board examples of organising from others. Good examples of solutions can, however, be a fruitful source of inspiration but they need to be translated into practice by those who are to use them. Each process of improvement or social innovation is critically dependant on local conditions and on how those involved create meaning and understanding together through commitment and participation. Without broad-based local participation, there can be no innovation. Social innovations are not built in isolation, but through relationships. Broad participation is required by all actors involved in the development process. This includes managers, workers, unions and others. Ideas and solutions can be formed through a web of relationships that extend across a broad area of competences.

Development and the upgrading of learning capacity from within rather than being prescribed by 'experts' from without activate individual involvement in the ongoing developmental activities and it is the decisive ingredient of successful development. The classic idea of representation is displaced by the idea of people actively participating because they have something to contribute in an actual situation (see Shotter & Gustavsen 1999).

The belief that there is a universal solution to organisational problems or that there is a single process that suits all situations has been abandoned in favour of local solutions for specific situations. Organisations consist of people – their competencies, abilities and shortcomings. How people combine their resources, learn from their shared experiences to improve service delivery is a decisive determinant of organisational outcomes. Modern forms of work organisation expose people to unique situations. For example, in health care there is seldom any exact approach for the execution of a work task; rather, each situation requires its own considera-

tion and judgement. In other words, the organisation of work is by nature reflexive, that is, it changes as new reflections are made. There is no 'right way', but rather a 'best way' here and now for the parties involved; quality in health care is dependent on the quality of the dialogue of the participants. The need for adequate communication structures that facilitate such dialogue on task execution is thus of fundamental importance.

Finally, diffusion of 'good' health care models is insufficient. But good examples can inspire us by posing questions generated through such examples and reflecting on our own experiences of working with them. New knowledge is thereby created in interactive activities. Models cannot be applied in an 'off-the-shelf' manner, but learning can occur through reflection on how others have used them (Gustavsen et al. 2001a). Nevertheless, experiences need to be 'translated' to the contextual specificity of a new situation (Czarniawska & Sévon 1996).

The role of action research

The future health care development project in West Skaraborg based on a 'regional development coalition' concept is fairly unique in the health care sector in Sweden (Ekman Philips, forthcoming). As far as we know the concept has not been tried in a region on a large scale before. By establishing a development coalition with different actors, we aim to develop innovative processes of development and create platforms to integrate research, development and education thus enabling various professional and occupational categories to obtain knowledge from outside their own fields. Staff working in the hospital, for example, will create a platform to engage in discussions on various societal issues and consumer interests thus shaping health care in new directions. In this way research and development will go hand in hand.

The researcher role also involves supporting learning, new thinking and knowledge creation thus developing an alternative to the established planning strategy model for development (Svensson & von Otter 2000). Moreover, a key topic for enquiry is whether a relationship-oriented strategy can create a greater degree of co-operation and participation from the organisations taking part in health care processes. Research has contributed with methods such as dialogue conferences (Gustavsen 1992), network co-operation (Gustavsen 1998), and the establishment of development organisations (Engelstad 1996; Pålshaugen 1991) and development coalitions in regional development (Gustavsen et al. 1998) to create 'dynamic situations' which would otherwise not take place. The aim of action research in this project is to elaborate further with these concepts in the context of the area West Skaraborg. The research approach can be described as low-intensity intervention across a broad front (see Ekman Philips, forthcoming).

When the focus is on relationship creation and learning among a broad range of actors, an understanding of the development activities and processes cannot be based on deep enquiries into single cases. The contact with the actors and participating organisations necessarily has to be of a lower intensity. Moreover, closer documentation of what seems to be going on in the different development processes is not just a matter of interest to the researcher, but is also of interest to practitioners themselves, perhaps even more so. In this case a decision was taken to provide research support for the work groups and networks for them to write and document themselves their experiences of the development process in their own words. Such documentation, based on continuous collective reflections and writings, would provide the starting point for different action alternatives (see discussion associated with Figure 3 in later section) (Ekman Philips 2002; Reason & Torbert 2001).

The organisation of the development coalition

The project started through a series of discussions and a dialogue conference to mobilise the perspectives, opinions and visions of the central target groups that would contribute to the development process in specifically prioritised areas. Eight work groups or networks that cut across the organisations and dealt with issues that concerned all the participating organisations were prioritised. The intention was to develop health care processes based on co-operation between different groups and networks around the needs of the patient.

For over a year prior to the first dialogue conference, members of the research team had intensive discussions with various representatives including those on the Board of Health who were involved in the initial needs analysis and report writing. Further discussions were held with representatives of the hospital, primary health care providers and the local authorities. Finally, discussions were held with the (still tentative) learning networks (project groups). These discussions focused on the proposed development process based on a dialogical approach in the form of a development coalition, the role of the dialogue conference, the use of networks as well as the project's connection with activities being undertaken by the European Innoflex Network. A central theme of discussion was how the gap can be bridged in the development activities between what is said is to be done and what in fact is done. The focus of the discussions was on how to organise the process of work and the development tasks and how meanings are created through the use of words (Shotter 1993).

The project was organised around the following structures:

- An administrative committee comprising the region's Director of Primary Care, the Director, Lidköping Hospital and The Chief Executive, Lidköping Council.
- Working groups formed from personnel from the care sections of the Council's Social Services Department, primary care and hospitals.
- A special group comprising unions and patient organisation representatives.
- A political co-operation group comprising representatives from HHS, the West Götaland Regional Health Board, the Executive Board for SkaS, Lidköping Council and neighbouring local authorities.
- The research team.

Together, these actors comprised the development coalition: this is depicted graphically in Figure 2.

The first dialogue conference

The dialogue conference, originally intended to take place in April 2002, was finally held on 17th September 2002. It became clear from an early stage of the research engagement with the field that leading practitioners within the health authority and politicians that broad anchorage was necessary with all actor groups who had an interest in the change process. As well as the politicians and the hospital, local authority and primary care leaders, this also included patient groups, disability groups, pensioner groups, the trade unions and of course the medical practitioners taking part in the network activity. Broadly, those invited to the first dialogue conference comprised representatives from these various stakeholder groups.

Around 75 people attended the conference which was organised into three stages of group work taking up themes of (a) clarifying a care vision, (b) assessing possibilities for realising the vision and (c) drawing up plans of action. The participation in each of these varied: the groups composed for the first theme comprised participants from different organisations but with similar roles; the groups for the second theme comprised participants from different organisations and different roles; and the groups composed for the third theme comprised participants from the prospective learning networks. The learning networks were set up to cover the following themes:

- Dischargeable Patients Units
- Palliative Care Units
- Örjan Project (change project on patient pathways already underway)
- Intermediate Care Units
- Rehabilitation Units
- Personnel Departments

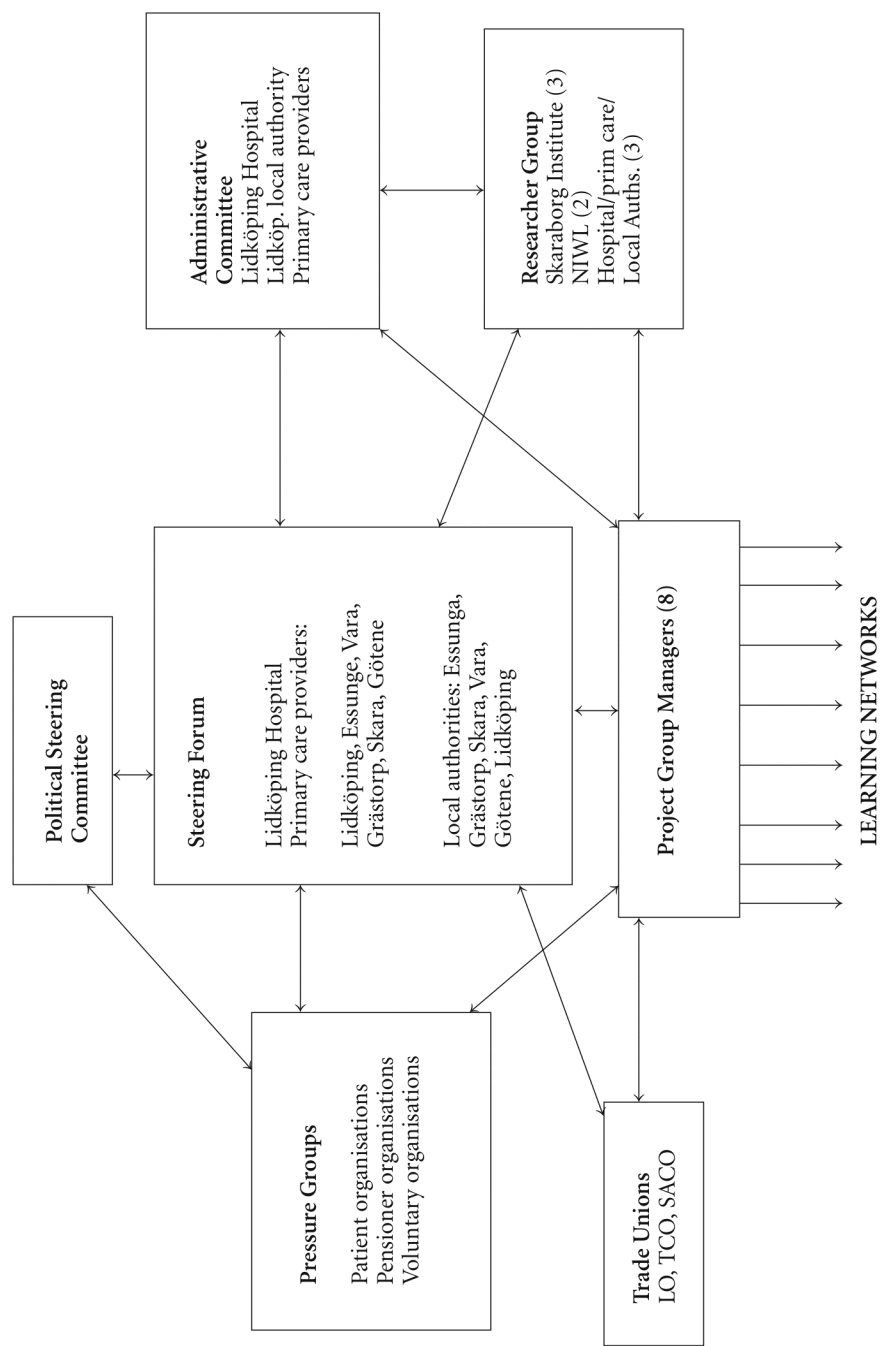


Figure 2. The Development coalition in the Health Care Development Project

- Health Care Information Departments
- Psychiatric units

The final section of the conference, focusing on plans for future action, thus comprised the eight learning networks in embryonic form. Each of these discussed the specific developmental activities with which they would engage. These were as follows:

Dischargeable Patients Units – working on an overarching plan for improving the path of patients from the hospital to primary care and local authority social services.

Palliative Care – working on means for increased security for patients through joint care planning between care providers with patient and close-relative participation. Designing joint training courses and discussion forums for personnel working within the project's area.

Örjan Project – working on mapping out the patient pathway for older patients and focusing on the transitions between the various care providers to improve the pathway.

Intermediate Care – working on mapping out the need for intermediate care that could be operated in co-operation with other care providers.

Rehabilitation – working on developing proposals for collaborative solutions across organisational boundaries and involving the local social insurance offices.

Personnel Departments – working on proposals for trainee appointments where employees could work in different occupational activities across organisational boundaries. The aim was to make greater usage of individual competences and encourage annual auscultations for other care providers. A first step was to advertise for holiday relief staff in preparation for summer 2003.

Health Care Information Departments – working on providing better communication through both existing and new channels within, between and outside the organisations. The key was dialogue between care providers and the population.

Psychiatric care – working on finding ways for reducing the fear of public authorities amongst the psychically ill through improved responsiveness and bringing about greater trust in the health service.

Developmental activities in the learning networks

Following the first dialogue conference, representatives from each of the three levels participated in learning networks. Moreover, politicians and representatives from the pressure groups were encouraged to join the networks with a view to

acting as support resources. The networks (project groups) continued to discuss and define their roles and activities. The interaction with the research team, moreover, continued with the project network and the administrative committee. Some guidelines regarding documentation of the process within the networks by the network participants themselves, discussing with others etc., were drawn up by the research team, discussed with the networks and anchored in the administrative committee. The purpose of these guidelines was primarily to provide a mechanism for reflection and learning from each other amongst the network members and the research team. Clearly, the documented accounts would thus be in the form of first person narratives that gave voice to the project participants rather than privileging the voice of the research team. The guidelines also assisted the research team, however, in that their clear structure facilitated a standardisation of the empirical data capture from the networking activities. The guidelines are set out in Figure 3.

At the time of writing, the process had only just begun and no evaluation had been made. The process was nevertheless different from other models of organisational change that the actors had been involved in previously. The 'from within' approach of the current initiative has been appreciated by those participating in the project. There is, however, a certain degree of fatigue and scepticism reported by the staff members from the different organisations about organisational changes. Too many previous change processes had been carried out from above by 'experts' and imposed on people at local workplaces without any real possibilities for participation. The project described here is, however, challenging as many participants have started to realise that these types of change processes may require a fundamental change in the way they do and see things. The learning process has both cognitive and behavioural dimensions (Fiol & Lyles 1985). Given the major obstacle of overcoming the mistrust of change from previous initiatives, we can add that there is clearly an emotional dimension to the learning process as well (Vince 2002).

Decisions on the timing for assessing outcomes of organisational processes are usually arbitrary to some extent. Nevertheless, some positive developments had become evident at the time of writing. During a meeting involving project leaders, leaders group and the research team, one project leader said:

It is difficult to get a focus as the area is just too broad... more openness has however been created (Psychiatric group).

During another meeting, when the issue of outcomes was discussed, there was obvious pressure on the project groups to give an account to the politicians containing tangible results. One group leader (the Örjan Project) was quite clear about

Figure 3. Guidelines for network documentation of project activities

Figure 27. Guidelines for network documentation of project activities.		
General background data	Project name Project leader Project participants including contacts, reference personnel etc. Operating units covered, activities, locations Patient groups/pathways Base data on participating health care units: – Number of employees – Professions – Gender division – Organisational overview	This can be seen as a very brief project summary.
History	Have organisational change activities been undertaken previously? Examples of larger projects: What forms of working have you had? – Project groups, quality groups, networks etc. Where have the initiatives for these come from?	We are interested in earlier experiences of organisational development work and how the issues have been handled. This will allow us to compare the current activities with those previously. Is this an innovative project in terms of renewal and change?
Direction, logic, ideas	The project's background and aims	Describe how the project has come about, why it was initiated (development needs), what you think it will lead to (the vision).
Project organisation	Manning Groups Allocation of responsibilities, competencies, anchorage	Describe how the development activities are structured and who is participating in each.
Development activities	Approach, strategy Actions Costs	Describe how you work, i.e. the process e.g. – ongoing project work – specific activities/areas – anchorage – networking – study visits and exchange of experience visits – follow-up – reflection, learning, diffusion.
Effects, experiences conclusions	In the operational units For patients/relatives For staff	Link back to the 'aims' and try to make brief reflections on what has happened. Discuss also the project. Describe critical events. It is important not just to describe the result in terms of health outcomes but also the development process.
	Co-operation within the whole West Skaraborg Health Project	Reflect on your participation in the West Skaraborg Health Project and co-operation with other participating groups/networks.

the results – suggesting it was not possible to make progress with an idea of just one type of result.

In other meetings, interaction between the project groups had taken a supportive turn, with different groups starting to see how they could link with others. For example, at a meeting several months after the dialogue conference, the Intermediate Care group (network) explained how it was planning to work with Örjan. About the same time, there also seemed to be a move from just discussing

the problems to seeing possibilities of how the groups could move forward and over whom and where to exert influence – as was the case when the Rehabilitation Group was given advice by the other groups during a meeting. The Rehabilitation Group also took the initiative to organise its own dialogue conference as an instrument for extending further the scope of its activities to individual workplaces. In yet another meeting, serious discussions were held between the Rehabilitation Group and three hospital-based physiotherapists on how to improve information on patients discharged early as a policy of improving the quality of care.

In addition to the groups itemised here, the leaders of each project group/network have a regular forum for meeting each other, exchanging experiences and developing ideas. This inter-network forum can be seen as a meta-level network across the project. Moreover, a number of activities are proposed for future development work in the networks including the systematic integration of investigative work with project evaluation. Using a focus group methodology, evaluation groups comprising key stakeholders, for example patients, will also be set up to monitor change from their particular perspective. Such evaluation will enable the project research team to subsequently put together a unified account of change.

Concluding reflections

In general, two critical success factors have been identified in previous research as being central to health development projects (Ekman Philips 2002): increased intensity in the contact between actors together with a change in health care practice comprising improvements and developments through local provision, close to the patients and in line with their care needs. With this in mind, the West Skaraborg Health Project has been designed to build a regional development coalition between health care stakeholders in the region, eight networks comprising the participant health employees together with the development activities at the various workplaces concerned. Clearly this is an ambitious approach. We cannot expect that relations which are both productive and dynamic and that involve so many people can be established over a short period. Nevertheless, during the relatively short time since the initially tentative discussions at the formation of the coalition some 18 months prior to the time of writing, many small results can be noted. Regional and local politicians have, for example, assumed a clearer degree of ownership of the development of patient-centred health care provision.

Previous attempts at change through regulative approaches led by experts from without had clearly not worked in West Skaraborg; indeed their lack of success was a key trigger for the new attempt at change outlined in this chapter. Although the initial responses to the project by the senior managers and politi-

cians were positive, there were inevitable expressions of scepticism and fatigue amongst many of the actors from the frontline care professions. Previous efforts had left their mark in the form of interpretive frames characterised by suspicion and mistrust. However, the galvanising effect of the first dialogue conference had led to a marked change of attitudes. A consensus on a vision for change, reached through dialogue and delegated responsibility for generating development from within, appeared to change fundamentally the frames through which the actors were making sense of the project (Weick 1995). At the time of writing, therefore, the necessary ingredients were in place for rich sensemaking within and across the frontiers of health care: the politicians and senior managers provided the cue for change through setting out a vision. The various stakeholders had adjusted their frames to adopt a positive disposition towards change, and the research team provided the connection between the cue and the frames by establishing dialogic structures to facilitate developmental activities and learning processes.

A number of other outcomes are also discernible. Managers of the various health care providers, namely the hospital, primary care units and local authorities, have also become clearer about their developmental roles in care activities. That these actors have come forward to give legitimacy to the change activities has been, from the frontline personnel's perspective in particular, a decisive factor in generating the will to invest in further development projects in the future. The 'wait and see' attitude detectable in many of the staff has been based on earlier experiences where change ambition has remained precisely as ambition – and not encompassing genuine change in practice.

Development projects in health care are easy to debunk today when relationships between different parties are weighed down by mistrust and where the preconditions for long-term co-operation between employees at different levels, professions and organisations are not sufficiently established. The prospects of the project succeeding thereby depend on creating belief in others and involving others in one's own practices. This is a task demanding perseverance not least that of accepting the differences that exist and seeing these as something other than obstacles and threats to one's own work activities.

In the network activity a 'coming together' of the participants has been discernible. From a tentative and uncertain start with doubts among the participants about what their real assignment was, the discussions began to cover what they saw that they could do together to develop health care. Some problems could be resolved directly whereas others required the involvement of all the personnel groups. The participants successively gave expression to an understanding that the 'project' was not in fact a project, but rather a living dialogue between workplaces to accomplish something new that was better than that it was replacing. Above all, the project sought to establish a new structure around the core idea

of patient-centred care and collaboration across organisational and professional frontiers. But it would be mistaken to envisage the desired goal or outcome of the project as a newly static form of organisation. Rather, such an outcome involves a new culture that promotes permanent dialogue across such frontiers dealing with new problems and expectations as they arise, long after the project reaches its natural finalisation. In this sense, the project can be seen as just the beginning of a journey without an end. On the other hand, the development coalition can be seen as a transitional organisational system for facilitating a new organisation whereby many components of the traditional structure may no longer be required on conclusion of the project.

Accordingly, this chapter is only the first account from what is envisaged as a prolonged engagement with the field. We nevertheless tentatively conclude from this initial report from the project that organisations seeking successful change at the systems level have greater prospects of doing so through participative forms of inter-organisational development from within rather than 'expert' based planning from without. A number of interesting questions remain to be addressed: How do the developmental processes appear from the five stakeholder perspectives – how do they overlap and how do they differ? To what extent have the different stakeholders actually participated in the dialogue? How might processes of learning and sensemaking in a regional development coalition be conceptualised? Such questions must, however, await the conduct of further research.

Note

1. Population figures according to the census reported on 31st December 2000.

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The development of the French technopoles and the growth of life sciences

The example of the Evry génopole¹

Christophe Heil and Guy Lacroix

The rise of biotechnology, while accompanying the need to manage relations between scientific research and businesses, raises in a new way – in France at least – the problem posed by the *technopoles*. It helps to throw light on the dynamics of innovation by bringing into sharper focus the relationships, both complementary and conflictual, which exist between science and scientific applications and between research and industry. This process of generalised extension of the commodification of information, in which both are involved, also raises questions about the complexity of the links between innovation and society.

We shall attempt to bring into perspective the mechanisms put in train in the technopoles and the role of innovation in the dynamic of science/industry relations, through the particular case of the Genopole of Evry, which has been created in France to organise and maximise the French effort in the field of biotechnology.

Before embarking on a description of the Evry *génopole*, we shall set its activity within the wider context of the *technopoles* from which the Genopole GIP has borrowed its methods. Then we shall conclude by examining certain points which seem to us of particular significance, from a democratic standpoint, regarding the complex relations between science and scientific applications. The *technopoles* are one of the sites where the links between economic growth and innovation can be seen most directly. They embody a set of arrangements and mechanisms whose explicit function is to promote innovation by establishing relationships between its main institutional actors.

Innovation, a motor of the contemporary economy

Our societies have, in fact, an insatiable appetite for innovation. It is more and more the case that innovation drives the engine of the economy and constitutes the core of the *technopoles*. However, innovation is a difficult concept to define precisely.

Following Schumpeter,² one may classically distinguish between three main forms of innovation: product innovation, process innovation, and organisational innovation. It is therefore a very general term, which places the emphasis on novelty and is suffused with a strong scientific and technical connotation, since it arises, increasingly, from the problematic collaboration between science and business. Understood in its broadest sense, innovation has become a fundamental element of the contemporary economy. In technologically advanced societies, innovation consists essentially in transforming a discovery or invention into a commodity which is capable of finding a purchaser in a market.

Innovatory activities emerge, therefore, as the vanguard of the information society. Innovation constitutes a point of convergence between the most complex activities – individual and collective – which, by creating new information, feeds this continual process of transformation of products and modes of consumption on which the survival of companies now depends. It is also on the basis of innovation that new power relations are established between nations, in the sense that it is by controlling the conditions under which innovation occurs that one can, in a market economy, hope to achieve some degree of politico-economic mastery over the evolution of industrial processes.

Innovation is often used as a synonym of progress. However, these notions are not identical. Progress is a change related to an end, oriented towards a better satisfaction of human needs. It implicitly assumes the existence of a social project of a universal character. In more innocent times, technical progress, scientific progress and social progress were seen as largely synonymous. They constituted indissociable facets of one and the same overall movement which was sweeping world history towards a better life. Following the crisis of the grand narratives, our democratic societies no longer have any project beyond survival. What remains is innovation which, while synthesising technical and scientific changes, has shed any questioning over ends. Its concretisation in commodities (including services) through the mechanisms of a market, idealised as the means of satisfying social needs, serves to endow it with all the virtues of a panacea.³ This post-modern version of progress is constantly breaking down and revamping the social fabric, dissolving each new achievement of the present and subordinating it to a future, which then appears like a building site in a permanent state of disruption.

With the rise of genomics, which reach down to the very roots of the living being and social identities, things become infinitely more complicated again: there is the complexity of the definition of needs (old and new) and of their articulation with research; the complexity of the relations between public research and industry, of the relations between researchers, of relations between researchers and the general public. Moral problems and ethical questions reappear. The extraordinary potential for social transformation contained within biotechnology (with its dangers and its hopes) raises questions about the innermost mechanisms of the democracies.

From the American science parks to the *technopoles*

The relations between research and industry developed after the war in three main directions. Firstly through the growth of 'classic' Research and Development, which essentially consists of recruiting researchers and putting them to work on a company's objectives. This is above all the practice of big companies and multinationals. Next there are the large-scale scientific projects, geared to a specific goal, of the 'big science' variety, and run in an administrative, quasi-military manner which, following the development of the first atom bomb, inspired the organisation of big agencies like NASA. Finally there is the *technopole* movement, based on the experience of the American science parks, as a result of which a new model of relations between research and industry has spread across most countries in the world. Not only the scientifically developed nations, but also many so-called emerging countries have, with variations, adopted its recipes for organising the transfer of advanced technologies and knowledge to the benefit of their higher educational provision, sometimes remarkably successfully, as in South Korea and India. It is this tried and tested model of organisation of the relations between research and industry that the Evry *génopole* has drawn upon. This can be seen firstly in its designation: the term *génopole* indicates that we are dealing with a biological pole (of attraction); but it is also evident in the direct reference to the notion of the science park in the publications in which the Evry *génopole* presents its activities to the public.

The generic term *technopole* comprises organisations which, under a variety of names, (technology park, science park, technology centre, business and technology parks etc.) are all based on one common principle: the grouping together, in one geographical zone close to a centre of communications, of everything relating to advanced technology: high-tech companies, research establishments, top level higher education provision. This combination is thought to give rise to a 'synergy effect', favouring a new type of growth based on innovation. According

to the logic of the *technopole*, each participant benefits from the presence of the others. Though there are subtle variations in practice, this cultural conception lies at the heart of the different examples of *technopoles* which strive to encourage transactions and collaborative activities between their different components.

The creation of the first science parks resulted from the transposition of the experience gained by the Americans in the field of innovation during the Second World War. In order to support the war effort, the army urgently had to organise and redirect scientific work and integrate it with industry. These practices, which organised collaboration between scientists and engineers and broke down the frontiers between scientific disciplines, proved extraordinarily fruitful as a way of stimulating technological and organisational innovation, which played a decisive role in the victory of the Allies. At the end of the war, a number of academics, industrialists and administrators drew lessons from this fruitful collaboration between scientists and engineers and thought of encouraging innovation by creating new types of interface between university research and industry, adapted to the specific needs of 'creative' activities.

This is the thinking that inspired Rector Termann to found the legendary technology park at Stanford by attracting high-tech companies and young entrepreneurs to his university. The introduction of flexible modes of financing and collaboration between university-based and industrial research very soon turned out to be productive. One example among many: two Stanford students, Hewlett and Packard, created one of the first start-ups right on the university campus, which was later to become one of the main computer manufacturers.

This empirical approach, aiming to create the right material, institutional and psychological conditions to gain full reciprocal advantage from the potential of both science and technology, by channelling them towards the commercial sector, became widespread as a worldwide trend with the rise of the *technopole* movement. The notion of a *technopole* consisted of taking up the idea of bringing together the different agents of innovation so as to produce, from this combination, a synergy orientated towards the market, and adapting their mode of collaboration to the cultural, economic, and political conditions within the different nations.

The *technopole* model achieved real popularity, at the international level (including communist China) in the 1980s. The crisis of large-scale industry drove local leaders in many countries to look for alternatives to de-industrialisation. They seized upon the idea of the *technopole* in an effort to attract high-tech industries on to their territory by means of advantageous land concessions and subsidies. In order to do this they were led to conduct a thorough review of their objectives and the resources they could bring to bear, so as to develop an environment conducive to the establishment of new relations between scientific research and technologically advanced industry.

In France, in particular, many local dignitaries and political leaders saw in the *technopole* as a possible source of jobs for the young graduates of higher education and a focus for the redeployment of local resources. Thus every town of some importance sought to consolidate and develop its 'potential for excellence' by creating one or more *technopoles*. Big cities might well launch three or four into orbit. This approach to local economic development did not generate criticism; in spite of the fact that this type of initiative was, initially, more symbolic than really effective – economic consequences appeared gradually, in the medium and long term. Indeed, these initiatives took into account the real structural weaknesses of the local economy, ie not the centralised French state which elaborated these strategies, but the local actors who knew what their local economy needed. *Technopoles* have been created locally in order to dynamise the local economy or to replace obsolete economic activities that were no longer able to guarantee satisfactory industrial development; that is why the structural weaknesses of the local economy are well known by the local authorities: the strategies have been elaborated by themselves and not by the state. However, in spite of these modern initiatives focused on innovation and progress, we have to admit that the question of social exclusion was not taken into account. The *technopole's* labour market essentially concerns very highly qualified jobs, and most local unemployed people are not scientists with a PhD in biology, which implies that the benefits of the *technopole* will not concern traditional workers. *Technopoles* do not appear as a solution for unemployment, their politic being too specific; they just consolidate the local economy by developing research. In 2001, an attempt was made by Ernst and Young to measure the impact of these local interventions: their results showed that job creation essentially concerned very highly qualified jobs.⁴

Therefore the Evry *génopole* represents a definite exception, since it owed its development to an initiative taken by the State, more precisely by the then Minister of Research and Education, Claude Allègre – himself a researcher of international repute. This same minister was also the instigator of a law favouring the creation of start-ups by public sector researchers, which facilitates their collaboration with industry.⁵ The aim of this law (called the innovation law) is to mobilise and stimulate research by freeing it from the grip of bureaucracy and to orientate part of the researcher's creativity towards the invention of new products and processes. In more concrete terms, it is also a question of strengthening the effort to exploit public research fully by systematically taking out patents⁶ while, at the same time, formalising them by making them visible in the form of networks or links between different contributions, all too often fragmented and overlapping, due to researchers belonging to the many public sector research institutes (CNRS, INRA, INSERM, the universities etc.) or to quasi-public foundations, like the Pasteur Institute.

The creation of the *génopole* is the materialisation, in a particular field, of an overall strategy that has been carefully thought out. Biotechnology is considered, at the European level, to be a strategic sector which, with the further development of computerisation, should stimulate a new type of growth. However, France trails behind its European partners, particularly Britain and Germany.⁷ The point, therefore, is to take voluntarist action to overcome this backwardness by creating a centre of excellence in genomics, of international significance, capable of mobilising the energies and uniting the efforts of the different *génopoles* scattered across the country.⁸

The loss of the technological autonomy of companies

The growth of the *technopoles* also reflects the new conditions of industrial production. There have been far-reaching changes in relations between companies as a result of the concomitant pressures of globalisation, the sharpening of competition and the growing costs associated with R&D. The acceleration of scientific and technical progress and the globalisation of networks for sharing expertise have helped to deprive companies of much of their technological autonomy. The big companies have found themselves in a position of mutual dependence in innovative sectors of the market. This situation has pushed them into experimenting with forms of inter-company collaboration so as to share the burden of investment and to manage the uncertainties associated with R&D as economically as possible. It has also led them to modify their relations with public sector research. In return, the latter has become increasingly aware of the fact that the generation of knowledge represents an economic potential to be exploited.

This situation has made the interplay of alliances and co-operative ventures between companies all the more complex. It has pushed competitors into pooling certain resources (expertise, technologies, capital) on a case-by-case basis, so as to develop research, technology or products.⁹ This co-operation takes various forms. The most common is the creation of independent specialist companies in a particular segment of the market of interest to several companies. Another typical practice is 'company swarming'. This consists of facilitating the secondment of key staff to establish micro-businesses in a specialised field closely linked to the needs of the parent company. Because of their autonomy, these micro-businesses are thought to achieve a rapidity of reaction and adaptation that the big company cannot match. The big company can thus explore different niches in the market while minimising any disadvantages and risks to itself. If the project fails, the big company is not directly implicated; and if it succeeds, it can buy up the small business or take control of it when it needs to raise capital.¹⁰ These differ-

ent practices all tend towards less bureaucracy and a concentration on what the big companies see as their core activities. This system has direct implications for employment: micro-businesses as we have seen rarely had more than two or three employees. There was even one with only one person: the director himself, who was a scientist too. Micro-businesses are not, on any account, an immediate solution for employment; that is possible only when the big company decides that their swarmed micro-businesses have a real development potential; at that moment, they inject funds into these specialised businesses which can then develop and create more jobs. The question of job security is thus fundamental as long as the big company has not invested money into its micro-businesses. Moreover, with the growing weakness of trade unionism in France, and more particularly in the highly qualified sectors (where trade unions seem almost non-existent), the question of employment remains relevant: what will become of the employees of the abandoned micro-businesses? Their creation being only recent, we have not seen any abandoned micro-companies yet; and the question thus remains outstanding.

Thus, parallel to the continued development of computerisation within companies, and forms of flexibility linked to automation of production, new types of flexibility and co-operation have been introduced. Their role is to increase the company's ability to react in the face of a permanent process of innovation, and to reduce the costs resulting from it. Alongside the traditional practice of subcontracting, which continues to exist, there are new forms of joint undertakings and mixed relations of co-operation and competition in innovative sectors. These new practices are combined with the maintenance of a permanent watch for developments in technological innovation. All these different types of re-organisation rely on information technology networks as tools to integrate information about innovation on a world level. Stimulated by the internet, these networks play a more and more important role.

Finally, basic scientific research has become one of the main motors of growth as innovations have arisen more and more massively from new information that it has generated in certain specified fields. Computer science, which has for a long time represented one of the most active elements in the *technopoles*, was already blurring the distinction between science and technology, and between research and industry: it creates hybrids between them. With the development of genomics, it has become clear that the gap between scientific discovery and innovation is becoming more and more slender. Put simply one can say, particularly in the case of molecular biology, that a mere change in purpose can transform a scientific discovery into an innovation. The proliferation of biotechnology start-ups, founded by scientists to exploit their own research, reflects the close interpenetration of basic research and innovation.

A man like Craig Venter, a renowned American scientist who has used his reputation to found his own company Celera by raising funds from big international laboratories and who makes money out of his discoveries, personifies the ambiguity of the position of scientists today, and exposes the inadequacy of the mental categories which we used to think through the rise of sciences and technologies (and of the institutions which foster them). All the more so as, in the field of biotechnology, everything changes very quickly. After Craig Venter left Celera at the beginning of 2002, the economic model of Celera Discovery System (CDS), based on supplying genome data with a high added value, has been abandoned in the face of competition from free information, available in data banks in the public domain. The Applera group, which controls Celera, has incorporated CDS and Applied Biosystems (ABI) – a company specialising in laboratory aids and the sale of reactants for molecular biology – into a new commercial venture. It consists of an e-commerce base, Knowledge Business, in which research of genomic information is linked with the supply of laboratory aids and reactants permitting schemes for targeted studies to be set up. As for Celera Diagnostics, which possesses a considerable base in bio-informatics, it will concentrate solely on researching new medicines.

The main ingredients in the fabric of the *technopole*

All these transformations have given added impetus to the *technopoles*, which can be seen as privileged sites for the practice of the mix of co-operation and competition between companies and their collaboration with public research, whose contribution is becoming more and more crucial for them.

We have seen that the *technopoles* are based on a central idea: good conditions have to be created for the development of a synergy between all the different components of innovation. In this regard, the *technopoles* combine different resources, some old like commercial premises, others new such as 'company nurseries' and incubators for new start-ups. It is the grouping of these elements which defines the *technopoles* as a new organisational and cultural phenomenon. This last point must be emphasised. Throughout the world the *technopoles* all use a relatively uniform vocabulary and arsenal of concepts in their promotional material. Despite local variations, we are dealing with one definite conceptual model: one could even speak of an ideology of the *technopole*. Around a certain number of formulae, a common vision of a growth model has developed at a world level, one in which research plays the key role. This *technopole* model has been widely examined by researchers; however, though we are familiar with the different components to be brought into play (high-level research and training, specialised companies, the in-

volvement of local and regional authorities and the State), we still do not have a clear understanding of what determines the success or failure of a *technopole*. For example, why is there a much more effective transfer of technology between universities and the biomedical industry in the United States than in Europe?¹¹

We shall simply list the main features of the French *technopoles*. We shall find all these ingredients at the Evry *génopole*. Those most frequently identified are:

- **Accessibility:** the *technopoles* combine motorway access, airports and heavy telecommunications infrastructure (high-capacity internet facilities and/or connection to Renater, the researchers' network)
- **Advantageous terms for land and premises for setting up companies:** we are talking about a hidden subsidy to the company and it must be admitted that this is one of the main factors in the decision to set up a company.
- **The provision of services for the company:** shared secretarial services and the availability of computing equipment, provision of commercial, legal, financial and technical advice, training etc.
- **Collaboration between companies on the one hand and scientific universities and public or private research laboratories on the other:** this is at the heart of the project as embodied in the *technopole*. Agreements between these bodies are systematically being elaborated. In France as a whole there are still far too few of them, despite the efforts of the big research institutes, such as the CNRS. The *technopole* also focuses on high-level training. The precisely targeted collaboration between manufacturers and researchers must make it possible to refine teaching objectives (the training of young PhD and post-doctorate researchers). It must also favour the creation of more specialised jobs in high-tech companies, by establishing the professional profiles of tomorrow's jobs. This is the case at the University of Evry in the teaching of bio-informatics. The exploitation of local research and educational resources, as well as locally produced highly qualified labour, gives a specific character to each *technopole*.
- **Activity in association:** this is essential to the effective operation of the *technopole*. This association brings together managers of companies, local administrators, representatives of technical agencies and state universities. The people involved in running the *technopoles* belong to associations at national level, at the broader regional level (like *l'Arc Atlantique*), and at international level, which pool experiences, spread information about initiatives, and facilitate professional exchanges between those involved in *technopoles*.
- **'Company nurseries' and incubators for new companies:** these are a typical feature of the *technopoles*. They offer a temporary home, designed to encourage the creation of innovatory companies, (which will be selected into these incubators by a committee of experts), by offering them a favourable envi-

ronment for the first years of their development – usually these are very small companies, but some can grow very quickly. Work premises, often in the form of flexible modular units, are let out to the small companies at low rents for a limited period (typically two to three years). They also have access to common support services and commercial expertise.

In the specialised *technopoles*, such as the Evry *génopole*, expensive equipment and very specialised services are also made available to new companies, or are made accessible at low cost (e.g. specific research of genetic sequences in international data-bases, molecular biology software). This grouping together of inexperienced companies in specific premises can have disadvantages as well as advantages. Paradoxically, in some cases, it can isolate the new company from research and higher education centres. That is why the American model, for example, tends rather to ‘incubate’ innovative companies actually within technical-scientific institutions.

In general, the procedures for providing assistance to new companies have been mastered, and they run smoothly (taking out a patent, legal and accounting assistance, looking for subsidies etc.). However, one often observes a lack of know-how when it comes to supporting these same companies at the later yet crucial stage when, reaching maturity, they become real generators of jobs. Access to venture capital, which is often a basic requirement for the success of a start-up, still remains broadly inadequate, despite major efforts made during the last few years.

Finally, a good quality of life, and attempts to create a certain conviviality, linked to local efforts to stimulate cultural activities, are often exploited to retain key specialist staff and their families.

This model is not without its contradictions (between free information and information as a commodity, between the local and the global etc.). The role of the *technopole* is to keep all these heterogeneous elements on board, despite the fact that they do not share the same purposes or obey the same rationale (the company, research, training, regional and national political control, jobs etc.).¹² Even if their interests may converge today, they are not completely identical; nor do they operate with the same spatial horizons or to the same time-scales. Biotechnology, which exposes research to the rigours of the market, is subject to these manifold tensions.

The Evry *Génopole*, a French avant-garde model of *technopole*

A governmental project

This central idea of co-operation among diverse actors, developed throughout the technopolitaine experience, became the solid foundation of the Evry *génopole*. The

other specificity of this *génopole*, as we have said, is the fact that its creation was decided by the State. But afterwards, the local actors of Evry, the Regional Council of Ile-de-France, the Council of the Essonne Departement, the Town Council of Evry, and the AFM,¹³ in association with the State, realised that it was important to have a single administrative structure on site, with the job of co-ordinating the actions of the different actors on the site, and promoting its activities at international level. How could such a diverse range of actors such as private companies, public laboratories, private establishments under public law, a 'company nursery', and patients' associations, pursue a common action and a common project? In this way, the French government, which was beginning to become aware that France had fallen behind in the biotechnology field – for example, people involved in basic research failing to exploit their research, companies restricted in developing their projects – decided to make Evry one of the bases for a future wave of *génopoles* in France. Thus, on 20th January 1998, the Minister of Education, Research and Technology, Claude Allègre, entrusted Pierre Tambourin with the task of creating a structure whose aim would be to co-ordinate the action of the various actors on the site. On 23rd October, Genopole Association was officially launched by Claude Allègre and Dominique Strauss-Kahn. On that date, several objectives were assigned to it: to strengthen and lead a multi-disciplinary research and higher education campus, developing the teaching of the University of Evry Val d'Essonne in the fields of life sciences, to associate high technology companies closely with the public research laboratories established on the site, to help industrial projects to be established on the site, and to promote ethical and societal reflection on the social implications of genetics and the genome.

Under the law of 1901,¹⁴ Genopole was a non-profit making association. At the end of the year 2000, the Minister of Research, M. Schwartzberg, at the inauguration of the CNG,¹⁵ expressed his desire to see Genopole split into two GIPs (Public Interest Grouping), a status more appropriate to its function than the status of an association. That had been overtaken, to say the least, given the growth in what is at stake economically, the size of its budget (70 million francs in year 2000) and the international dimension of its approach. The aim of the first of these GIPs, the GIP Ile-de-France, is now the same as the old Genopole Association, to develop the Evry site. The second GIP is given a national mission, that of stimulating the development of the whole group of French *génopoles*. That is why the example of Evry is interesting: this *génopole* is to be precisely the example to be followed by other French *génopoles* – at least that is the official wish of the State.

Thus Evry represents an exception compared to the classical *technopoles* created in France. Traditionally, these were created locally so as to dynamise the industry of the region, or to replace obsolete economic activities – like mining. In fact, the local authorities of the Limoges area built a *technopole* largely in or-

der to revitalise the city after the manufacture of porcelain was no longer able to guarantee it a satisfactory industrial development. In Evry, it was in fact the State which identified, through the creation of this *technopole*, the French need for a new, strong model of *technopole*, in order to put France in a better position in the international scientific and technical competition raging in biotechnology. But traditionally, the public sector, the research laboratories, carrying out mainly basic research, does not have a strong record of involvement and collaboration with the private sector, ie companies. In order to promote collaboration between public laboratories and private companies, one of the basic aims of *Genopole* for the State, the State launched the *Génopolante* project, a co-operative programme of study on the vegetable genome arising from a partnership between the public sector (INRA, CNRS, Cirad, IRD) and the private sector (Aventis, Biogemma and Bioplante).

Though, until recently, public research meant basic research and the private sector tended to leave this aside in favour of applied research, the example of the Evry *génopole* suggests a change within this paradigm. For there, the two sectors seem to intertwine more and more, with the State encouraging this private/public collaboration for several years now. The State has two main reasons for doing this:

1. To withdraw partially from the financing of its public basic research laboratories. Fields like genome research require colossal investment; however, the financing problem is not helped by the virtual non-existence of own funds earned by the laboratories themselves. Establishing research contracts with the private sector, selling patents, and collaborating with companies, would make the State laboratories more independent, and better endowed financially, and therefore more free to choose the directions of their research. The implications for the direction of basic research are complex: at first sight, we could imagine that there is no future for free basic research since laboratories have decided to work with companies. But the French public scientists are very aware of what is happening, being mindful of their traditional culture, and of the ethic of their profession. They have created ways to compromise with their interests and those of companies. At each collaboration, the two actors sign a contract that clarifies their roles. As the interest of the basic researchers is to publish quickly, and that of companies is to publish later (to preserve professional secrecy) a date of publication is specified, in order to allow the two actors to have a compromise that is interesting for each one.
2. To make up the large amount of ground lost after the country had fallen further and further behind over many years. The French pharmaceutical industry was second in the world thirty years ago; now it is in ninth place and is continuing to fall back. France was one of the top nations for the level of its basic research, but did not manage to exploit its discoveries economically. Many of its greatest researchers left for the U.S. to obtain more funding or

to found companies. Getting the two sectors (public and private) to work together would allow France to keep its best scientists while maximising the development of its biotech companies.

It is the view of the main moving spirits at Genopole GIP that the international economic context allows no other alternatives. Even if there are risks in this private/public collaboration, at several levels, doing nothing would leave French companies helpless in the face of American and international conglomerates, and the public laboratories, while seeing their best people go abroad, would have to pay for the right to study molecules patented by foreign companies. Thus Pierre Tambourin, Director of Genopole GIP, at the *Cafés du Gène*, on 14th February last year, explained the difficulties facing French science and the need for collaborative ventures between private and public sectors, by explaining that the risks of such a strategy were known, (loss of identity and erosion of their public service mission for the public laboratories), but that these risks had to be run, given the ruthless capitalist international context.

The biotechnology network

Genopole GIP is made up of four branches corresponding to different objectives: Research and teaching, Industries, Communication and International. If the first two branches seem logical aims for a *technopole*, the creation of the Communication and International branches stems from the idea that Genopole staff know that collaboration with foreign structures will be essential for the future growth of the site. If the various participants in the Evry *génopole* must work together in order to survive, Genopole must work with other countries so as to prosper.

In brief, one of the strongest aims of Genopole GIP is to establish a relationship of interdependence between the different members of the *technopole* network. It therefore wants to bring about a synergy between innovative industries, research laboratories and the university, which will, in the end, generate jobs in biotechnology. This synergy can be termed cross-fertilisation, in which the whole is greater than the sum of its parts. Collaboration between diverse actors has the aim of multiplying the competences of the network and making it grow. This organisation of work follows a new organisational pattern: work has become more collective, and the different actors more and more interdependent; anyone who insisted on working in isolation would find many supports disappearing around him and would not benefit from the same help as his competitors. This work organised in networks, which is a fundamental characteristic of the world of the *technopole*, is also distinguished by the fact that companies are considered less as competitors than in traditional capitalism. All the other companies are also small organisations which are having difficulty starting up, and which will no doubt be destined to collab-

orate with each other in the future. Moreover the competitive situation is of a different kind: the companies are in ultra-specialised sectors in which the only real competition is abroad. One of the unofficial duties of the Genopole Industries branch is to select companies with different activities, in order to avoid the presence of companies which could be rivals; Genopole GIP has a regulating role in the industrial structure of the site.

So the network of the Evry *technopole* comprises a multitude of actors; but of these, the ones who have the most important roles are the small-business nursery, Genopole, the University of Evry, the Chamber of Commerce and Industry of Essonne, and the AEE.¹⁶ Each of these actors assumes a specific role: Genopole receives people who have a project to propose, selects the future companies that will be accommodated on the site, and finances them: then it sends them to the nursery, a large building which offers premises to these new start-up businesses, which also benefit from the loan of expensive equipment; the University of Evry provides the training of the site's future researchers, so as to guarantee them job opportunities at the *génopole*; finally, the Chamber of Commerce and the AEE give legal advice to the future entrepreneurs.

Genopole has built up a triple network: its local network, which we have just described; the national network of French *génopoles*, in which it is the leader; and finally the international network, which is less developed, but which Evry is beginning to knit together, by participating in major events such as the BIO.¹⁷ As regards the national level, the Evry *génopole* must thus extend its network so as to be able to multiply its contacts and partners. To all this should be added the establishment of relations with parallel European structures: there are plans for a network of incubators for new biotechnology companies, to establish strategic alliances and encourage a mutual sharing of experience and knowledge.

Developing in isolation is not acceptable in this organisational model. It has to think like the communication department of a company and must be open to the outside world, selling the advantages of the site and putting across its specific features so as to attract a variety of actors and collaborate with other *technopoles*. Thus Genopole promotes its local strengths by participating in a range of biotech events at international level: it will be present at the USA Forum, organised by the French Embassy in Washington; these events will have long-term consequences for Franco-American collaboration.

But this first, relatively informal network operation has recently been formalised. The name given to the network – the network of agents for the creation of business in Essonne – illustrates well the aims of its activity. Its diverse members, realising that the concentration of their activities would increase their effectiveness, thus joined forces. These actors (Genopole, l'Agence pour l'Economie en Essonne, the nursery Genopole Industries, the local authorities – Council of the

Département, Regional Council, Chamber of Trades, APEC, the Prefecture together with private actors like France Telecom – signed a charter on 23rd October 2001, in order to formalise this alliance. The aim of this grouping is to simplify and reduce the steps that have to be taken when dealing with a multiplicity of actors for, within the network, each intermediary assumes a specific role.

The complementarity of the competences represents a major element of added value for the Evry *génopole* – the only problem with these competences being the diversity inherent in their complementarity. Among the many links in this chain, each actor has his own interests. In fact, the only weakness in this network comes not from the institutions than run it, but rather from its direct members: the laboratories and companies: the actors who take care of them co-ordinate their actions, but the conflicts of interests, due to the very nature of the laboratories and the companies, prevents a total homogeneity. Things are getting better, but relations are very fragile on certain points.

A new conception of scientific work

New collaborative relations between partners whose interests sometimes diverge

Companies and laboratories, which traditionally were disinclined to work together, have started to form links as they become established in the *technopole*, and have begun to respond to invitations to tender orchestrated by the State. But if the advantages accruing from these collaborative ventures are obvious (acceleration of research processes, sharing expensive equipment owned by the different partners, free access to previously acquired knowledge on a subject), the drawbacks are also apparent. In addition to the fact that the two actors have different research cultures and perceptions of research, the use made of the results obtained from working together also creates a serious problem for them: their interests regarding the commodification of information are, in fact, virtually incompatible. As regards the use to be made of their research, it is the duty of private sector companies, first and foremost, to obtain a return on their investment, and to secure protection through patents and licences. On the other hand, the duty of the public researcher is to publish his findings. An entrepreneur explains it to us: “You must never say too much about it [your research], otherwise you’ll have it stolen from you. Negotiating is an art, and it’s mostly about not saying too much about what you’re doing; don’t say more than you have to and get the other side to open up. They organised a conference for us at the nursery [for start-up companies] on everything to do with industrial espionage. So you have to watch out for it.” Contrary to this point of view, the public researcher must publish his results: “Patents? Long delays

are involved, then [if you publish] you're out of date. Our work is about publications. Our work has to get recognised in the outside world, one way or another, in the form of publications. Our role as academics and researchers is producing publications." Another researcher adds: "A researcher who doesn't publish won't get very far."

The two attitudes are diametrically opposed, between hiding discoveries at all costs on the one side, and the desire to disclose everything for the general interest on the other. Though public sector researchers are beginning to accept the idea of patenting more, it remains rare when they are faced with the duty to publish, and relations between laboratories and companies will only move forward if these two actors manage to reconcile their different systems of representation. There is some movement, however: the example of researcher-entrepreneurs is certainly the most striking development.

But what solutions can be put forward in innovatory fields in which researchers from the two sectors have got used to the opportunities offered by these partnerships? The commodification of knowledge will no doubt be the main issue in future arguments; the solution which would allow both parties to protect their interests would perhaps be to design patents of a new type, which would allow public laboratories to retain the right to use their patents and to open up the results of their research to others, while preventing companies from buying up exclusive patents on these findings, and on products arising from them.

Fundamental public research, the central issue for the State

The establishment of a logic shared by the two actors seems to be proving difficult: the logic of one of the two actors will certainly tend to adapt to the other in the new context, and the present trend seems to suggest that the adaptation will come more from the public laboratories – the financial logic being much more attractive to the often hard-up public laboratories than the pure research logic is to private companies.

Indeed, from the point of view of its culture, its role, and its mission, the laboratory seems to be changing as a result of its contacts with industry. On the basis of a scientific discovery, researchers have the possibility of selling patents, in which case the laboratories could evolve towards being commercial laboratories whose aim would be not the production of knowledge, but the production of money-making patents; basic research would then be set aside in favour of applied research that can more easily be turned into cash – to the detriment of whole areas of research.

Traditionally, the world of scientific research was characterised by a division of its methods into two broad fields: first, basic research carried on for the most part

within public scientific establishments, a type of research that was carried on without regard to its potential for financial or economic exploitation, and that sought to accumulate knowledge, with the simple idea of making scientific progress. This type of research is characteristic of the traditional public laboratories: though not all of them worked without any concern of a financial nature, they did however invoke the values of this type of research, geared to promoting knowledge for its own sake, and, in the minds of public researchers, the ideal was that research, pursued in the name of Science, should be done on this basis.

However, by attracting private companies to nestle close beside public research establishments, the *technopoles* have fostered co-operation between the two worlds. The industrial logic sees research not as an *end* – as is the case for public laboratories – but as a *means to an end*, a tool which allows products to be improved, costs to be reduced, or a new technological market niche to be opened up in which there is less competition. For these partnerships, however limited, do exist and, even if they raise problems in operation, they are appreciated by both actors – otherwise the partnership system would end immediately.

One of the factors which limits co-operation between the public sphere and the private sphere is, in fact, the exchange of money between the two. Having to make payments on patents in order to *have the right* to work on modules previously patented by a company would very soon mean the death of public research. The system of *collaborations*, scientific partnerships between public laboratories and private companies with no financial payments involved, ensures a basic convergence of interests between the two actors, and, above all, has the major advantage that it allows them to retain their own operational rationale. Thus, these collaborative ventures constitute a co-operative activity, officially defined by a partnership agreement, between a private sector company and a public research establishment, covering a common scientific project. The principle enshrined in the partnership is that both actors are free to use the results of the research without either having to pay royalties to the other. Thus the two actors make available their assets, both scientific (knowledge acquired on the subject, researchers), and technical (instruments, machines they possess), which accelerates the research process for both parties. The small and medium sized companies in the biotech sector do not always possess the expensive, large equipment to be found in the public laboratories, and the laboratories often need to borrow the precise techniques perfected by the private companies. Moreover, the scientific staff on both sides, by working together, can combine the approaches that each has followed up to that point.

But if the advantage of collaborative ventures is that they progress the research carried out by the two actors, how, given their very different operational rationales, can the two parties find *common* research projects? Quite simply because

the gulf between applied research and basic research does not seem to have survived the rapprochement orchestrated by the *technopoles*. Thus we are witnessing the development of two new phenomena: the development of so-called applied research within public laboratories, and a larger and larger proportion of biotech companies which are developing, alongside the traditional R&D, basic research conducted *in house*. The Génoplante project in the Evry site is the structure which represents this trend: this research centre constitutes a hybrid situated between public centres and private companies.

Génoplante, an ambitious political project

The creation of Génoplante gives us an idea of the problems confronting public research. This programme (with a budget of 213 million euros over five years), which aims to file patents on the improvement of seeds, brings together the main public research bodies (INRA, CIRAD, CNRS, IRD), and the majority of companies working in plant biology (Biogemma, Aventis, Cropsience, Bioplante). This initiative is to be understood in the context of sharpened international competition and seeks to reconcile two objectives: to protect basic research and to support French seed producers.¹⁸

The first aim is to prevent the stifling of public research as a result of the monopolisation of patents by the private sector. This danger is all the greater since trends in European legislation are tending to mirror those in the USA. There, the law allows the patenting of 'trivial' biological mechanisms, which are scientific discoveries rather than inventions. It has given rise to an all-out patenting blitz by the private sector, which could well end up paralysing research.¹⁹ As early as 1996, the American NSF had reacted to this situation by launching a large-scale research programme (the Plant Genome Initiative Program) so as to maintain a public scientific research presence alongside the big seed producers.

The second objective is to help French seed producers to stand up to the competition in the field of sequencing of plant genomes. In this respect Génoplante can be seen as a successor of Bio-Avenir, though the lessons of that venture have been learnt. Set up for five years (in 1991), and seen then as the biggest French programme of collaboration between public and private research in the field of biology²⁰ Bio-Avenir was placed under the control of Rhône-Poulenc. This operation enabled the company to switch over from chemicals to biology. The programme, which had a budget of 1.6 billion francs, including 600 million allocated by the State, was widely criticised. It was blamed for having produced few spin-offs for public research and for having failed to create the promised string of new biotech companies.

Génoplante is designated a GIS [a grouping of scientific interest], responsible for establishing a portfolio of patents arising from the analysis of the genomes of the most widely cultivated plants in Europe, with a view to offering seed producers new opportunities to improve the species. It comprises two research avenues. The first, Génoplante générique, co-ordinates work on the analysis of the genome of two sample species (arabette and rice), and the development of technological tools. The patents belong to INRA (the National Agronomic Research Institute). This is essentially basic research which involves public laboratories. The second main avenue, Génoplante species, involves collaboration between public and industrial laboratories. It comprises research programmes relating to species of agronomic interest and uses the results arising from the first avenue to tackle specific research on the seeds of the main European crops (wheat, maize, rape, and also alfalfa, the vine, the melon etc.), with a view to future industrial development. The patents are allocated to the majority financial contributor on each particular project. The scientific publications appear only after the registration of the patents.

Génoplante embodies a political choice: that of creating a possible future for a French seed industry. But is it viable when confronted with globalisation – and in particular with the USA? For example, Rhône-Poulenc, the French former champion in the chemical industry, now re-christened Aventis, belongs to a foreign group, yet remains within Génoplante. And any start-up company of value can be taken over tomorrow by a multinational. The measures taken by the French State are like mere palliatives to compensate for the powerlessness of a Europe in which more ambitious solutions seem scarcely feasible.

The end of the classical research paradigm

Thus we are witnessing a double change in research, centred on the problem raised by the conduct of basic research in the partnership context, where a climate was established which was unusual for this type of activity. The traditional paradigms within which research was seen as basic or applied are disappearing; the development of scientific partnerships has already created a new position. The first trend affects basic research, such as was carried on within public laboratories. The present economic position, resulting from the necessity for partnerships with the private sector, the progressive withdrawal of the State from its excessively expensive and not very lucrative research establishments, the lack of profitable exploitation of the research done, as well as the lack of companies created by researchers on the basis of their discoveries, all these aspects have led to what could be called *guided basic research* in the sense of a type of basic research conducted in the public sphere, but taking as its goal the industrial and financial spin-offs arising from

this research as well as the knowledge that will be acquired. In fact, the orientation of research of this type is not freely chosen, but *guided* by its potential for economic exploitation.

This new type of logic, the broadening of a tendency that has developed rapidly in the practice of public researchers, poses a threat to the survival of the traditional research culture. The major reason for the creation of the Genopole Association was, let us remember, to facilitate the economic exploitation of research result. Indeed, the research's orientations are modified. In this situation, the traditional public laboratory runs a considerable risk of seeing its public service mission changed: its aim would no longer be the acquisition of knowledge, but *its exploitation*. In this way it would become a commercial laboratory, a dealer in patents and research data for companies wishing to get hold of research results rapidly but not possessing the means to carry out effective research themselves.

A second major trend seems to be shaking up the world of research; within private companies, only R&D and applied research to the elaboration of products was potentially interesting. But biotechnology companies operating in the *technopole* environment, like the high tech companies, seem to be adopting a quite different approach: whereas classical R&D focussed research efforts on quite specific products, the extreme specialisation within a precise field, which is characteristic of companies involved in technological innovation, requires technology and techniques *permanently* at the cutting edge of innovation. In this way, the companies on the site no longer consider their research as a means to elaborate future products, but as a central activity for them. In a high technology company, research becomes crucial in every respect – technological advance, new, more effective techniques – and therefore the biotech companies depend increasingly on basic research in their specialised field, in order to develop within a precise technical-scientific niche.

This new type of basic research, which could be called 'industrially-orientated basic research' is growing within biotech companies. Whereas traditional R&D established itself in the world of business as a type of essentially applied research, geared towards the elaboration of new products in the short or longer term, and able to be commercialised or at least used within the company, research within biotechnology companies is no longer just a precious aid, but itself gives the company its essential character. These companies are no longer satisfied with what is called applied research but, within their own specialised area, carry on basic research. This basic research should, however, be distinguished from traditional basic research: unlike the latter, it is essentially orientated by the aim of industrial exploitation over the medium to long term. This research is, in a way, a type of basic research that is also *potentially* applied research. Many companies have scientists working on theoretical studies concerning the company activities. These

studies have no immediate results but in the medium and long term, sometimes after months or years, this knowledge or this database permits the creation of new techniques of production that would not have been done without this research. With globalisation, each company becomes more and more specialised into one research field.

Generally, each company has a monopoly in France, and only one competitor in the whole world: having knowledge is having monopoly. We can show the example of a start-up company specialising in the horse genome. Their scientists explained to us that they would not be able to know the genetic heritage of their customers' horses as quick without the researches they have done.

Thus, two potential options seem to emerge concerning basic research:

- The progressive withering away of *traditional basic research*, in the sense of research carried out without any commercial or financial aim, and its replacement by *guided basic research*, chosen, carried out and oriented towards a precise field with more or less certain commercial spin-offs – whether in terms of patents or specific industrial applications. The immediate risk is the loss of the traditional research culture within research laboratories. It has a target: the selection of research subjects on the basis of their future commercial spin-offs. Therefore, it also has a direct consequence: the rejection of whole fields of research on the grounds that they are not financially exploitable industrially.
- The progressive growth of basic research in an environment in which it used to be virtually non-existent: the company. In fact, the biotech company is an advanced technology business whose value is proportional to the technologies in its possession. In this situation, where companies are ultra-specialised in a precise field, basic research in the field in which the company is involved becomes essential to it, since it will, of necessity, produce direct industrial spin-offs sooner or later. *Industrially-orientated basic research* seems, therefore to be developing rapidly.

Finally, another possibility can also assert itself: not the acculturation of one research logic to another, in this case through the weight of the private sector on the public research logic, but on the contrary a slow merging of these two types of research. In short, a new type of research would emerge: neither basic nor applied; not totally public, and not totally private, like the English foundation model. A new type of research, with a logic common to the two actors, and which is created and continually modified so as to maintain the coherence of the actions of the respective users. The partnerships between public laboratories and private companies are developing more and more on the initiative of the State, which proposes mixed research projects (private and public). But in this case, which is positive in the sense that it represents a non-commercial partnership, thus respecting the ini-

tial research aims of the public laboratory while also accelerating the research of the two actors, a fracture appears: the use made of the research, with the commodification of information as the target. Whereas the company treats the results of its research as a trade secret, thus protecting its lead over its rivals, the laboratory needs to publish its discoveries so as to promote its activities to the outside world, and the public researcher has a vital need to produce publications. However, the contracts that were established before the collaboration allow the two signatories to provide for their research's use. Publications do not mean the end, but are only curbing the company's and laboratory's partnership.

The researcher-entrepreneur as a point of linkage between the private sector and the public sector

The biotechnology sector seems to have developed a very particular system of business, in which, thanks to the requirement of essential expertise, a classical training as a manager is impossible for creating this type of company. Any manager must know the sector as well as the current scientific issues: managerial decisions cannot be taken in this very particular field without knowing the environment, in which companies do not follow the same rules as traditional companies; the researchers are not just another group of employees in the sense that, as research is not an exact science, great uncertainty hovers over their activity: research trails can go dead, or produce quite unexpected results. Moreover, the question of the use of patents makes entrepreneurship within biotechnology a job for specialists – all entrepreneurs are agreed on this.

Thus, all company managers are former researchers who have left the world of academic research for that of R&D. It should be added that this was largely made possible by the law on innovation, passed in 1999, which gave a researcher taking part in the creation of a company the possibility of being seconded from his supervisory institute, *without losing his status as a public researcher*, for a period of up to 6 years. Though rather belated, this recognition of a problem by the government has proved immensely important: public researchers were already sufficiently terrified by the prospect of creating a company as it was, without also losing their security of employment.

So, we observe the development of the phenomenon of the researcher-entrepreneur, a former researcher who has created a company on the basis of his discoveries. This phenomenon reveals the changing mentality in scientific circles – scientists abandoning basic research for business being considered as traitors to the public interest until quite recently. How do these individuals react when they sud-

denly move from one culture to another? *Do they form a point of linkage between these two worlds?*

The researchers traditionally followed different routes: basic research on the one hand, and applied research on the other (but this is less and less common). So, the biotech start-up entrepreneurs' particularity is that they chose the applied research and the enterprise routes. These two different kinds of researchers do not have the same representation system. That is why the researcher-entrepreneur's role is so important: he comes from the public sector or from University and works in the private sector, and he knows both systems and their *modus operandi*.

But the researcher-entrepreneur phenomenon is still not very developed. The French university virtually prepares people only for basic research and does not prepare researchers for a possible career in business. A course of this type has been offered at Evry, but has not run because of a lack of interested students. In fact, students who go in for research are, at first, interested only in basic research. The result is that, at university, befriended by lecturers and directors of public research laboratories where they do placements, they turn towards public research, and, if the desire takes them to create a company, their essential theoretical training will act as a significant impediment. Researchers in the private sector and researcher-entrepreneurs are researchers who have rebelled against the academic system. They criticise the public sector's resistance to change, the public institutes' lack of funds, and the timidity of their peers who are tempted by the adventure of business but hold back: *"If you go to the INSERM you find people who are civil servants and are not really bothered about applying for patents; that will take a long time, and they'll say 'no, that's not interesting', without checking on the scope of the patent."*

Genopole and employment

Start-ups, the typical companies on the site

The desire to create a pool of local jobs at Evry is somewhat utopian: rather than providing jobs for the local population, the high level of specialisation required for the work will tend to rule out local applicants: the specialised individuals that industry and research will need will probably be found elsewhere, and there is a strong risk that, even if a lot of jobs are created, they will be filled not from the local job market but from other, more specialised science campuses – hence the importance of the training function of the University of Evry, which must create a pool of students capable of being employed on the site. The jobs in question are, obviously, for qualified or highly qualified people, since researchers all have a doctorate or post-doctoral experience. And, if technicians (with two years training beyond the BAC) are required by the companies, these BAC+2 qualifications are

still very specialised and high-level: a university diploma in applied genetics, or a professional university diploma in biological engineering, or a university diploma in life sciences, with a molecular biology specialism; in short, specific qualifications which will not be matched by people in the local job market: there are not many people with such specialised qualifications at local level.

Thus, the jobs created, if not very numerous, will be quality jobs, with the qualifications being high-level and specialised, and the work environment in the *technopoles* being more pleasant than in more traditional companies. Moreover, they should be secure, at least at the very beginning, in the small and medium companies and the biotech start-ups, which are given particular support by the network of the *technopole*. This relatively long period of stability (resulting from the support given by the network during the creation of the company) will allow employees, notably the people with BAC+2, to obtain a reasonable amount of experience in this type of environment, which will facilitate the further development of their careers. In France, the distribution of jobs created in the *technopoles* is 40% with a PhD doctorate, 28% engineers, 18% managers, and 7% with a qualification in finance.²¹

One specific feature of the network seems to stand out more and more: what makes it dynamic is essentially to be found in the start-ups, and the reports of Ernst and Young agree on this. This type of market, established in a technical-scientific network, does not seem suited to the creation of very big companies. Unlike the classical industries linked to globalisation, where concentration and growth of the company is vital for survival, the biotechnology sector does not seem to suit large-scale operations. Everything must move very quickly, and when a research project comes to fruition, the applications must appear very quickly, and new research project must be got under way quickly in sectors where there are no competitors, and still more quickly in competitive sectors. This is how two people involved in start-ups explained it to us: “*Now it’s the start-ups that take on staff, and that helps a lot, but it’s still not enough to absorb the surplus of researchers; there would have to be even more start-ups created (. . .) It’s the small companies [which represent] the future, jobs are created by small companies, because the big companies are much more awkward to run, and are often run badly. Their research stagnates, and to change direction it takes them 6 months to a year, whereas in a start-up, it takes less than a fortnight: you call a meeting and you decide, and then, that’s it, you switch.*”

Start-ups represent both the specificity and the wealth of a network, of a sector which operates differently from the other economic sectors. Moreover, these companies are quoted on the NASDAQ and not on the traditional stock market listings. Paradoxically, – their respective sizes being inversely proportional –, the big companies on the site experience the same thing as the internet start-ups: they can collapse suddenly, just as quickly as they expanded. The example of Genset is

striking: after moving into 6000 square metres of premises in 1994, it was simultaneously introduced to the American NASDAQ (for a take-up of 80% of the capital) and to the *new marke* of the Paris Bourse (a take up of 20%) in June 1996. In July 1998, Genset stood out as the indisputable leader in genome-related work, vying with its biggest American competitors, even filing patents under their very noses; and with a suitably large workforce (400 employees, including 270 in R&D), and a turnover of 250 million francs, everything seemed to be going perfectly.

Then came the fall, as sudden and dramatic as its rate of growth had been. On 12th February 2001, Genset announced a strategic change of direction towards the pharmaceutical sector, with the Genset-Pharma plan, providing for the loss of 82 posts out of 287, and the recruitment of 28 people in computer-assisted molecular biology and cellular biology, since it was judged that those declared redundant were not suitable for this change of direction. Moreover, the sale of its Oligonucleotides division was agreed. The promising results obtained with famoxin, a natural protein discovered by Genset, which allowed mice to lose weight without a change in diet, caused a 16% rise in its shares on 6th February. The Chairman and Managing Director, André Pernet, denies having “surfing on one big wave [in order to make money]”. However, this is very much the impression he gave, and the results that are hoped for at Evry, in terms of jobs and stability, will not materialise if every start-up, when it becomes a big company, sacks half of its staff whenever it changes direction.

Despite their relative instability, therefore, the future of the sector lies with start-ups. Thanks to their size and structure, they can take decisions very rapidly, and can re-orientate their activities flexibly, helped in this by a new light legal structure for small companies introduced two years ago, which eliminates the need for a Board of Directors, and which permits maximum simplification of procedures – the S.A.S. status.²²

This status saves entrepreneurs from getting bogged down in unnecessary red tape; the only constraint is that such companies cannot draw upon public savings. This new status is very well suited to small organisations such as start-up companies, and seems to be attracting a lot of interest from entrepreneurs. By contrast, the future of large organisations seems to be under threat because of their heavy management structures in a market that moves too fast for them. The future, therefore, lies with light structures, small/medium sized companies and start-ups, which create added value and jobs, and can adapt quickly to the market, without having to sack all their qualified staff. The small/medium company seems to be more adapted: indeed, the ‘contract culture’ in France essentially concerns big companies (see the example of Genset) which engage researchers for a specific project. It is true that in these situations scientists are locked into short-term jobs, without any guarantee of finding another contract later: these scientists are spe-

cialised in only one research field. If there is no evidence that the agility of smaller companies can provide greater job security, these companies cannot afford to engage hundreds of new researchers as Genset did; micro-businesses keep to the same research field that permits its scientists to remain in the company – contrary to big companies that radically change their research fields – depending on the projects in progress. The question is: what will happen when all these micro-businesses become big ones?

Activity orientated particularly towards the outside world

The laboratories and also the companies established on the site seem to work more with their foreign or national counterparts, than with local ones. The policy of opening up international contacts as a way of widening the scope of the individual company's own network conflicts, however, with the principle of collaboration between the actors operating within the Evry network itself. In effect, the very sector in which these different actors are working encourages the companies to seek collaborative ventures with foreign companies, particularly in the United States, which has been in the biotechnology field for a long time. The problem is that the specialisation in their particular field is such that the expertise that they require is also so specialised, and often this expertise quite simply cannot be found on the site. It is not, therefore, that companies are unwilling to collaborate locally, but the expertise they are looking for is not available on the site. Is there a solution to this?

The site is presently developing a positive image, which is transmitted abroad. And only an ever-increasing growth in the number of companies, and therefore the range of expertise, will enable them to work together, quite simply because the activities of interest to the actors in the network will then be available on the spot. Several people involved in start-ups spoke to us about this problem: *"We work abroad: US, Japan, not at Evry. At Evry, there aren't any companies that would be interested in our technological platform; not now, at any rate, as far as we know. (...) We have contacts with other laboratories, but not specially with the ones here (...) It's not a question of proximity, it's a question of needing a particular technology... Science today, it's so vast that you don't find much knowledge in the same place."*

It seems, however, that there is no snobbery in this, of the sort that claims that 'working with foreign partners gives credibility to the research': priority would be given to work to be carried out at Evry but, in practice, the very specialised technological expertise that is required cannot be found on the site, and is therefore sought elsewhere. Similarly, the use currently made of the University of Evry and its pool of students seems less than optimal, since placement students and students working on their doctorates from other universities are present, as some

people running start-ups illustrate: “Our [*placement*] student? No, she comes from the University of Rouen.”

In short, in spite of results that show continuous improvement, employment in a *technopole* suffers from a number of problems. Let us hope that the experience gained by the Genopole Association will allow most, if not all, these problems to be resolved in the future.

A hybrid model

In the earlier part about the *technopole*'s evolution, we have seen that the creation of the Genopole follows proven formulae. This kind of association has been common practice for a long time and especially in the USA. But the Genopole does not exactly have the image of the usual scientific organisation: its aim is to appear as the union of public research and of the French biotechnology industry. The Genopole is characterised by the important role of the French State – a direct role via its president appointed by the Research Minister, and an indirect role as it merges most of the big research organisations which are owned by the French State. Indeed, the Genopole seems to work less like an association than an administration co-ordinating information and redistributing direct or indirect funds. The French State's role has an impact at several levels and especially on employment. A large number of the jobs created on Evry's site are due to the arrival of already existing²³ public laboratories. Almost everything created there is taken by the French administration from somewhere else.

It is again the French State which establishes the biopole as the French *genopole*'s co-ordinating centre, giving it the mission to dispatch the grants for the creation of a *genopole* grid. But most of the provincial laboratory groups merging to get the State label *Genopole* given by the town of Evry had already been organised as *genopoles*. That is why many scientists consider the label's purpose as essentially a way to fairly evaluate the grants given to the laboratories by the French State. In present-day science, organising something like molecular biology in a grid seems to be redundant. The genetic information is stored in international data banks, and the active laboratories are not only in touch with their colleagues in France but also with scientists all over the world. Apart from considering that the information does not effectively spread inside the French research institutions, and so that it is necessary to get rid of the compartmentalisation damaging its efficiency; or considering that every laboratory is independent, the French State cannot have a global vision of what is done in this fast-evolving science anymore; or see that it is urgent to replace the usual ways of making grants to the laboratories with more appropriate systems.

From this point of view, the aim of the *genopole* GIP grid would be to modify the scientific institutions' *modus operandi* via technology - one of the principal interests in getting the label being the funding offers from technology institutes. But would this desire for co-ordination have sufficient virtues to replace the organisation's reform which many science observers have been asking for for years?²⁴

With European funding, we know only too well the limits of such a bureaucratic incentive to union; the principal danger being that formalism could prevent original scientific initiatives.²⁵ Anyway, it does not minimise the French State's nor the public research's roles, but on the contrary its aim is to reinforce their power giving a better formal coherence. But it also - at least symbolically - tends to replace the local *technopoles*' initiatives under the authority of a centralising body.

Evry's *génopole* has the image of a hybrid model trying to combine on a national plan the worldwide competition demand - the market's one - and also the international scientific competition; placing it under the authority of a State that would take back some of the initiative potential - partly taken from it by decentralisation and globalisation - by an encouraging management of the grid. With Evry's *génopole* and its set devices the French administration does not give up its role of referee, but opts to be 'lighter' for better mobilisation. What will be lost by centralising will be gained in matters of flexibility and speed reaction. Evry's Genopole GIP continues to adapt the French public services bureaucratic model to globalisation. Being an atypical innovation created by an atypical Minister, and a fine politician scientist,²⁶ it is the materialisation of a compromise with the industry which would have the French State and the public research keep its predominant position. This is a compromise that would avoid more painful changes in a coveted sector.

Notes

1. **Technopole**: a "large urban centre with teaching and research facilities that can support development of high-tech industries"; definition taken from Larousse French Dictionary, Paris 1993. As this is a French concept which has no satisfactory English equivalent, the French term is retained (in italics) in the text. **Génopole** is a still newer term, formed in analogy with the previous one; it is a technopole specialising more precisely in biotechnology. Again, except where it is used as a proper noun (as in Genopole GIP), the French term (in italics) is retained (Translator's note).

2. Schumpeter was certainly the first economist to speak of innovation. He differentiated between five aspects: the manufacture of a new product; the introduction of a new method of production; the development of a new organisation; the opening up of a new outlet; the conquest of a new source of raw materials or semi-finished products.

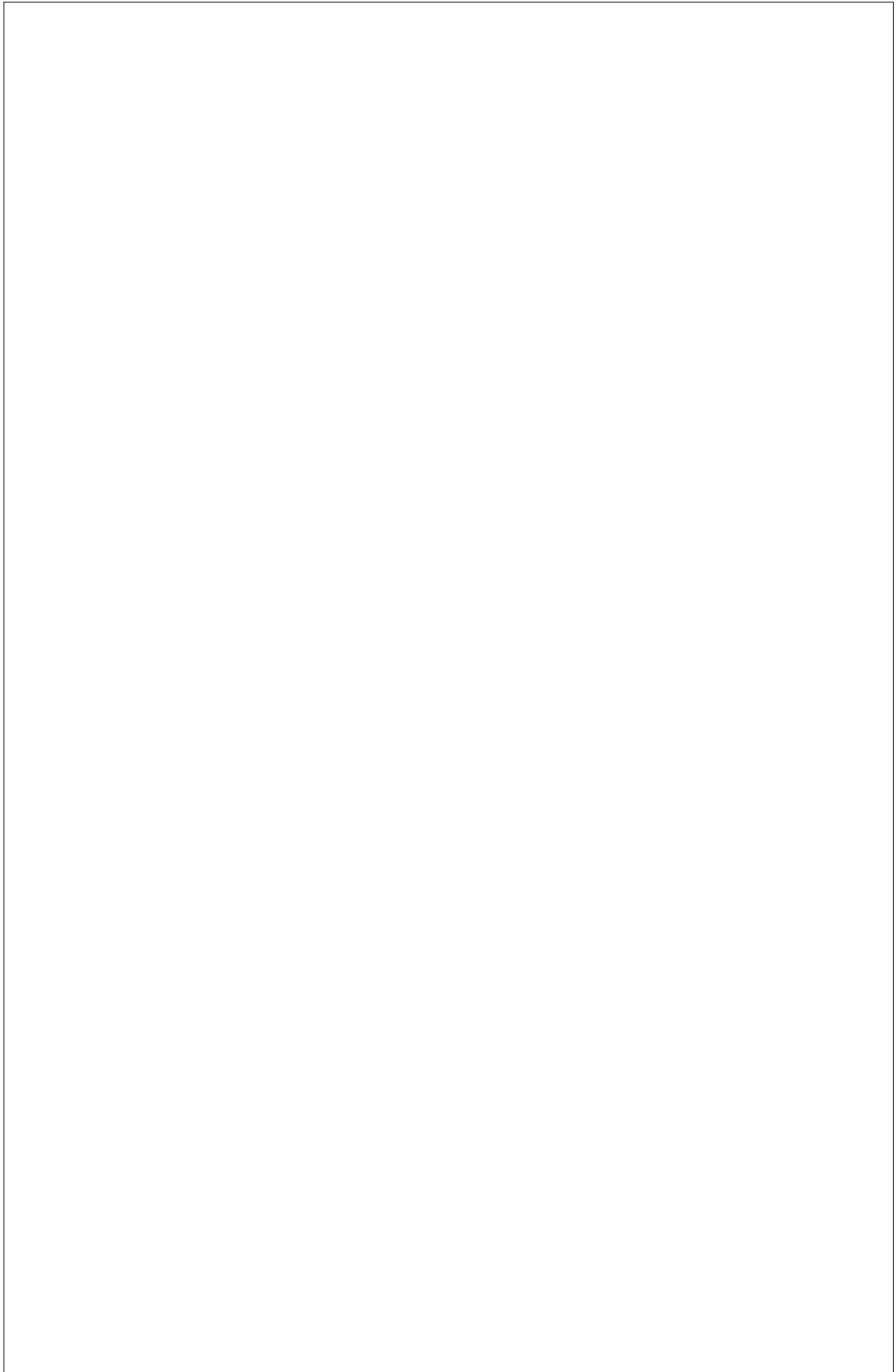
3. An attitude reinforced by the extraordinary rise of the information technology industry since the 1950s.

4. See the Genopole Employment chapter: statistics show that the distribution of jobs created in the *technopoles* is 40% with a PhD doctorate, 28% engineers, 18% managers, and 7% with a qualification in finance; the share of highly-qualified jobs is quite important.
5. In France, Senator Pierre Laffite played a similar role of a pioneer. He succeeded in mobilising people to create the Sophia Antipolis technopole in Nice in 1969.
6. For example, to emphasise its laboratories' innovation, the CNRS created an Anonymous Society called FIST (French Scientific Innovation and Transfer). It is a subsidiary of CNRS (70%) and Anvar (the French Agency for innovation) (30%). Its activity includes study and counsel about patents; negotiation of rights of exploitation; the search for national and international industrial partners, negotiations and drafting of agreements, etc... The CNRS also entrusts FIST with buying shares in companies where the activity is close to one of its own laboratory's innovation. Until now, a dozen investments have been made for about forty propositions.
7. The USA being the most active.
8. At the present time, eight *génopoles* are approved in France: Paris-Evry, Lille Nord-Pas-de-Calais, Strasbourg-Nancy, Lyon-Grenoble, Aix-Marseille, Montpellier Languedoc-Roussillon, Toulouse Midi-Pyrénées, and the last to be created, the West *génopole* called Mer-Agro-Santé.
9. A. Leveque, *The Research Triangle Park*, Paris, DATAR, 1996.
10. One must, however, distinguish between 'genuine' examples of swarming, relating to the development of innovatory technological processes, and those which are simply a substitute for redundancies.
11. F. Pammoli, M. Riccaboni, J. Owen-Smith and W. W. Powell, *Europe Etats-Unis: la force des réseaux*, Biofutur, mai 2002.
12. Michel Burnier, Guy Lacroix, *Les technopoles*, Que sais-je?, PUF, 1996.
13. The AFM (Association Française contre les Myopathies) is a French association which struggles against rare genetic diseases, and which possesses its own research laboratory, the *Généthon*.
14. At the present time, it is a Public Interest Grouping.
15. (Centre National de Génotypage) This is a public research centre.
16. The Agency for Economy in Essonne.
17. BIO Biological Industry Organisation.
18. Like other nations (Germany, Canada, etc.) which have preferred to form an alliance with the private sector.
19. There is a similar situation in information technology. Companies such as Microsoft have patented large quantities of sections of banal programs, which are essential for the development of software programs. This allows it to protect itself by launching a barrage of writs against small innovative companies which might threaten its dominance.
20. "Bio-Avenir, un programme à la française", *La Recherche*, April 1998.
21. Biotechnologies en France, *Quand la créativité rencontre la croissance*, Ernst and Young (2001).
22. Sociétés par Actions Simplifiées – Companies with simplified shares.
23. As for the bio computer laboratories.
24. Most of these arguments can be found in "The defeat of French science" written by Olivier Pastel Vinay (Editorial Director) of the monthly magazine "La Recherche", n° 352, April 2002.

25. For example we could talk about the recent attribution of the West Genopole Research Label. This label merges 48 research laboratories and companies specialised in biology scattered on 20 sites from Rennes to Nantes and Brest to Roscoff. By giving this label the French State commits itself to grant financial aid to the laboratories. Moreover this label makes it easier to have access to the grants given by the region. Five platforms – where the technical equipments science laboratories cannot afford could be found – will tie all these protagonists together. A first attempt to get this label was made in 1999, but only 2 laboratories were then interested.

26. He contributed a lot to re-establish harmony between the different laboratories, the animal rooms and the antivivisectionist groups in a key science department: tests on animals, in Karine Lou Matignon, *L'animal objet d'expériences. Entre l'éthique et la santé*, Anne Carrière, 1998.

Capacity building



The third task

A challenge for Swedish research and higher education

Göran Brulin

Higher education and research are today's measures of success, in Sweden as elsewhere. Never before have so many young people completed senior high school and in Sweden the goal is to get every second youth to complete college as well. The numbers of PhD students today are as many as the total number of senior high school students half a century ago. Within natural and technical sciences spectacular progress has been achieved and the same goes for medical science. Knowledge produced within human and social sciences is finally perceived as the legitimate understanding of both culture and society.

All human societies have been knowledge societies. The difference is, however, that in today's knowledge society, scientific knowledge is perceived as the very foundation for economic growth and development. Parallel to the spectacular progress within science the whole perception of knowledge production and formation is changing. Scientific knowledge is increasingly produced in interaction and co-operation between universities and practitioners in their surroundings, ie companies, public institutions, interest organisations etc.

The launching of a third task in the law covering higher education and research in Sweden (Government Proposal 1996/97:5) is just one illustration of this transition in knowledge production and formation. The third task was added to the former two, to educate and to conduct research, and obliges universities to relate to and collaborate with practitioners in the local community to support development processes since there is a growing awareness that research and education that aspire to be useful have to be produced in interaction with practitioners. Gibbons et al. (1994) and Nowotny, Scott and Gibbons (2001) have described this change in knowledge formation as a transition from a traditional knowledge production, Mode I, to an interactive, contextual knowledge formation, Mode II.

How then, is interactive knowledge formation achieved? If the universities want to play a significant role in the future knowledge formation "...there is a

need for institutional mechanisms to help people temporarily cross the boundaries of their narrow intellectual and experiential worlds of knowledge in order to learn from and with one another, giving at certain points more emphasis to issues of abstract intellectual knowledge and at other points more attention to experience and action-based knowledge. In all cases, networks need to be established that can facilitate mutually enhancing encounters” (Lindenstone Walshok 1995: 32). However, crossing the borders does not imply erasing the differences. With the third task a set of means to support interaction have been introduced. What remains to be seen, however, is whether the third task can be implemented simply through a set of means or whether changes in the very epistemology of research and higher education are needed.

To begin, I have to admit that I am biased in the discussion about what changes the third task imply. My preunderstanding is that the implementation of the third task calls for changes in the epistemology. My research institute, the National Institute for Working Life (NIWL), was one of the state authorities and research institutions that received an assignment from the Swedish government to promote the implementation of the universities’ third task. The Program for higher education and research was set up at the NIWL in 1996 aiming to develop mutuality in knowledge formation between universities and their surroundings (Brulin 2000b:443). It was an action research project and simultaneously a means to support the introduction of interactive knowledge formation at the different universities. The Program addressed action-oriented researchers at the 20 new universities and university colleges that had taken the lead in the introduction of the third task. It supported the formation of a network between universities in the same region and thus created an arena for dialogue between researchers from different universities about the third task. Five such networks, covering most of Sweden, were formed. However, before discussing the implementation of the third task in Sweden, I will briefly discuss the new perception of innovation processes and knowledge formation that form the background to the implementation.

The significance of dynamic local and regional settings

Research on innovation and knowledge formation processes has defined different models and core qualities. Traditional theories of innovation relied on formal relations and planned instrumental activities such as basic research and technology diffusion. According to these traditional theories applications should follow research in a *linear model* (Brulin 1998:35). Findings in basic research were to be further refined in industrial research institutes and laboratories. Then they were supposed to be channelled to the big companies’ research and development de-

partments. There the findings were supposed to be applied to mass production. Lately, this linear model of innovation and knowledge formation has however been strongly criticised.

According to the *innovation system approach* (Edquist 1997), new products and business ideas can hardly be developed in a linear, sequential chain of order. There is no linear logic from invention to product, production and marketing. Innovation is instead an effect of an interactive working system. This system is constituted by three main actors – the triple helix – universities, public authorities and the business community. The innovation system approach has influenced innovation policies in many countries. The Swedish Government for example has recently set up The National Innovation System Agency (VINNOVA) in line with this understanding.

In contrast to the linear model the innovation system approach points to the mutuality and interaction between enterprises and institutions in an innovation system. Like the more traditional linear model, however, this approach is also built on a system metaphor. A smooth working system, scale and scope are seen as decisive factors for how the innovation system should work and grow. An innovation system is based on agglomeration and geographical concentration. Concentration on research and development give, according to the innovation system approach, the very best effects when carried out in cities and regions with more than one million inhabitants. The explanation for this is the large regional concentration of research-intensive industries, small enterprises and highly educated people. In a big city there are different special laboratories and professions, ethnical and cultural multiples, not one but many universities etc. It is in the big cities you can find the best preconditions for commercialisation of innovations, according to the innovation system approach.

Researchers who emphasise the random and subjective relationships in innovation processes are, however, sceptical of the innovations system approach because of its focus on system and scale. An alternative model of successful innovation processes focuses on relationship building. Storper (1997: 28) contrasts the innovation system approach with relationship building and networking. The guiding metaphor is the *economy as relations*, the economic process as conversations and co-ordination, and the subject of the process is not objective factors but reflexive human beings, both individuals and collectives. In this perspective the nature of economic accumulation is not based on material assets but on relations. Regional economies are, in this perspective, defined mainly as a stock of relational assets. A region's chief asset is thus not the institutional system but the set of relations: the latter is a random asset, which takes a long time to develop and is difficult to imitate (Eriksson 2000). New products and business ideas are seen

as the result of many complicated patterns of co-operation and interaction with external actors, sub-contractors, customers, researchers etc.

That innovative development of products always contains a great deal of networking and experimentation under rather chaotic circumstances is an empirical fact. According to the people who developed successful products like Astra's Losec (the world's largest-selling drug) and Ericsson's tele-communication systems, this was only too true in their cases. Their product development processes were heavily dependent both on proximity within the project group and networking with external competences in the local setting, not least presumptive buyers (Vedin 1992). The research and development groups could, independently, decide which people to invite to the groups, often based on personal acquaintance.

At least since Piore and Sabel (1984), the significance of the local and regional setting for innovative processes described by terms such as clusters, networks and industrial districts (for an overview of this issue in the Scandinavian realm, see Maskell et al. 1998) have been on the research agenda. Porter (1998: 78, 89) points to the local and regional paradox of globalisation:

Clusters are not unique, however; they are highly typical – and therein lies a paradox: the enduring competitive advantages in a global economy lie increasingly in local things – knowledge, relationships, motivation – that distant rivals cannot match. . . Untangling the paradox of location in a global economy reveals a number of key insights about how companies continually create competitive advantage. What happens inside companies is important, but clusters reveal that the immediate business environment outside companies plays a vital role as well. This role of locations has been long overlooked, despite striking evidence. . . Clusters affect competitiveness within countries as well as across national borders. Therefore, they lead to new agendas for all business executives – not just those who compete globally. More broadly, clusters represent a new way of thinking about location, challenging much of the conventional wisdom about how companies should be configured, how institutions such as universities can contribute to competitive success, and how governments can promote economic development and prosperity. . . Tapping into the competitively valuable assets within a cluster requires personal relationships, face-to-face contact, a sense of common interest, and 'insider' status. Universities have a stake in the competitiveness of local business.

In a similar vein, Castells (1999) describes the new economy as an experimenting network system with significant nodes, clusters, innovative spots etc.

The complex relation between discovery and practical application is the key issue in the innovation process. Mowery and Rosenberg (1999) emphasise the specific and local in all innovation processes. Successful innovation processes owe more to how different actors interact than how big or how many they are. After the Second World War American companies began to exploit more sys-

tematically scientific discoveries, and they began to build unique partnerships with universities but, as in Europe, this was not easily done with the old prestigious universities. Rosenberg often takes his own university, Stanford's successful relationship-building with actors in the close surrounding, as an example. Collaboration between a university and its surroundings first gained a strong foothold on the US west coast.

Through different forms of collaboration with the business community, the head of Stanford University wanted, as early as the 1950s, to upgrade his university from a second-rate country university into a so-called US research university. At Stanford an organisation designed for collaboration was shaped under the guidance of Frederick Terman who had earlier failed on the US east coast to get a response for ideas such as the opening of a business park: it became Stanford Industrial Park. The establishment of the company Hewlett Packard was an important first step to encourage a different kind of spin-off, hiving-offs and commercialisation of patents; the right (or restraint) for researchers to work as consultants one day a week was launched; the facilitation of commercialising of patents began. At Stanford the income is shared in three equal parts: one third to the university, one third to the home department and one third to the researcher himself. Each department at the university has also been given the freedom to arrange commission/education and to handle the income for these and other arrangements in co-operation at the department. American universities have far more substantial means than European universities. They benefit both from a high level of public funding and from substantial private funding, which also means that close relationships to the business community have been established.

Until a few decades ago Stanford was seen as a provincial university ranking below average, far away, surrounded by orange-groves. Today, these groves harbour Silicon Valley. The success of Stanford, Silicon Valley and the Bay region demonstrates the significance of the local and regional dimension. Gustavsen, Finne and Oscarsson (2001) point to the organisation of development coalitions in innovation processes as the missing link that would enable innovative processes, training and collective learning in a regional or local context. The focus in knowledge formation and innovative processes has thus shifted from national policy to local and regional development processes. There, in the concrete local and regional context, the development initiatives flourish, in a process of constant trial and error, if the atmosphere is permissive and tolerant of mistakes.

Etzkowitz, Schuler Jr. and Gulbrandsen (2000:57) illustrate with experiences from two US universities the process of transition that takes place as universities increasingly adhere to the significance of relationship building with actors in the local and regional setting. As facilities at the universities to foster economic development are set up:

Three roles – teaching, research and economic development – are being combined in one institution. This means that a university may have a penumbra of firms that originated from academic research surrounding the university or even inside the university, sharing buildings with academic facilities. Courses may include internships in such companies and firms may use academic facilities such as the library. Beyond crosscutting utilization of existing formats in new ways, new roles and relationships may be invented. . . The institutional spheres of academia, industry and government, which formerly had separate institutional identities, missions and purposes, are now overlapping, with linkages among them. They also take the role of the other.

An illustrative case, the biotec cluster of Uppsala

Uppsala is Sweden's oldest university town, 40 minutes from Stockholm and closer to the international airport than the capital itself. Before the international merger between Pharmacia and Upjohn the Pharmacia headquarters were based in Uppsala together with an internationally renowned university hospital, a national centre for bio-medical research and several national public institutions, including the National Drug Administration. Put together these institutions and the big company qualified as one of Sweden's best-furnished innovation systems.

In November 1998 the University President, at a celebration in Uppsala Castle, announced the region's passing from a national innovation system to an experimental cluster and network economy. The year before Uppsala had received the shocking announcement that Pharmacia & Upjohn would cut down on its presence by up to a thousand employees, mainly in R&D, an announcement viewed as a catastrophe, locally as well as nationally. The interpretation today however, is that the destruction of the innovation system sparked a development with a much higher potential than just shaping a subsidiary office to a global pharmaceutical company based in New Jersey.

Pharmacia and the university had been the engine of the medical innovation system in Uppsala. Pharmacia was not only the main private sponsor of research, it was also the primary alternative employer for creative researchers with commercially viable ideas. The company absorbed ideas from the universities and smaller companies (Frankelius 1999). Some ideas were successfully exploited but others, for which there was no room in the big company's strategy, were put aside (Norgren 1989). Compared to the other large universities in Sweden, the innovation system was not particularly successful in spinning-off new ventures. In fact, Uppsala ranked alarmingly low in spin-offs (Sörlin & Törnqvist 1999).

A few years after the shocking announcement, a dynamic bio-technical industry has mushroomed. Earlier, small innovative enterprises were unable to succeed in the shadow of the big company, which totally dominated the exchange with

the relevant departments at the university and drew all the attention from the state authorities. When Pharmacia left the stage, many of the small companies became fast-growing companies; after three years the twenty biggest companies have more employees than Pharmacia had at its peak; and there is an abundance of researchers and consultants seeking opportunities to contribute to these firms. There are now more employees than ever in the bio-technical R&D in Uppsala.

The relationship building and networking have given rise to talk about Uppsala as Group/Uppsala. The collapse of the medical innovation system, researchers, venture capitalists etc. has given space for new local networking and small firms to seize the new international market. The big company's dominance on the world market prevented the research community from building their own networks with distributors and drug manufacturers, thus blocking some very significant inputs into the innovation processes.

The new bio-technical cluster in Uppsala is much smaller than the international leaders, eg in Boston or around Cambridge. But the building of international networks has made it possible within special niches, such as combining bio- and IT-technology, to attract international partners. What we see might also be the beginning of a new trend from the global drug-manufacturers to concentrate their own R&D (to the US east coast), while at the same time increasing their partnership with small specialised innovative companies.

How come that the oldest and most conservative of the Swedish universities, a university that had been known as an 'ivory tower' of academic wisdom, which was much against interaction and networking with practitioners, suddenly changed? Probably a lot of different factors coincided and made the change possible (Brulin 2002:35). There had been a severe economic crisis in Sweden, there was an economic downturn in the region and the big company pulled its R&D out of the region. Furthermore, there was a change of University President, the third task was introduced and the climate for interaction became much more positive. With the collapse of the old innovation system, researchers, venture capital firms etc. started to build new local and international market networks.

The third task as a set of means

What conclusions should be drawn from the perception that innovative knowledge formation processes have to be organised in a supportive and fertile local and regional setting? Swedish research is in many respects perceived as world-class; Sweden is one of the nations that invest most in research, 3.8% of its GNP (the EU average mean is 3%); Swedish researchers on average publish many more articles in peer-reviewed scientific journals; the number of patents is high compared to the

rest of the world. However, there are no indications that all this scientific production results in a comparably high amount of commercialised business ideas and dynamic development processes. On the contrary, different evaluations show that Swedish research scores very low when it comes to turning theory into practice. Due to this fact, a whole set of means has been launched to increase the revenue of research and higher education production.

But, could the third task be reduced to a set of means? As we have seen, successful innovation processes always contain a great deal of networking and experimentation, not least in the local and regional realm. It is an empirical fact that such processes call for deep interaction between researchers and people from the business world. For example, by abolishing the so-called scholar's exemption or demanding academic researchers become entrepreneurs and set up offices of collaboration, do you really create such processes? Doesn't innovative co-operation between universities and their local surroundings demand other sorts of changes not least in the knowledge formation? There are reasons to critically discuss the set of means that has been launched.

The scholar's exemption

In Sweden there is a scholar's exemption. The scholar's exemption implies that lecturers, researchers and students own one hundred percent of his/her research results. Amongst the measures that ought to be taken to facilitate the commercialisation of research many argue that this exemption has to be abandoned. Among these is The Federation of Private Enterprises (Företagarnas Riksorganisation) which argues that revenues arising from the results of research should be shared between the university and its employees (Heldén Filipsson & Linder 2001:111). According to critics of the scholar's exemption, few researchers favour applying for a patent before carrying out research. Potential research results thus never get a patent applied for. Moreover researchers lack the financial means to pay the heavy patent fees and to defend encroachment on patent in court. By taking away the scholar's exemption and by setting up holding companies and patent and licence agencies, it is hoped to increase the commercialisation of research results.

At Stanford University, which stands out as an example in this respect, revenues from commercialisation of scientific production have been shared equally in three parts between the university, the scholars and his/her department. A split like that should, according to the critics of the Swedish system, furnish universities with incentives to force the pace of commercialisation of knowledge. The office of Technology and Licencing (OTC) at Stanford University, which runs the commercialisation, has undoubtedly been of great economic benefit to Stanford. Hundreds of millions of dollars have been gained from innovations made by students, re-

searchers and other employees. However, Stanford University has not deliberately set out to earn that money; rather, it has earned it because the University has had great luck. Most US universities have not gained anything from their OTC; on the contrary, the OTCs have meant very large costs for most US universities. So far, the holding companies connected to the Swedish universities have not made any earnings but have created costs for their universities.

Academic entrepreneurship and commercialisation of scientific ideas

Another idea that has been launched is to try to get academic scholars to set up their own companies, ie to become entrepreneurs. In their book *Academic entrepreneurship*, Magnus Henrekson and Nathan Rosenberg (2000:96) argue that the performance of the economy increases if the university system is working in line with the economic rationality of society. It is the remarkable effort of Stanford Industrial Park in the success of the US semi-conductor industry that has inspired their ideas about academic entrepreneurship. At the beginning of the electronic era the US semi-conductor industry did not believe in the commercialisation of the transistor technology. Therefore, if the transistor was to be developed it had to take place within the sphere of the university world, protected from the economic rationality of the broader society.

In 1956 Stanford accordingly engaged William Shockley, inventor of the transistor. The appointment of Shockley illustrates, according to Castells (1999:65), the incapability of established electronic firms to grasp the revolutionary possibilities of microelectronics. Shockley had applied for support from a number of big companies on the US east coast, like RCA and Raytheon, to further develop his innovation into industrial production. After these rejections, he accepted the offer of Stanford, mainly since his mother was living in Palo Alto. There he decided to set up his own company, Shockley Transistors. One of the companies to grow out of Shockley Transistors was Fairchild which has subsequently given birth to more than half of the US electronic industry and laid the foundation for the software industry. We have to remember however that Shockley was not an academic researcher turned entrepreneur, neither were his colleagues that started Fairchild and its Fairchildren. . .

A strategy in recent Swedish science policy, inspired by the success stories from the US west coast, is to allocate the resources to areas generally held to be prosperous, like the TIME sector (telecom, information technology, media and entertainment/education) and the so-called life sciences (biotech). It is argued that large investments in research in those areas will create scientific results as well as patents, which in its turn will attract venture capital, create companies and new industries in the future. So far these hopes have not been realised.

Gyros is a new company in the biotech cluster between Uppsala and the northern part of Stockholm. The company has launched a cd-based micro-laboratory. Fast test results is the business of the company: a patented system with integrated channels and chambers on a cd-record enables a huge amount of laboratory samples to be tested simultaneously and very fast. To develop such a micro-laboratory venture capital is needed. The initial 29 million euros that were invested at the outset have been more than doubled. By reducing the need for more expensive tests, Gyros thinks it has a good chance of finding a stable commercial market for the scientific results on which the company product has been built. 90 people are working in the business. However, to date no substantial earnings have been made (Ny teknik 2003-03-26, p. 18).

The anticipated success of a company such as Gyros in exposing its scientific results to venture capital illustrates the big risks in financing companies built on scientific results. Entrepreneurship based on scientific results and high-tech knowledge does not necessarily mean commercially robust companies. On the contrary, the large losses of venture capital in the IT sector during recent years and lately in the biotech sector (Ny teknik 2003-03-26, pp. 14–16) illustrate the problems with this strategy. Those losses and the recession have increased the scepticism among venture capitalists towards financing commercialisation of scientific results and turning researchers into entrepreneurs.

Nowadays, there are even some venture capitalists in Sweden that question this whole strategy. They argue that researchers are extremely badly equipped to become entrepreneurs or create commercial earnings out of scientific findings. 'Doped' with venture capital they proceed with their research job, forgetting about the commercial side of the venture. However, the new innovative technology-based firms should not be judged just on their performance. As Saemundsson (2003) shows, small and medium-sized technology-based firms are very important for dynamic industrial development although they do not employ a lot of people or make huge earnings. Yet they contribute to a nourishing and innovative environment.

Industrial research institutes and the so-called CONNECT

In Sweden, established industrial research institutes and the more recent so-called technology bridges (*teknikbrostiftelserna*) have obtained great resources to create links and bridges between research and practice. Shared responsibilities for appointments between universities and business companies, as well as examination work carried out in the business sector, have been organised. Critics of the industrial research institutes have however argued that they too strongly mirror

traditional industries and their off-shoots. They therefore prefer to channel the demands of established companies into the universities.

Industrial PhD students and industrial research programmes are other examples of efforts to create bridges between the universities and the business community. A late initiative towards networking is CONNECT, a non-political, non-profit-making, private initiative. CONNECT Sweden is financed primarily by the Swedish Industrial Development Fund and the Confederation of Swedish Enterprise; the regional networks are financed mainly by fees for membership, partner packages, and activities. The activities are carried out by regional networks coordinated by CONNECT Sweden. Within each network, people with experience in various areas of expertise contribute their time and know-how in support of the CONNECT activities. Examples of such people are entrepreneurs, accountants, lawyers, management and marketing consultants, and venture capitalists. One of CONNECT's most important activities is to create springboards, ie a panel of experts helps an entrepreneur solve the company's problems, identify its opportunities, and give practical advice on the actions the entrepreneur should take in order to move forward. Springboards are arranged by the regional CONNECT networks and form the core of CONNECT's activities. Other activities are organising meeting places for start-ups seeking venture capital and investors, and meeting places for potential strategic partners within the same or a related field and investors.

CONNECT tries to facilitate academic entrepreneurship through mentorship and to furnish fast-growing companies with competence and capital. Within the compass of CONNECT researchers are introduced to successful entrepreneurs who are experienced business people and venture capitalists. CONNECT has its roots in San Diego, USA, where the closing down of the defence industry created a crisis that forced the universities in this region to form networks between researchers and mentors to encourage new enterprises. The sociologist Mary Lindenstein Walshok (1995) has been the soul of fire behind CONNECT in USA, and also in Sweden. Her background is that of a researcher with American pragmatism. Activity, action and practice are decisive conditions for knowledge formation in this tradition, with famous names like John Dewey. He regarded 'learning by doing' as the guiding star of all good learning.

Science parks

Great expectations have also in recent years been directed towards science parks in the immediate vicinity of the universities. This idea too has its roots in the USA. In Sweden today we can find 34 science parks. Their location close to academic institutions is meant to foster a collaborative advantage. All of them, except

for the one in Söderhamn, are located near to a university college or a university. The idea of science parks is to stimulate meetings, networking and growth. Very few deliberate measures have, however, been taken to design the interaction – to create relationship-building – between the researchers and the companies in the science parks (Brulin 2000b:442). Thus there is a lack of overlapping networks between the research society and the companies in the parks and also between the companies located in the parks. In a comparison of the networking between entrepreneurs in a Swedish industrial district, the Gnosjö region, and entrepreneurs in the Ideon, the science park of Lund's University, it was shown that the networking in the Gnosjö region was much greater (Johannisson et al. 1994). The companies in the Gnosjö region participated in many more networks, both externally and internally and probably still do.

Huge sums have been invested in the Swedish science parks; in particular investment in buildings has been massive. The local municipality, the county council and the university jointly own most parks. However, if the investment in hardware – real estate, structures, institutions etc. – have been massive, the investment in software – meeting spots, relationships, overlapping networks between the universities and their surrounding communities etc. – has been minor. The link to buyers and users seems to be the missing one.

It is mainly the big Swedish companies that dominate the Swedish parks (Lindholm Dahlstrand & Anders Wikström 1998:6). They locate themselves close to the universities to facilitate the recruitment of students. In Mjärdevi, science park of Linköping's University, more than 50% of the jobs have been created by traditional big Swedish companies such as Saab Aerotech and Ericsson; 40% have been created in student spin-offs; a mere 10% of the jobs have been created in university spin-offs based on research innovations. Furthermore, it is the big companies that participate in the absolute majority of applied research projects.

Ylinenpää and Lundgrens (1998:9), in comparing a region in northern Finland with a region in northern Sweden, found that the overlapping networks seemed to be stronger and more developed in Finland. The co-operation in Sweden involved small and medium sized enterprises only to a limited degree. In Finland, on the contrary, the co-operation was not just aimed towards big and well-established companies such as Nokia. Instead smaller and growth-oriented firms often represented significant collaboration partners for the university. The failure on the Swedish side could not be explained simply by reduced levels of venture capital. The number of organisations providing venture capital and the amount was as big in Sweden as in Finland. The different paths of development taken by the two regions seemed rather to be in the multitude of overlapping networks between the university and community in the northern region of Finland, while this multitude of networking was not visible around the Swedish university.

Offices of collaboration

After the introduction of the third task all universities and university colleges have set up different kinds of administrative bodies to run the collaborative task: offices of collaboration. According to the declaration of the University of Örebro office of collaboration, it constitutes “the key to the knowledge and competence embedded in the university.” Its task is to foster a dynamic collaboration with the surrounding society: “Together we can help you develop your company or organisation to meet the needs and demands of tomorrow.” At the University of Örebro there are approximately 12,000 students, almost 900 employees and hundreds of researchers who are ready to provide new impulses. “The office of collaboration will help you find the right way to penetrate the university and to establish the kind of contact that will benefit you.”

A number of problems can follow from organising the collaboration in mediating bodies and units as the example from Örebro illustrates. Such different mediating bodies, ranging from a chairman responsible for the third task to different offices of collaboration and business contact secretariats, run the risk of overturning rather than helping building dynamic direct relations between researchers, teachers, students and practitioners in the surrounding society. Such bodies run the risk of institutionalising the third task as a task separate from research and education, according to an evaluation of the introduction of the third task (Högskoleverket 2001).

The third task as interactive knowledge formation

Research and higher education in Sweden has been very much influenced by Humboldtian ideals. In Sweden as in other countries influenced by these ideals, the universities have been regarded as the home of the highest and best form of scholarship and science, so exceptional, even spiritual, that they require protection from the commercial and vulgar tendencies of modern society (Rothblatt 1997:22). As a result of these ideals, co-operation with the surrounding community has been regarded with suspicion. Most of the co-operation that has nevertheless existed between the universities and the big companies and public authorities has traditionally been conducted in line with the linear model. The universities have been oriented towards basic research that was supposed to be channelled to the R&D departments of the big companies. The third task, however, forces higher education and research to become more integrated with the practical world outside the universities.

The third task has, so far, above all led to an introduction of a set of means. It is not at all certain that this is sufficient or even the right path to approach.

The researchers have to become more integrated with practitioners in modern innovation processes. Local and regional networking with companies, consultants, public authorities etc. has a growing impact on successful knowledge formation processes and innovations. Indeed, it could be argued that research and higher education that aspire to have a practical impact have to be conducted in continuous interaction with practitioners in the surroundings of the universities. Knowledge in the emerging knowledge society is increasingly created in interaction between researchers and practitioners which implies a different form of knowledge formation. Interactive knowledge formation means knowledge formation in direct contact with practitioners in development processes, both technical and social. Not just empirical results that are possible to codify but also tacit and practical knowledge are brought into such knowledge formation processes.

According to this interpretation of the third task, it implies change in the very form of knowledge formation, ie influence the epistemology of the universities. Compared to the idea of the university in its traditional sense the third task calls for four major changes, according to Gustavsen, Finne and Oscarsson (2001: 258). First the efforts of research should be directed at dealing with challenges and problems initially identified by the enterprise actors, not by research. Second, research should work in an 'on line' and 'real time' relationship with its partners and not from a distance. Third, even research success should be measured on the basis of bundles of practices and interpretations created together with other actors, and not on the basis of, say, theoretical contributions alone. Fourth, it becomes necessary to be an 'insider' in contexts such as 'learning regions', rather than to stand apart.

Action learning

Until now the dominating opinion inside the universities has been that teaching should be based on theories about an objective outer world. There seems to be a lack of understanding, in the epistemology of the universities, of the idea that the world is changing through creative processes in which theory and practice are mutually nourishing each other. According to Johannisson and Madsén (1997: 21) the Swedish universities have failed to link learning to practice and entrepreneurship (defined in its broader sense as action and activity). According to them, so far students have not learned to act but to describe and analyse. Furthermore, they suggest that students should be trained, like researchers and entrepreneurs, to resist and act when their ideas are being questioned. Such pedagogics grow from action learning which is taught in a dialogue between the lecturer and the students based on practical experiences.

The growing number of courses on commission calls for change in the pedagogics towards more interactive knowledge formation with practice outside the university. Action learning leads to banal but decisive changes of the predominant university pedagogics and behaviour. Anders Bro and Conny Petterson, two lecturers at Örebro University, have for some years run courses in organisation and leadership commissioned by TELIA (former Swedish state telecom) on behalf of the state and different municipalities. The aim of the courses has been to encourage action learning and they have been run in a form resembling Problem-Based Learning (PBL), although in some aspects rather differently from PBL. In PBL the coach plays a very crucial role but Bro and Petterson have rather wanted the learning to be driven forward in an interaction between the participants and their practice. Their objective has been to create learning to act among the participants, to act towards change and development of the organisation. The participants should come to look upon themselves as co-creators of the organisations where they work.

The point of departure for Bro and Petterson has been that few change and development processes are driven by internal actors. Too often they are driven by consultants, above the heads of the employees. Reports by consultants very rarely leave lasting traces, nor is the engagement and competence of the staff used in the change process. Furthermore and most important, learning organisational theory in traditional university courses does not give rise to student action. Not just research but also lecturing and learning have to be developed in interaction with men and women outside the universities. To look upon oneself as participating in a continuously changing society corresponds to an epistemology that encourages action and action-oriented students, who take initiatives and responsibility for their own development, as well as for the society as a whole. This is a rather obvious point as universities, like all social systems, should be open systems, characterised by being in a continuous interaction with their environment (Emery & Trist 1973).

Bro and Petterson argue that it is both efficient and democratically respectable to engage the employees in the continuous change of the organisations in which they work. Learning to learn from and with other people is, according to them, the basis for life-long learning. The aim of Bro and Petterson has been to activate participants in a joint search for possible perspectives and strategies for changes suitable to the organisations where they have carried out their research. Lecturers and professors have been asked to avoid using theories and fixed solutions as their starting point in the course; rather the starting point should be practice. This educational form has meant that the course leaders and the participants on the courses search together for knowledge about and solutions to the problems of everyday life.

These courses have met some interesting reactions. Although Bro and Pettersson informed the participants about the educational form before starting the courses, they have almost always met the same reaction of surprise and frustration. The participants have, sometimes aggressively, emphasised that such learning was definitely not what they had expected from a university course. They had assumed that answers to their questions and the very foundation of their learning were to be found in the theoretical mass of knowledge that exists within the university. The initial frustration has, however, almost always been converted into positive assessment as soon as the participants have understood that the heritage of theoretical knowledge can be turned into useful knowledge only if it is actively used by the participants. In the words of Svensson (2001: 250), these courses show how with the support of theory experience-based thinking can be developed. To sum up, theory can be helpful in transforming practical experiences into theoretical knowledge and vice versa. A dialogue with practitioners, lecturers and students can design a joint process of reflection in which different alternatives may be shaped. In this way can organisational change lead to more considered decisions. With the help of theory, practical experiences can be cultivated and a process of learning can start which broadens the field of action.

Action research

Research that wants to support development and change or that claims to contribute to innovation processes has to be organised as a joint process of knowledge formation between researchers and practitioners (Brulin 2000a). Such knowledge formation can be learnt from action research:

...in action research one recognises and respects the other, the empirical object as subject; hence the relationship between researcher and 'researched' (the other) is seen as intersubjective, interactive and thus as a linguistic relationship, characterised by joint action, joint involvement and shared responsibility. One is jointly involved in discovering as well as in creation. (van Beinum 1998:4)

A study of regional growth showed that no less than 52 out of 81 regions in Sweden had a negative population trend 1990–1998 (Brulin & von Otter 2000). Half of all regions in Sweden suffered an average fall in the total sum of wages over the same period. The Stockholm area alone, with approximately 20% of the population, had 60% of total Swedish economic growth in the 1990s. The top position per capita, however, was held by the small semi-rural Gnosjö region, with an economy based on relatively simple small and medium-sized manufacturing enterprises. The Gnosjö region with 85,000 inhabitants has an unmatched sequence of sustained growth and full employment, even during the most difficult years in the first half of the nineties. In the region, which consists of four municipalities, there

are a great number of small and medium-sized manufacturers in metal, polymer plastics etc.

In 1997 a research and development programme to support competence development in the Gnosjö region was set up with the aim of enabling employees in one company in the region to learn from employees in other companies in the region. In other words, the idea was to spread the networking culture of the Gnosjö region (Brulin 1998) from the entrepreneurs to different categories of employees and subcontractors, to improve the culture of learning and competence development in the region. The precondition for the programme was the trusting co-operation between companies in the region and between employers and unions and their joint identification of needs for work organisation development.

The programme was shaped by the Gnosjö Industrial Development Centre in co-operation with researchers at the National Institute for Working Life, the university of Växjö and the University colleges of Jönköping (Brulin and Halvarsson 1997). A crucial feature of the programme was to keep local actors as the driving forces. In the Gnosjö region there has always been a healthy dislike of and fear of over-organised forms of learning in co-operation with external partners. The motor of the programme, the Gnosjö Industrial Development Centre, is a joint stock company, owned by 73 enterprises and three local departments of the Swedish Metalworkers' union and one department of the Swedish Union of Clerical and Technical Employees in Industry. Its aim is to support local and regional development.

The programme began with a joint start conference in 1997, organised by the researchers (Brulin 2002: 120–144; Gustavsen 1998). A broad representation from four companies in the region, developers from the Gnosjö Industrial Development Centre and representatives from the Swedish Metalworkers' Union had been invited to attend. At the conference it was decided that five project groups were to be established with people from the companies, focussing on five topics: subcontracting, product development, planning/marketing, quality and competence. In all these networks practitioners as well as developers and researchers have been engaged. Also at the conference it was decided that a sixth network was to be established, responsible for workplace-related development processes. The start-up period for this network was much longer since the idea was that it should be a truly self-organised network, founding its activities on the efforts and interests of the employees, blue and white collar workers, working in or close to the flow of production (Brulin 2000a). The main idea was to combine productivity requests of boundless flow production with the standards set up by the Swedish unions for rewarding jobs. Productivity and industrial democracy were enhanced by the activities of this network.

Two groups of companies in the region, differentiated by their size and nature of production, were organised into two different learning networks. The first group consisted of four middle-sized manufacturing companies – Etac, Isaberg Rapid, Peltor and Thule, ranging from 150 to 1000 employees. These companies work in different markets and do not compete with each other but they are comparable in their relations to subcontractors and in their production processes, and they are all active in international markets. For example, Isaberg Rapid exports 95% of its production of stapling machines and, in order to meet user needs, the company has been in a constant process of change, including mergers and acquisitions, leading to growth in production and sales. Subsidiaries have been established across Europe, and now also in China.

Sustainable growth in the Gnosjö region has depended on recruiting and employing immigrants, as the demand for labour has not been met by relying on the local population. As new quality standards have been sought, problems of language and lack of training have forced the companies to find new means of developing the work and production organisation. At Isaberg Rapid they felt that they needed regional support and legitimacy to develop their work and enterprise organisation. Taking part in the programme meant that the company solved some of these problems. Besides taking part in this programme Isaberg Rapid has also been engaged in a learning network with Xerox, to whom it is a main supplier.

According to the regional department of the Metalworkers' union the programme in Gnosjö had to be specifically designed to provide skills requested in small and medium-sized companies. To enhance the learning processes and provide legitimacy for the programme the union contacted the local union clubs in each of the network companies. In response the metalworkers felt they needed training to meet the future demands for skilled labour, not least for the union's female members and members with immigrant backgrounds, who often have the least skilled work tasks, but who needed training when new forms of work organisation were to be implemented.

Conclusions drawn from the programme include: action research can supply the knowledge support asked for by the companies in the region; the programme has been organised as a joint knowledge formation process; it has supported the establishment of networks in which the companies have learnt from each other; staff working in R&D in the different companies have taught each other how to organise innovation and product development processes in small and medium-sized enterprises (*Industriellt Utvecklingscentrum i Gnosjöregionen AB 2000*). It has also brought management, unions and employees together in discussion arenas to work with various aspects of joint learning. The co-determination procedures in general are changing towards process-oriented practices, although the picture is

scattered. Less effort is put into the formal procedures and more into the support of development processes, both by local union bodies and employers.

On behalf of the universities it has also been a learning process. The relationship between the researchers and the 'researched' has been an inter-subjective and interactive relationship, characterised by joint action and shared responsibility. The action research carried out has resulted in a better understanding of the concrete work in development processes at the universities, and also of entrepreneurial practice at the universities. Researchers from the universities nearby were invited to participate right from the start of the programme and thereby given unique possibilities to contribute to the design of the programme. The researchers introduced alternative perspectives and methods such as the start conference and learning networks. The university collaboration has furthermore had an important role in energising the programme. As well as producing research findings from the programme, researchers have also taken part in the evaluation of the programme. Starting from the Norwegian Enterprise Development 2000 Program, Claussen (1998:133) argues that a main challenge for the social parties in Scandinavia is to utilise the advantages from the Scandinavian model of worker participation in such a way that it will enhance the competitive advantage of the participating companies. The Gnosjö programme shows that action research can support them in that aim and at the same time make a critical analysis of the steps taken and methods used.

Criticism of action research

The merits of joint knowledge formation between practitioners and researchers have little by little become known and practised at the Swedish universities and university colleges. Tell (2001) shows how university-led learning networks among small enterprise managers produce new and surprising insights into the everyday life of their companies. Learning processes are triggered, both among the managers and the researchers by this action-oriented form of research.

However, criticism has also been raised against action research and different forms of interactive research models. There is a risk that they become very trivial in scientific terms. By trying to maximise the contribution to practice, they might minimise the contribution to research (Brulin, Ellström, & Svensson 2003). There is, so to speak, a risk that the notion of action research or interactive research becomes nothing but a justification for practical development work masquerading as research and, conversely, for research being reduced to a more or less trivial service role. How, is it possible to carry out interactive research in a way that is productive both from a practical and from a scientific perspective?

Although much has been written about action oriented and interactive research, this has been done mostly from a philosophical perspective. According to Ellström et al. (1999) there are at least three basic conditions that need to be satisfied. First, it is of critical importance to identify a common and potentially integrative task between the researchers and the representatives of practice. Beginning the research process in this way may even require an initial theoretical and/or empirical study of the problem area in order to be able to define a common research problem. Second, it is important that the research project has the explicit aim to contribute not only or primarily to practical concerns, but also to the development of the theoretical framework. In this perspective, giving up the written word as the main product of interactive research in the name of some kind of 'practicism' as advocated by Reason and Bradbury (2001) is hardly recommendable if the legitimisation of interactive research is to be supported. Third, during the initial negotiation phase, it is also necessary to agree on a clear division of labour between the researchers and the practitioners. It is, for example, important to separate the role of being a researcher from the role of being a consultant or change agent in the sense of an advisor or expert that prescribes certain solutions to given problems. Thus, rather than trying to erase the differences between the spheres of research and practice, it is important to respect, preserve, and build long-term, productive coalitions of innovation based on these differences.

Conclusions

A widespread general opinion is that the post-industrial society, a concept introduced by Daniel Bell (1974), is taking the form of a knowledge society. In the knowledge society it is scientific knowledge that really counts, scientific knowledge has become the foundation for legitimate knowledge. The knowledge society implies increasing interaction between universities and their surroundings. Due to the changing role of scientific knowledge a third task has therefore been added to the former two tasks of Swedish universities. It obliges researchers and lecturers to relate to and collaborate with practitioners in the immediate surroundings of the universities. The concepts of the knowledge society and the related third task of the universities are, however, so-called essentially contested concepts (Connolly 1983) since they are not distinctly defined within the social sciences but continuously redefined.

According to the dominating interpretation of how interaction should be achieved, it principally calls for a set of means. The changes called for in the epistemology of the universities are, in this interpretation, neither problematised nor discussed. Just one of many illustrative examples of how the epistemological is-

sues are ignored can be seen in the Communication on the role of universities in the Europe of knowledge from the EU Research Commissioner and Culture Commissioner (Commission of the European Communities 2003). According to this document “Co-operation between universities and industry needs to be intensified at national and regional level, as well as geared more effectively towards innovation, the start-up of new companies and, more generally, the transfer and dissemination of knowledge. From a competitiveness perspective it is vital that the knowledge flows from universities into business and society.” The two main mechanisms are, accordingly, the licensing of university intellectual property and spin-off / start-up companies. The epistemological issues at stake are not mentioned at all in this document that aspires to raise the important issues regarding the role of universities in Europe!

According to an alternative interpretation of the knowledge society it could not be reduced to a set of means but calls for changes in the epistemology of the universities. In the knowledge society it is the very process of knowledge formation that has to be changed. The third task should be interpreted as an alternative interactive form of knowledge formation. In the knowledge society, the lost connection to the multitude of approaches that made it possible to generate knowledge through both practice and theory has to be re-established. In other words, the third task demands a mutuality in the meeting of researcher and researched and in the very process of knowledge formation. This can be learnt from action research. However, to establish a mutuality that fits science as well as practice, it is necessary beforehand to discuss and establish a consensus concerning the values and goals underlying the research effort, the overall research strategy and the methods to be used, and the expected outcomes of the research. It is essential to clearly spell out that the main task of the researchers concerns the production of codified knowledge (e.g. articles, books, dissertations). The main task of the practitioners concerns innovations and improvements in the production of goods or services. Neither researchers nor practitioners will be satisfied if the result of the interactive knowledge formation means that the different roles are blurred. Interactive knowledge formation does not mean mixing the roles, it means changes in the epistemology that will improve science as well as practice.

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Linking workplace innovation and regional development

Towards new roles for the university sector

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1. Introduction

Should universities become stakeholders in the economic, social and cultural life of their host regions, or should we value them as sources of independent critique, detached from instrumental concerns and playing a unique role in generating social commentary and conceptual innovation? Social scientists have been concerned with this type of dilemma for some decades and more recently governments in several European countries have begun to question whether the dual focus on teaching and academic publication continues to represent an adequate and politically acceptable measure of performance for universities.

The defenders of the traditional university role argue that independence is critical for democracy and innovation. Those arguing for a closer co-operation between universities and the surrounding community draw the attention to the fact that academic knowledge is a public resource which is much under-utilised in addressing critical areas such as competitiveness and employment. They argue that an 'ivory tower' mentality is unsustainable, and that the fact of universities being embedded in their regional environment has to be recognised both as an obligation and as a resource. The defenders point out the risk for universities in becoming consultants (sometimes disguised as action researchers) and handing out 'off the shelf' support to companies, public bodies and decision makers. In such a role they not only lose their academic freedom but contribute little to sustainable change in their client organisations since the 'knowledge' will be left with the 'experts' at the end of the contract. Those arguing for a new role provide evidence that very little academic knowledge is spread and used for innovation. For example, despite considerable academic evidence demonstrating the competitive benefits, the EPOC study showed that only six percent of European companies have undertaken

substantial innovation relating to organisational change or employee participation (European Foundation 1997).

There is no consensus within the university world about how academic knowledge can have a greater practical impact. Mainstream approaches usually emphasise the dissemination of research findings (information exchange and transfer) and the role of universities as training grounds for future practitioners. Differences between different disciplines (for example the distinction between natural and physical sciences) are often not fully recognised, which makes discussion on the future role of universities even more difficult.

In this paper our aim is to contribute to the discussion on how universities could take a more active part in *workplace innovation*, a crucial element for both compositeness and employment within their host regions. Both authors draw on their own experiences of trying to influence change within different universities in different European countries.

Our position is predicated on a view that knowledge and expertise within this field is the product of interaction between diverse sources of expertise, rather than the property of an individual expert (Engeström 1992; Garibaldo & Belussi 1996; Lundvall 1992). This understanding of how knowledge is created is a challenge to each of the parties involved in such interactions – not only to those who consider themselves experts but also to the practitioners and decision makers who regard universities (or equally consultants) as sources of expertise and providers of ready-made answers.

This perspective on the creation and distribution of knowledge raises far-reaching questions about the nature of the processes and structures that can enhance effective interaction between different sources of expertise. Inspired by Engeström (1999), we focus on *why*, *where* and *how* such learning takes place and what kind of knowledge can emerge from these interactions. Section 2 (“*why?*”) argues for the centrality of the knowledge base to regional policy intervention. Section 3 (“*where?*”) argues that the real locus for regional innovation is in the workplace and points to the need for better access to evidence-based approaches to change. However Section 4 (“*how?*”) argues that workplace innovation does not take place in a vacuum, and that the regional context provides both stimuli and resources for change. Finally Section 5 outlines a framework within which universities can redefine relationships with their host regions.

2. Regions as focal points for innovation

Regeneration, whether of companies, sectors or regions, must increasingly be led by knowledge and innovation. Competitive enterprises and successful regional

Competitiveness must be achieved by means of a strong commitment to innovation, quality, customisation, responsiveness to the market and versatility, rather than by price alone.

Profitable markets are likely to be segmented and international, involving a large number of specialised customers in several countries. They demand new and sophisticated solutions, reflecting growth in areas such as multimedia and telecommunications, services and environmental protection.

For manufacturers, segmented markets mean that short production runs and frequent product changes become the norm; Tayloristic approaches are therefore seen to be increasingly unworkable and are replaced by versatile, group-based systems and adapted technology.

For service providers in both public and private sectors, it is necessary to achieve greater versatility, customisation and high quality responsiveness while anticipating the wider needs of the market and society.

Greater emphasis on quality, innovation and versatility enhance the need for continuing vocational education and training, combining technical polyvalency with non-technical skills such as communication, teamwork, problem-solving and planning.

The future is no longer seen to lie with large, vertically integrated companies; smaller, highly flexible units – either SMEs or loosely attached to parent companies – co-operating with each other will provide much more of the competitive edge for Europe's economy.

Long-term pressures for increasing levels of innovation demand new forms of communication and co-operation within and between firms, linking them to support services, centres of expertise and research laboratories.

Figure 1. Regional advantage in the 21st century

economies are those able to adapt and thrive in the environment of growing uncertainty which results from globalisation, the rapid rate of technological advance, market segmentation and the decline of mass production (Figure 1). Whether at the micro-level of the individual enterprise or at the level of increasingly complex urban and regional economies, it is possible to identify new, intelligence-based models of organisation.

In the workplace, new patterns of organisation are gradually beginning to appear, destroying the Tayloristic certainties of command and control. The 'one best way' of scientific management is replaced by action research underpinned by dialogue, questioning and experimentation. Even firms in very traditional sectors are showing signs of regeneration through such ruptures with the past.

At sectoral level, local initiatives involving co-operation between SMEs and local authorities have been emerging in many European countries since at least the early 1980s. New patterns of networking enhance the capacity of SMEs to create collective solutions to common problems, resulting in the generation of an increasing range of advanced business services in several sectors.

The significance of regions lies in their ability to act as focal points for the convergence of economic opportunities, technologies, human resources and culture, acting as networks for the exchange of experience, for collaboration, for experimentation, for innovation and for collective learning. This requires new ways of modelling regional activity, new strategies and new approaches to public policy intervention, encapsulated in the formulation of a paradigmatic model of regeneration – that of the ‘intelligent region’ (Cooke & Morgan 1992). Such places (of which Emilia Romagna and Baden-Württemberg are often cited as the archetypes) are characterised by strong ‘local innovation systems’ – knowledge based structures and processes which permeate all levels of the economy, linking strategies for innovation at the urban and regional level to the resourcing of change in the workplace and learning for the individual.

Of course it would be a mistake to overstate the significance of knowledge-based regeneration, in the way that some theorists claimed for flexible specialisation in the 1980s. It is not the defining paradigm of economic activity in the early 21st century but rather it coexists and even interrelates with other, quite different phenomena. Learning organisations exist in the same neighbourhoods and operate in the same labour markets as sweatshops. One company in a sector will build new forms of competitive advantage by adding value through product or process innovation, while another clings to the mass market through labour cost reduction strategies including the export of production to a low labour cost country. One part of a local workforce develops and uses a high level of competence in communication, problem solving and planning, while another is entrapped by monotonous and deskilled jobs. Local economies are characterised by struggles between quite different types of future, with quite different consequences for firms, employees, sectors and regions. As Scott (1988) points out, the situation on the ground is one of considerable complexity: “for the old regime is far from having disappeared entirely and the new one by no means as yet universally regnant. Moreover the geographical outcomes proper to each regime intersect with each other in a sometimes disorderly and confusing manner”.

The challenge for public policy is about taking sides in these choices. What levers are available to influence the emergence of new patterns of economic and social life? In answering this question there are two key dimensions: firstly the organisational capacity and competence of a region for effective strategic intervention; secondly the ability to affect developments at the level of the workplace, thereby influencing a broader range of outcomes relating to competitiveness, employment and social inclusion.

We will deal only briefly with regional organisational capacity. As a starting point, a strategic approach to regional regeneration necessarily involves five interdependent elements:

1. *The existence of strong development coalitions* (see Ennals, this volume) capable of harnessing and integrating the efforts of diverse actors in defining and working towards an aspirational vision of the regional future. This stands in sharp contrast to traditional technocratic models of regional policy driven by centrally defined targets.
2. *A strong and coherent research base leading to a widely distributed understanding of problems and possibilities.* Different actors at urban and regional levels collect a vast array of information with little sharing or co-ordination of results, and often representing considerable duplication of effort. Collaborative initiatives between policy makers, universities and other local organisations can begin to overcome this problem (see www.theobservatory.org.uk for an example of university-led collaboration in Nottingham). Critically the research process must become both collective and transparent in character.
3. *Open and democratic dialogue about the vision for the region and how to achieve it.* Regional renewal needs to be multi-voiced and inclusive, engaging different constituencies through diverse means rather than just relying on formal 'consultation'. In many cases this requires innovative forms of intervention to redress traditional patterns of exclusion and disaffection (see the discussion of forum theatre in the chapter by Banke et al. in this volume). Effective dialogue also requires learning through action and reflection (see the chapters by Claussen & Gustavsen). However dialogue must also focus on the bigger picture, not just confining itself to addressing the specific needs of different participants. Scenario planning and the articulation of strategic choices are important in overcoming a narrowly technocratic approach to problem formulation.
4. *The interconnectedness of different types of intervention* to ensure that, for example regional policy, economic development policy, labour market policy, education and training, town planning and social policy all contribute to the same objectives. This can often point to weaknesses in operational models of urban and regional policy, and a critical task for development coalitions is to ensure effective policy alignment.
5. Continuous innovation and improvement through *transparent monitoring, critical scrutiny and evaluation.* This cannot be limited to target-based performance monitoring; scrutiny and evaluation should ask the difficult questions which cut across traditionally separate policy spheres: "do capital expenditure programmes make an impact on social exclusion?"; "does market-driven urban renewal contribute to a high-skill labour market and a knowledge-based economy?" The list is potentially very long. Universities can play an important role by introducing such critical perspectives to policy scrutiny.

Our main focus of attention in this chapter however is intervention in workplace development. The significance of workplace innovation for the economic and social development of regions is explored at the beginning of the Totterdill and Hague chapter in this volume, and there is no need to elaborate further here. However it is our experience that links between the workplace and the development of the region as a whole are poorly articulated in policy practice, with an inevitable impact on the clarity and effectiveness of intervention. Critically there is a failure to address inadequate access to knowledge as an obstacle to product and process innovation. The next section addresses this problem in depth.

Linking the two issues of organisational capacity and workplace development discussed above, we will argue that the need for a public sphere of knowledge is a key priority for regional policy makers and actors. Universities have a key role to play in the creation and distribution of knowledge in the regional development framework, though recognising that this task requires significant transformation of their own structures and practices.

3. The workplace as a site of innovation

Changing patterns of competitiveness in global markets, increased expectations of consumers and citizens, and growing demands for new solutions to social and environmental problems are calling into question the principles underpinning the organisation of work for much of this century. According to the European Commission's Expert Group on Flexibility and Work Organisation: "Models for the future shaping of company structures and organisational competence have become one of the determining factors for the future competitive strength of European enterprises" (European Commission 1995).

New forms of work organisation offer Europe a clear opportunity to enhance the performance of businesses and public services, to raise the quality of life in the workplace and to build co-operation between social partners. They can also offer an important resource in the crucial struggle against unemployment. But these benefits are not achieved easily. Successful change requires experience and understanding, as well as carefully designed tools and resources. Above all the need is for a wider cultural transformation embracing education, training, economic development, technology and management (Totterdill & Hague, this volume).

Problems of innovation

Despite increasingly well-documented advantages, the spread of new approaches to work organisation and culture remains surprisingly limited in Europe (Euro-

pean Foundation 1997). Inertia, combined with short-term approaches to productivity and investment, inhibit the pace of innovation at several levels:

- At the level of the company, many managers and trade unions have little capacity to see 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.
- Access to sources of expertise relating to work organisation and culture remains a serious problem for companies, especially SMEs. New approaches cannot be implemented ‘off the shelf’, but require a careful process of learning and negotiation. Experts with understanding and experience of these issues are rare or expensive, and companies may be reluctant to embark on a process of major change without appropriate guidance. New technical services and support structures are required to resource companies during the process of transition and beyond.
- Successful change needs to be well resourced with appropriate tools, expertise and understanding. Many organisations lack both the conceptual understanding and the practical tools needed to analyse, to plan and to implement the process of change. Indeed the internal expertise available to even the largest organisations may be insufficient to analyse and draw on the scope of ‘good practice’ experience and methods to be found across Europe.
- The problem of economic restructuring and accompanying difficulties relating to the workforce (as expressed, for example, by lack of adaptability and mobility) is not a problem caused, or capable of being resolved, by a single organisation or player concerned with the labour market. The key question hinges on the gap between the formulation of problems and solutions by an individual company or agency in a region and their formulation from a truly regional perspective. This raises the question of who needs to collaborate during the problem-formulation phase.

The limitations of consultancy

There are three ways in which organisations 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 co-operation 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. Public programmes have often sought to promote innovation by subsidising access to such resources. Likewise university staff, individually or institutionally, often attempt to compete in saturated consultancy markets. In practice access to *appropriate* knowledge and experience remains a serious problem for companies, especially SMEs.

Use of outside agencies offers potential advantages in terms of access to a wider range of knowledge and experience, and of opening up more fundamental and innovative approaches to change. But traditional models of consultancy display serious limitations:

- Consultants too frequently sell short-term solutions rather than sustainable processes. ‘Off-the-shelf’ models of teamworking and other forms of organisational change are presented to companies as blueprints. Companies may go along with 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 customise and to negotiate system design will affect the longer-term sustainability of the change. People at all levels of the organisation need to participate in the design process in order to ‘own’ it (Fricke 1983).
- Typically the consultant is seen as the embodiment of expertise, whose job is to transfer best practice approaches to the client company. Yet this inevitably tends to mean that the ‘search space’ in which solutions can be formulated is confined by the limits of the consultant’s previous experience. Work organisation is the subject of continuous and rapid innovation: therefore companies need access to the widest possible range of experience as well as openness to many possibilities for change. But to question the consultant’s experience, to search for novel solutions, or even to draw on the creative potential of the workforce as a whole can appear subversive to the relationship between expert and client (Engeström 1992).
- 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 secure external support – from busi-

ness organisations, customers, suppliers, trade unions or vocational trainers – who may influence the broader environment in which the company operates.

Our argument is that sustainable approaches to work organisation grow from complex processes of learning, experimentation and reflection. Understanding change in this way challenges the idea that there can be some form of 'global best practice' setting a universal benchmark against which all workplaces can be measured (Garibaldo & Belussi 1996). It also challenges the presumed efficacy of 'expert solutions' based on prescriptive, linear models or even 'key learning points' (see Totterdill & Hague, this volume). Practitioners need interdisciplinary perspectives and broad decision spaces, including exposure to a wide range of contrasting practices and experience. Given the rapid evolution of new approaches to work organisation, it is vital to build a sphere of collective knowledge and experience in which reciprocal learning can take place, and which explodes the one-dimensional relationship between 'expert' and 'client'.

The individual firm is too weak an instrument around which to build change. Innovation is intimately related to the firm's wider social environment, the semi-public sphere that defines access to knowledge, exchange of experience and shared resources. In short this environment determines a firm's ability to overcome internal limitations by enabling the creation of collective opportunities to share knowledge and experience of dealing with common problems. Opportunities for shared learning about the design and implementation of new approaches to work organisation require broad communities of expertise at local and sectoral levels, and the establishment of new technical resources to support change. For public policy, the test of successful intervention lies in its ability to decommodify 'technical' knowledge of workplace change, creating a common resource not just for managers, trainers and operatives within the company, but one to be shared with their counterparts in other organisations throughout the region and beyond (Farrands & Totterdill 1993). For business support organisations this means breaking from traditional casework practice based on discrete applications by individual companies for subsidised training or consultancy. Rather the need is to create a multi-voiced process of cumulative and collective learning, or in the words of Middleton and Totterdill (1992), to "harness the creative energy from a variety of ... sources in a way that develops a distributed 'working intelligence' concerning the experience gathered in the move towards (new forms of work organisation)".

4. Companies within their regional context

How do we create the physical and organisational spaces in which workplace learning and innovation can take place? Firstly it is worth restating the importance of

the region as a primary locus within which actors are exposed to knowledge, ideas and dialogue through diverse interactions. At the same time different regions vary in the density of opportunities they provide for such interaction. Such density depends on factors such as:

- the strength of regional development coalitions and their impact on policy innovation and alignment (Ennals, this volume);
- the existence of intermediate bodies able to work between traditional institutional structures (see for example the chapters by Claussen & Ekman Philips et al.);
- the adoption of new roles by organisations such as universities and social partners (Breese; Brulin; Gustavsen; van Klaveren: all in this volume);
- targeted policy initiatives designed to promote innovation (Heil & Lacroix, this volume);
- the creation of inter-company knowledge networks – an issue which we discuss at greater length below.

Building such capacity must be a prime focus for actors in many European regions. Southern European countries, together with states with less interventionist traditions such as the UK, lack both the strategic policy framework and the institutional structures required to develop and disseminate new forms of work organisation. This does not mean that no relevant activities are taking place in these countries. But it does suggest that such activities are likely to be fragmented, that sources of knowledge and expertise are likely to be fragmented, and that work organisation fails to enter the mainstream of public policy, business support services or management thinking.

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 Working Life Fund was responsible for the expenditure of 10 billion Kronor on 25,000 different workplace innovation projects. Support was offered to individual companies on the basis that it would create 'intelligent companies'. But networks between companies, or between companies and other organisations, were not created even though they could have given momentum to a sustained process of change. Company and project data was not systematically collected, packaged and disseminated in a way that makes it subsequently accessible to change agents. Wider dissemination of outcomes and experience is left to innovative regional or sectoral bodies. One example is the University College of Halmstad, which has employed researchers and consultants involved previously with Work Life Fund initiatives (CERRM/NTU 1998). As one evaluator suggested, the Work Life Fund may have 'thickened the soup' of management knowledge of work organisation.

But (as with the Fund's counterparts in several other countries) there was no active strategy for longer-term knowledge management and dissemination.

Regionalisation of knowledge structures and dissemination activity is also of growing importance in Germany and France. For example the Institut Arbeit und Technik in North-Rhine Westphalia is supported by the regional government and helps to ensure that an organisational 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 customisation and targeting (CERRM/NTU 1998; Farrands & Totterdill 1993).

Regional intervention has a key role to play in creating a learning environment conducive to workplace innovation. For example:

- Broad sectoral analysis is required to identify the match – or the gap – between competitive advantage and industrial trends on the one hand and the internal structures of companies on the other.
- Change in the workplace needs to be underpinned by a coherent programme of research designed to identify good practice in system design and implementation. Development programmes are also needed to generate new tools for change and to monitor their use.
- Many companies, especially SMEs, need practical, hands-on support during and after the process of organisational change.
- Networking and co-operation between enterprises should play a key role in research and development initiatives, building bridges between academics and practitioners and creating opportunities for the extensive dissemination of outcomes.
- New forms of work organisation are likely to create quite different demands on business support services and this needs to be reflected in the activities of social partners, business support organisations and other agencies.
- A growing need for polyvalency and self-efficacy skills in the workplace has far-reaching implications for the content and delivery of training, and it is necessary to work closely with vocational training providers to support appropriate change.
- Companies need skilled personnel, but that does not always promote the workplace-independent competencies that enable individuals to obtain employment in other sectors or to deal with unforeseen changes (Friedrich &

Lantz 1998). It is therefore equally important to create the prerequisites for economic mobility and adaptability among local residents.

In short a range of specialised services, access to continuous networking opportunities and innovative vocational training structures are all required to support new forms of work organisation. Such a support framework should be accessible at local and sectoral levels even to the smallest firms. This, of course, requires clear local, regional, national and European public policy commitments.

Networking as public policy

There is a substantial body of research into learning networks, largely based on the idea discussed above that companies and organisations do not develop in isolation but through collaboration with other companies and organisations. What is central in this account is the company's relationship to its surroundings. Networks expose participants to a greater abundance of knowledge and experience, helping to address uncertainty in the change process and introducing new stimuli. Moreover the network process has an inherently proactive capacity to create new opportunities, and not simply to react to changed environmental demands (Bessant 1995; Friedrich & Lantz 1998; Nordenlöv 1994).

Learning networks typically involve interaction between firms, but can also build bridges between managers and researchers, business support organisations and other sources of knowledge. They offer an increasingly important method of stimulating real innovation rather than emulation: they are not about transferring existing knowledge but about creating new levels of knowledge through the active exchange of experience and through experimentation. In this they reflect Engeström's definition of expertise as the product of interaction rather than as the property of the individual expert (Engeström 1992).

While not entirely displacing the role of short-term consultancy, learning networks can provide a framework for incremental innovation and learning over a much longer period. Indeed they may provide the conditions in which consultancy interventions become sustainable in the longer term, reinforcing them through peer pressure and offering continuing opportunities for learning and reflection. Networks are also adaptable to the needs of companies at quite different stages of change.

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, customising 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 mobilising and sharing experiences between firms with a common agenda. Policy makers can

use learning networks to pursue key regional objectives by mobilising companies to commit their own time and resources.

Unfortunately, however, the meaning of the term 'network' is not self-evident, and the concept has been employed in many different ways. Networks are usually characterised according to their structure (Jones et al. 1997; Grandori 1995; Sydow 1996), but with little attention being paid to their function. Lantz and Friedrich (1998) however treat networking as a specific organisational solution designed to fulfill three functions: to give momentum to ongoing change within the company; to promote the individual's skills development; and, in the longer term, to facilitate learning between companies. From these points of departure we can examine the opportunities provided by networks to develop new understanding and new agendas for regional development intervention (Friedrich 1998; Human & Provan 1997; North 1997).

According to Lantz and Friedrich (1998), networks with a developmental function (in contrast to those characterised by information exchange and knowledge transfer) need to develop mutual relations with a value and substance of their own. These relations are characterised by continuity and complexity, by technical, administrative, social and cultural adaptation, and by giving-and-taking on equal terms (North 1997). The goal is to utilise these relations as a platform for an open development process whose aims are not fully defined in advance. Accordingly the new resources offered to network members and the means for their development lie in the dynamics of the network itself. Parties to the network have different roles, and provide a variety of inputs for the development of new knowledge, but no party is more important or hierarchically subordinate to any other. This kind of network requires a strong incentive to participate and must generate clear value for each party. Everyone must have something to gain as a reward for collaboration otherwise commitment will be lacking: regional development is a shared opportunity offering collective solutions to common problems.

Just as with a work team, an emergent network requires an arena specifically for the development of relationships, as well as a facilitator of change to monitor and to support interaction. A further precondition is that participants develop a new competence, namely a networking capacity. But the most important precondition of all is that the parties are prepared to undergo change themselves. There are no dynamic relations without a process of mutual influence; this demands the ability to understand and to discover how one is both exerting influencing and being influenced. Such mutuality provides input and momentum for ongoing change and long-term development.

In this context no individual organisation can function as the network's source of expertise. Universities do have a potentially powerful role as informed participants and sometimes as instigators; however this potential needs to be realised

through active commitment to internal organisational development and external relationship building.

5. Towards the stakeholder university

A key contention of this paper so far is that, in the regeneration of companies and regions, traditional models of consultancy are frequently grounded in an inappropriate model of expertise – one that locates the solution somewhere *outside* the knowledge and experience of the stakeholders themselves. This is not to discount the value of external knowledge and experience in formulating the basis for action. But it does suggest that the *mediation* of that knowledge and experience – the way it is understood, challenged, adapted and absorbed by the other participants – is critical. Processes of mediation therefore become the principal focus for the creation of qualitatively new forms of knowledge relating to innovation.

For universities therefore, the future does not lie in the saturated markets for traditional forms of consultancy: rather they need to become accomplished at providing spaces in which ideas and practices can be identified, compared, challenged and tested through dialogue involving diverse combinations of actors. To fulfill this role universities need to establish themselves as stakeholders in development coalitions (Ennals, this volume) focused on local businesses, sectors, cities and regions, uniquely placed to develop new, multi-voiced approaches to innovation.

As Ennals shows, the nature of such coalitions will vary from region to region. However universities may have a distinctive role to play in coalition building. In many areas inter-organisational partnerships exist with a limited, instrumental remit – for example driven by a single initiative or government programme. The academic contribution may be to broaden the agenda beyond immediate programme targets, drilling down into deeper regional processes and structures.

Theorisation plays a critical role in making sense of complex and contradictory trends in regional development, and in identifying the underlying social, economic and political influences. The point of departure for all change lies in the problematisation of the current situation, an area in which universities should possess considerable competence linked to the ability to deliver constructive critique. Academic critique often underpins and informs wider debates about organisational change and can project workplace developments into the public sphere: witness for example the role of the MIT research team in the promotion of 'lean production', or of Italian academics such as Brusco or Becattini in drawing attention to the development of atypical systems of production in regions such as Emilia Romagna and Toscana. Such intervention can actively influence the development

path of new systems of organisation by enabling actors to conceptualise emerging practice, thereby introducing a degree of reflexivity.

The most important, indeed primary, question that arises is: “what should we be collaborating about?” To answer this question we propose a search for new understanding and new agendas for intervention based on the interconnectedness of regional development, knowledge creation and workplace innovation.

Resourcing regional innovation

The role of universities in regional development and dissemination of new forms of work organisation is both exciting and problematic. On the one hand universities can enjoy a privileged position in their ability to access knowledge and, in particular, to gain a broad overview of the different trajectories and possibilities of change. On the other hand there is often a yawning gap between academic knowledge and the activities of practitioners. Theory fails to inform responses to need. Many researchers feel no compulsion to translate or explain their work to practitioners, and indeed academic reward systems often encourage publication in journals which position themselves at a considerable distance from practice. Moreover researchers may lack the skills or experience required to work effectively at practitioner level.

The principal challenge and opportunity facing universities in the development of a regional strategy relates to the knowledge base available to actors. As we have suggested above, consultancy is a seriously unregulated industry with highly variable credentials. It has generated thousands of packages and tools, all of which make substantial claims. But just as health regulatory bodies are increasingly demanding that doctors focus their resources on ‘evidence-based medicine’, so public policymakers and companies have a right to demand evidence-based methods from consultants and other actors. The need is to deepen the knowledge base not only at the level of the individual firm but at the wider social level in order to raise the expectations of managers, employees and public programme managers about what can be achieved by informed change processes.

Universities must be prepared to invest heavily in building local and industrial development coalitions if they are to fulfill their unique dual role as stakeholders and as the mediators of knowledge in the regeneration process. Prior investment in the university’s own internal structure and capacity, in networking, and in the development of new models of learning and innovation should be seen as essential preconditions. The potential returns from this investment are not insubstantial. Engagement with the world of practice offers obvious scope for the enhancement of teaching and research quality through first hand access to data and case study material. However the creation of new types of learning spaces and learn-

ing resources may open up a new type of market, far removed from traditional consultancy, but from which universities can generate a third stream of income.

So what would a stakeholder university need to do? There appears to be a number of strategies available to universities as they attempt to play a full role as regional stakeholders. These are not mutually exclusive but are often, in a given university, to be found working in parallel.

Capacity building

While universities have sometimes been in the forefront of studying changes in other people's workplaces, we lack a model of organisational innovation within universities capable of sustaining closer partnership with external organisations. Doubtless there are people in every faculty of a university who can contribute something towards the regeneration process, towards a new vision of the region. But universities typically lack corporate mechanisms to bring them together across academic demarcations, and to bring them together with external partners in order to build a local community of expertise. As a practitioner told one of the authors, "the world is not divided up along faculty lines". Universities therefore risk being perceived as lacking critical mass in key issue areas – that they are no more than a series of islands of activity in which the whole is less than the sum of the parts.

Like most institutions, universities erect walls and ceilings between different divisions. Corporate partnership, research and commercial consultancy are often quite discrete levels of activity within a university structure and potential synergies are rarely discussed or explored. This is certainly not to argue that research effort and resources should simply be determined by commercial opportunities or by instrumental policy interests. But there should be a mutually beneficial exchange between these activities, and linkages built with the wider corporate dialogue that universities establish with partners in public policy and industry.

Ensuring an effective response across the whole university requires both proactive contact with partner organisations and the creation of new internal mechanisms for animation and horizontal co-ordination. Universities should consider creating small inter-faculty directorates to take the lead in developing this response. These directorates should not be intended to centralise activity, but to provide a collective resource.

Some universities have provided a platform for the creation of 'hybrid' centres, committed to building synergies between research and the provision of practical assistance to policy makers or companies. The rationale for such centres is that while academics often lack the practical or communication skills needed to work closely with practitioners, individuals from backgrounds in practice can lack the wider overview and the 'search space' needed to generate rigorous solutions. By

bringing together integrated teams of researchers and practitioners it should be possible to create new forms of collaboration, with mutual benefits for each side as well as for the partner organisations or companies (see for example Totterdill 1998). Researchers have to demonstrate at least some utility in their outputs to the practitioners, but gain access to high-quality data sources. Practitioners are accountable to researchers for the rigour of their methods and outcomes, but gain access to a wider knowledge base and to conceptually well-developed models of change. In practice, of course, the creation of a common language and shared understanding can be painstaking and difficult, but the potential rewards are high. Research involvement can also lead to a longer-term relationship with partners than is often possible in traditional consultancy.

Learning networks

Research can have a key role to play in capturing, explaining and contextualising innovative practice, though it is clear that too few bridges exist between academic knowledge and practitioners with the result that much remains inaccessible. However effective learning is also enhanced by peer-focused dialogue enabling experiences to be questioned, compared, synthesised, adapted and improved upon. Inter-company learning networks help managers and employees develop their own solutions. Participants are given the opportunity to learn from the experiences of others, many of whom are facing similar issues and challenges. By listening and learning, they can avoid repeating the mistakes others have experienced and thereby reduce the level of risk. This can have powerful, cathartic effects. It can build motivation, confidence and self-esteem in individuals. People are encouraged and motivated to try out new ideas, to make changes, to innovate. Learning networks also help to build bridges between the needs of practitioners and academic research, offering an environment to scrutinise and discuss the relevance of findings (Hague et al. 2003).

There are many benefits in face-to-face contact but technology also affords many opportunities to engage in dialogue. For example, an email loop can enable a small team of managers and a facilitator to have confidential conversations about a whole series of issues facing a team. The conversations will encourage managers to reflect on the way they plan and organise their work, their personal and collective styles, and so on.

Yet there are often too few opportunities for such knowledge-based networking. In many parts of Europe sectoral or regional employer organisations are rarely proactive in stimulating dialogue about leading-edge practice, while publicly-funded business support typically pursues an individual casework approach rather than building collective approaches to common problems. However universities can provide exemplary opportunities for dialogue and exchange as well as much

needed innovation in techniques for inter-organisational learning. The goal of universities within a learning network should be to create a privileged platform for innovation within which outcomes cannot be fully anticipated and which, unlike in mainstream public programmes, are not target driven.

Some universities are unenthusiastic about direct, hands-on support to companies and argue that this is best left to consultants and other professional change agents. However learning networks can be seen as a positive means of raising the effectiveness of practitioners while at the same time generating high quality research data. Some exponents of this approach make a powerful argument for its value in sustaining innovation and change (see, for example, Bessant 1995). In providing a continuing resource for organisational learning, research-driven networks combine continuing challenges to managers and peer-group pressure to continue the momentum of development.

The Work Institute at Nottingham Trent University, for example, established the *Strategic Direction Group* with senior representatives from a deliberately small number of companies in both Bristol and Nottingham (see www.ukwon.net). The Bristol and Nottingham panels meet separately four times a year, also coming together from time to time for 24 hour reflective sessions to compare ideas and progress. Each panel is set up along the lines of a 'Commission of Inquiry' with a remit to investigate the types of organisational structure and competence required to achieve effectiveness and sustainability in the volatile economic and social environment of the next ten years. Panel members interview 'witnesses' from a wide cross-section of European research and practice, and attempt to extract knowledge and experience relevant to the Inquiry's mission. Members then add their own experience and analysis, leading to a cumulative process of reflection and conclusions. Based on these findings, The Work Institute publishes periodic *Provocations* – short, reflective papers designed to stimulate dialogue within member companies and other organisations including social partners and policy makers. Parallel activities include workshops for staff at other levels in member companies, but to date these have been less successful in attracting participants.

In some countries the tradition of action research is reflected in learning groups of companies, each of which gains from direct access to the knowledge and expertise of academic researchers. This can take a variety of forms from individual counselling to seminar programmes and (as in the case of the University of Helsinki) to highly structured "Change Laboratories" (Engeström 1992). Sometimes these programmes may receive direct financial support from government programmes for industry or employment.

In The Netherlands, where a shared commitment to Socio-Technical Theory predominates in approaches to organisational change, there is close co-operation between researchers and consultants through networks, courses and other collab-

orative activities. Universities may also collaborate with consultants (often with public sector support) to produce new learning materials, case studies and other tools (CERRM/NTU 1998).

Network building requires very specific skills, as well as a serious commitment of time to ensure the establishment of sustainable relationships and dialogue. The core competencies of researchers – collecting, analysing and distributing knowledge – offer a potentially important resource for creating such relationships and dialogue, but this potential can only be realised through an explicit commitment to overcoming the constraints presented by traditional university roles and cultures.

Constraints

In practice, universities are only rarely in the vanguard in developing or pioneering innovation in regional policy or workplace change. Innovations are generated from the new consultancies, the think tanks, arts organisations and private sector firms. Universities are certainly anxious to promote the wider dissemination of their expertise whether through publication or commercial exploitation. But where are the academics in innovation processes? Some will write articles for social science or policy journals based on current practice, but overwhelmingly these texts attempt little more than a detached analysis of a recent initiative or strategy, or perhaps seek to reify practice from one location into a policy 'model'. Moreover much of this work exudes a sense of distance between academic and practitioner (and certainly policy practitioners speak with weariness of being interviewed by researchers, of the problems of characterising the struggle and ambiguity which inevitably accompany project development and implementation, and of anticipated disappointment in reading the final article).

A number of individual academics will, of course, always be found in close collaboration with policy makers, change agents in companies, voluntary groups or business support organisations. Personal networks will become the locus of reflexivity and innovation; barriers between research and practical change will sometimes be broken down in informal workshop sessions or during after-work discussions in a pub. But where is this type of *organic* relationship between universities and the knowledge-based regeneration of regions and sectors reflected in the strategies of academic faculties and departments? Senior university representatives may often be asked to sit on the management boards of redevelopment agencies, but how does the *collective* expertise of their institutions actually seep into the design and implementation of policy?

Creating change in a regional economy demands the ability to engage with politics, to deploy knowledge as a means of building alliances, to compromise, but to refuse to accept that a report sitting on a shelf is a satisfactory outcome.

Likewise resourcing organisational and culture change in a company means empowering shopfloor workers by animating dialogue and new thinking (rather than just offering off-the-shelf expertise in the form of PowerPoint presentations to senior managers). It also means the long-term resourcing of organisational learning rather than short-term consultancy. Do universities enjoy credibility in these types of activity? Indeed do they want it?

Institutional barriers to innovation are easy to find. One university identified the following constraints to closer regional partnerships in an internal evaluation:

- inter-faculty and multidisciplinary approaches have been actively discouraged in the field of economic regeneration; this is a clear indication that new management cultures are required to encourage innovation rather than academic sectarianism;
- there has been no attempt to identify key areas where the university enjoys an actual or potential advantage in research, consultancy or policy development, or to target those areas with appropriate support;
- while strategy may be made at the centre, there is a lack of executive capacity to pursue corporate initiatives in a proactive way and to ensure effective co-ordination between different parts of the university;
- in fields such as economic regeneration, regional development or work organisation relevant expertise is likely to be spread across several faculties; informal networks may develop, but these are both unusual and difficult to sustain without top-down encouragement; this means that the university often fails to create the ‘critical mass’ of expertise required to make a serious impact on policy debates or potential clients;
- there has been no university-wide examination of the ways in which research funding could be used to boost commercial advantage, nor of the ways in which commercial activity generates a knowledge base which can be exploited to enhance research outputs; failure to achieve a synergy between research and consultancy undermines the unique competitive advantage which universities can enjoy in commercial markets;
- it is very hard to create space for teaching staff to invest time, build competence or develop knowledge required for commercial work; at the same time university recruitment policies are hardly conducive to attracting or retaining first-rate consultants or contract researchers.

There is no blueprint for overcoming such obstacles. Rather this presents universities with a classic organisational challenge, one which requires extensive dialogue with internal and external stakeholders, shared learning and, most crucially, the active participation of staff in the redesign of structures and work processes. Re-

grettably the authors are able to find few exemplary cases of such change in the sector (though see Brulin in this volume).

6. Conclusions

There is no consensus in the university world over how these new roles should be defined. What definitions there are usually emphasise the dissemination of research findings (i.e. information exchange and transfer) and that universities are training grounds for future practitioners. Sometimes it is maintained that university responsibilities to the wider world are fulfilled simply in the course of pursuing their mainstream research and educational activities.

Working in collaboration with practitioners to create a new approach to knowledge formation is a complex and ambiguous role that requires considerable clarity. Clarification can only take place through networked interaction encompassing all the significant stakeholders within the region – in short a regional development coalition (Ennals, this volume). Universities cannot retain the right independently to define their tasks and to determine what is of benefit to the community. A coalition of this sort requires a change of culture, perception and structure on the part of all its members.

The role that ‘stakeholder universities’ have in a regional development coalition is that of being one amongst many collaborating partners, all of whom work together on equal terms. This means that the university supplies resources such as problematisation skills, network animation and so on – and also receives something of benefit in return. Everyone must have something to gain as a reward for collaboration – otherwise, commitment will be lacking. What is the nature of the reward for universities? In addition to delivering socially useful outcomes, there may be increased possibilities for initiating basic research, increased opportunities for innovation in educational content, and a wider base for the recruitment of students especially through lifelong learning programmes. However the potential for third stream income from the unique portfolio of learning and knowledge creation opportunities that universities could offer is also very real.

The university role and responsibility as a regional stakeholder has to be regarded as just as important as that of pure research and education. Such a change needs to find manifestations in different principles for the awarding of qualifications in universities, as well as in new remuneration systems and career paths for staff.

Universities have more to gain from active collaboration and the sharing of resources with each other than from raw competition. The university sector as a whole faces a significant task in building new approaches to regeneration, and will

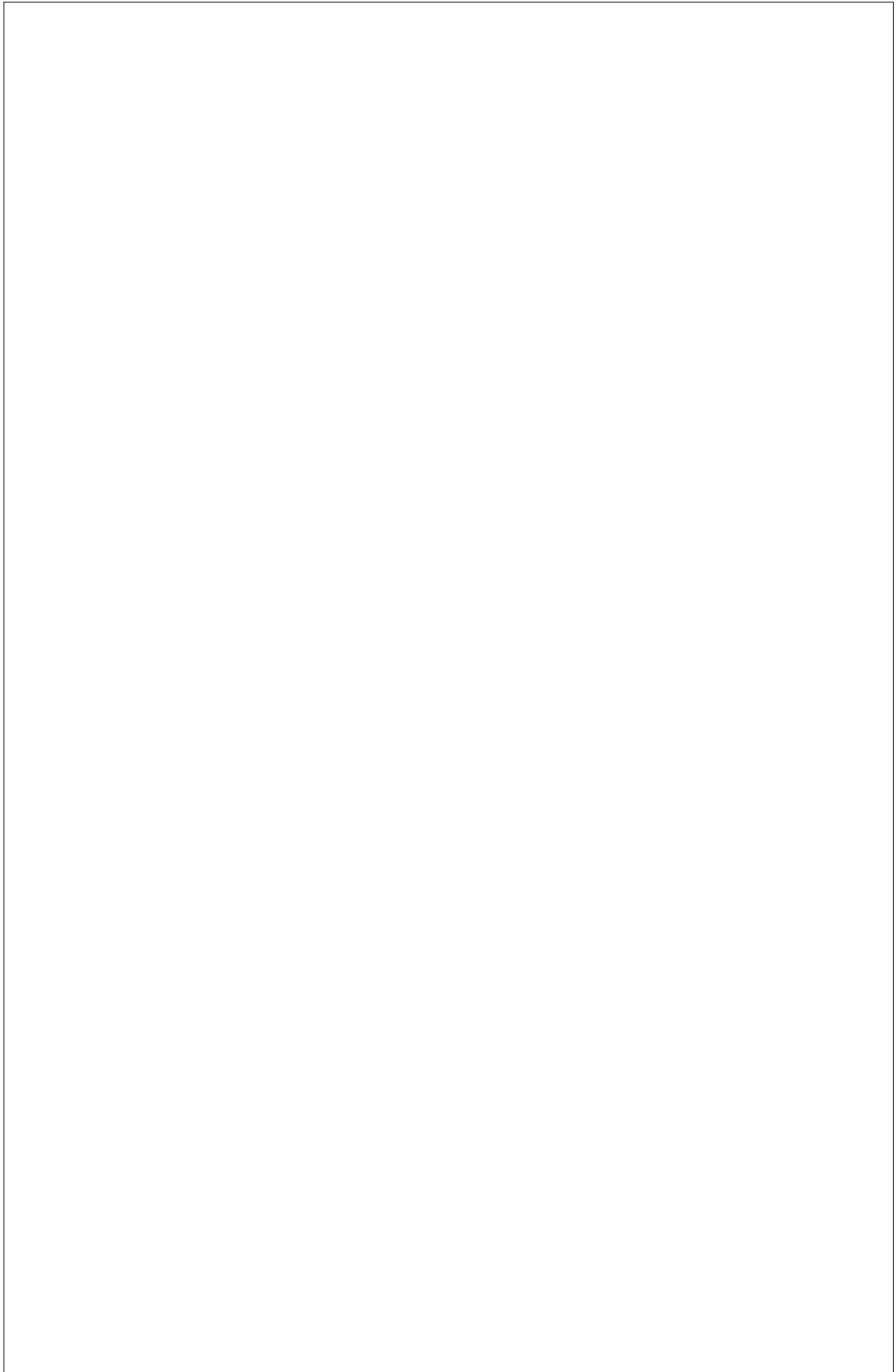
need to draw on the full strength of its pooled resources if it is to succeed. Collaboration of this sort becomes even more vital in the light of challenges to the sector as a whole presented by liberalisation and growing private sector penetration (see, for example, Commission of the European Communities 2003).

The greatest difficulty lies in gaining a hearing for this new role and in firmly establishing its importance. Performance of this assignment requires resources, which are often lacking in universities due to their prior allocation to research and education. In Sweden and the UK, universities have been allotted the task, but few resources have been earmarked for its accomplishment. There is a considerable risk that universities will simply focus on third stream income generation to acquire resources rather than 'third task' engagement as a full partner in workplace innovation and regional regeneration.

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Obstacles to organisational learning in Trade Unions

The case of the Dutch ‘industribution’ project

Maarten van Klaveren

1. Introduction

The national confederations have traditionally held a strong position in the Dutch trade union landscape. Following the principles set out at the end of the 19th century by Henri Polak, leader of the Diamond Workers’ Union and founder of the Social-Democratic Labour Party, the Socialist confederation and its unions and, later, their Catholic and Protestant counterparts, were based on strong internal discipline, full-time paid officials, adequate central strike funds, and high membership subscriptions. After the Second World War, centralisation was further reinforced by co-operation between the three ‘recognised’ confederations, and by the setting-up of the machinery of the Dutch consultation economy to include the union confederations. The Foundation of Labour (StAr, bipartite, under private law, founded in 1945) and the Social-Economic Council (SER, tripartite, under public law, 1950) were and still are its main institutions.

Since about 1985, however, the power of the union confederations has gradually eroded. In particular, the ‘added value’ of the largest confederation, the Socialist/Catholic Federatie Nederlandse Vakbeweging (FNV, 14 constituent unions with 1.2 million members) is questioned from within the union movement.¹ The amalgamation of four major unions (manufacturing industry, food, services, and transport) into FNV Bondgenoten (FNV Allies) in 1998 saw the formation of a bloc of over 40% of total FNV membership and the perspective of regrouping the FNV into three or four broad sectoral unions, a perspective that was vetoed by two major unions ten years earlier. In 1999, both FNV Allies and AbvaKabo, the FNV civil servants union with another 22% of FNV membership, withdrew from the FNV legal service centres and started providing their own services to members. This was a major sign of the erosion of central union services (Visser 2000).

At national level, the union confederations still play a major role in the consultative machinery. Yet, after losing seats in social insurance and labour market bodies in the 1990s because of privatisation and deregulation operations of subsequent administrations, their formal positions are now more concentrated in the SER and the StAr than in the 40 preceding years. Moreover, the rationale of the SER in particular has come under fire in recent intellectual and political debates, although regular surveys still show a broad support of workers, both union members and non-members, for maintaining union positions in the consultation economy to be still quite strong. They point to a large acceptance and (passive) support among the Dutch workforce for the trade union movement (Hooiveld, Sprenger, & Van Rij 2002). Official figures clarify that in 2002 84% of all Dutch wage earners are covered by such agreements (Rojer 2002): three times as high as the fraction of unionised employees, which is about 27%. This may illustrate the huge gap between union acceptance and membership in the Netherlands. (See on Dutch labour relations: Visser & Hemerijck 1997; LRD 1998; Visser 1998, 2000.)

Surveys also point to the fact that popular support for the Dutch unions is even stronger at regional level, and this is the central focus of this contribution. Nearly totally neglected by watchers of Dutch labour relations and trade union historians, the FNV confederation up till now maintains a significant regional presence, with a rather small but highly active regional apparatus.² From the FNV viewpoint, regional 'policy space' should be used for developing a regional consultation economy, more or less similar to consultation at national level, which is referred to as the 'polder model'. The FNV strategy can be situated within this model. This does not imply consultations at any price, however. In the FNV's view, regulation of the 'polder' may also demand tough negotiations and conflicts (Roozemon 1999).

This strategy holds true for the regional level. In their Political Programme 1997–2001, the FNV Board asked for a strengthening of the position of the confederation in regional social-economic policies. Optimisation of the regional consultation economy, it was suggested, could be achieved by strengthening (a) the autonomous regional policy level, (b) the influence of outcomes of the regional consultations at national policy level, and (c) the effects of national arrangements and agreements at regional policy level. Regional FNV activities should have an 'added value' for both regional development and for national FNV policies. It might be assumed that these effects are interlinked, but this is not a hard and fast rule. In my view, creating such added value cannot be separated from processes of organisational learning by and within the trade union organisation. Therefore, following the thesis of Huzzard (2000), I will analyse the various parts of FNV (confederation, affiliated unions, regional (sub-) organisation, training institute) as learning entities, using an approach analogous to socio-technical systems (STS) theory, which concerns the functioning of companies. In line with such

approaches, the formal and informal connections between the various parts of the FNV union movement can be interpreted as potential learning loops and feedbacks.

About 20 regional officers of FNV Regiowerk represent the FNV confederation in a large number of bodies, varying from Chambers of Commerce, the ten regional Social-Economic Councils to regional and local employment initiatives. The impact of the regional institutional settings declined somewhat in the 1990s. Representations became more *ad hoc*, temporary, and theme-oriented. Nevertheless, recent lists of the seven FNV regions still show 20 to 45 representations each. In the same decade, FNV officers undertook a number of initiatives for union, bilateral and trilateral projects. A number of these projects were connected with the revitalisation of regional 'economic space', and gave rise to the discovery of regional 'policy space'. Following the footsteps of Piore and Sable (1984), international research had already pointed to the potential of local and regional coalitions, with the potential to develop into more stable partnerships including the union movement (i.e. Pyke & Sengenberger 1992; OECD 1993). Even in a small country like the Netherlands, attention to regional socio-economic differences, regional policy cultures and regional networks can increase the effectiveness of social-economic policies, and partnerships can be instrumental here. STZ research on 'Trade unions in search of new economic activities' clarified opportunities for regional coalitions, especially in relation to labour market issues (flexibility and security, mobility, competence development, employability), and issues of spatial planning, traffic and transport, and environment (Bouwman & Hermanussen 1998; Hermanussen & Van de Camp 1999). Indeed, in the 1997–2001 period, the FNV confederation has chosen themes related to 'work and income' (labour market, employment) in combination with 'sustainable growth' (spatial planning, traffic and transport) as central policy points at regional level.

This contribution reports on the 'Industribution' project of FNV as an example of a regional union project, and conclusions are drawn mainly on trade union learning. My contribution evaluates the 'added value' of the project predominantly for national FNV policies. The article is mainly based on the research report '*De FNV en de Regionale Overleconomie*' (*The FNV and the regional consultation economy*; Van Klaveren 2001). Two other case studies, on the FNV Schiphol project and on the Rotterdam Mainport project, were also considered when formulating conclusions and recommendations.

Before commencing my analysis of the FNV Industribution project, I should first explain the odd term 'industribution'. This term is a contraction of (manufacturing) 'industry' and 'distribution', pointing to the physical part of the more well-known VAL (Value Added Logistics). VAL can be described as adding services to physical distribution activities, both non-physical (like invoicing) and physi-

cal (like packing, assembling and labelling). STZ defines the additional physical services as 'industriation' (examples below). The FNV project aimed at gaining union influence in this field of the combination of industrial and distribution activities, taking place in manufacturing industry, wholesale trade, as well as in logistic services.

Examples of industriation activities (cf. Bouwman, Van de Camp, & Van Halem 1998):

assembly of laser printers, disk drives, etc.

pre-assembly of car parts

reconditioning of shoes

reconditioning of clothing

gluing crystal figures on porcelain

adding certificates

testing and quality control of monitors, laptops, etc.

assembly of software packages

repair of returned articles direct sellers

repacking and conditioning of medical products

assembling 'action articles' for retailers

As stated, the FNV confederation formulated three conditions for the optimisation of the regional consultation economy, of which two refer to the connection between the regional and the national policy levels. I will go into this connection in Section 2. Next, Section 3 treats the internal dynamics of the project and addresses the issue of union competence development. Section 4 contains an analysis of the main strengths and weaknesses in the organisational learning processes at stake.

2. Regional and national policy development

Already in the early 1990s Dutch government departments and employer pressure groups strongly advocated the growth of industriation activities. 'Nederland Distributieland' (NDL, The Netherlands Distribution Country), a major pressure group of the transport sector together with the Dutch Ministry of Transport suggested that industriation could develop into a motor for huge employment growth. In autumn 1993, the optimism in employers' and government circles about the potential employment effects of the expansion of VAL/industriation activities in the Netherlands reached its peak. A report by the US management consultants A. T. Kearney and Knight Wendling for the NDL lobby predicted that over 80,000 new jobs could be created in these activities between 1993 and 2000. According to this report, VAL could even generate a demand for 200,000 to 400,000 full-time equivalent jobs (fte) in 2015, provided that the Netherlands could have

been positioned as 'the gateway to Europe'. In 1997–1998, these sky-high expectations were put into perspective by research of both Statistics Netherlands and STZ; the earlier figures turned out to be gross overestimates (Goedegebuure 1997; Bouwman, Van de Camp, & Van Halem 1998). Moreover, such predictions neglected their social context. As the leader of the FNV indistribution project stated in 1998, "the initial idea at the start of the FNV project was that a new sector was growing, evading social infrastructures", and she summed up: "Without collective agreements and other collective rights like pensions, with low wages and bad labour conditions, without any vocational training system, and with hardly any Works Councils. After all, at the time union density was depressingly low: a white spot in union country". From 1995 on, FNV confederation and single union leaders openly questioned whether a sector with such characteristics could in the long run develop into a stable pillar of the Dutch economy.

Yet, unless this debate mainly took place at national level, the origins of the FNV Indistribution project can be found in a debate at regional level that seemed only distantly related with that at national level: about the supply and discharge facilities of the port of Rotterdam. In June 1990 the Rotterdam Port Authority (GHR) initiated the project 'Rotterdam Internal Logistics' (RIL), which was intended to counter the threat of congestion of container traffic to and from the hinterland of the Rotterdam port. In those years, in driving a car on the A-15 highway, the main road connection of the Rotterdam container terminals eastbound, one could see this threat becoming a nightmare kind of reality. In Rotterdam, the regional FNV unions had used their classical strongholds (in general cargo, bulk-handling and parts of manufacturing industry) to develop regional consultation structures. Thus, it was quite rational that RIL soon developed into a tripartite project, run by a Steering Committee with local government, employers' and union representatives. Theo Berger, regional officer of the FNV confederation for the province of South Holland, played an active role in this committee. However, after some months he felt very limited working on his own, especially when the Ministry of Economic Affairs started to support the RIL project and management consultants Coopers and Lybrand produced a large number of reports and recommendations. In autumn 1990, Berger asked the FNV confederation for additional support. Following his request, the confederation decided to include efforts to influence RIL in their project 'Quality care and logistics', co-financed by the Ministry of Economic Affairs. FNV project leader Wim Sprenger tried to convince the Industry Union FNV (manufacturing), Transport Union FNV (ports, logistics) and FNV Services Union (distribution centres) of the need of a joint approach.

The original RIL plan focused on long-term solutions for the problems of container transport to the hinterland, like the creation of modern new rail terminals, Multimodal Transport Centres (MTCs) (Bouwman 1998). However, under pres-

sure from GHR and an employers' lobby, RIL concentrated mainly on short-term pilots, such as nighttime traffic and flexibilisation of staff and working methods. Contrary to this, the FNV confederation tried to keep the long-term perspectives open. There was a strongly felt need for research commissioned by the trade unions in order to support these perspectives. In the summer of 1991, the confederation asked STZ consultancy & research to assess the social consequences of the on-going pilots and of other plans, in order to lay the foundations for a union vision and to produce training materials. FNV and STZ decided to maintain the link with the broader, long-term development of the Rotterdam region. Thus, research included the employment and environmental effects of future projections of GHR (Harbour Plan 2010) and plans of private companies, like those of ECT, the largest container-handling company, to develop new container terminals at the Maas Plain, to be extended a further 15 km into the North Sea (Plan 2000–2008).

By necessity, the STZ research went beyond the RIL project and reviewed the spread of logistic and distribution chains through the Netherlands and its prerequisites. On 24 March 1993, the STZ report, '*Containers, logistiek en arbeid*' (*Containers, logistics and labour*), was discussed in a study conference attended by FNV confederation and the three FNV unions involved. STZ researcher Theo Bouwman reviewed the social consequences of the RIL projects, especially in respect of nighttime traffic, the development of Multimodal Transport Centres, and the rapid expansion of Distripark. He concluded that the development of logistic chains was exerting heavy pressure on traditional collective bargaining structures, especially those in the ports and at Schiphol airport. Bouwman ended by putting some urgent questions to his union audience, like "How can we organise our activities across single union borders, in order to influence such trans-union developments?". Of course, these questions were of national relevance.

Other contributors to the conference also stressed issues of national importance. Agnes Jongerius, national secretary of the Transport Union FNV, discussed the efforts of employers to evade the erection of port-related collective agreements. The collective agreement for port forwarding activities had expired in 1989, and the employers' organisation was unwilling to sign a new one, which was to include more integrated, less monotonous functions. Martin Spanjers, national secretary of the FNV Services Union, stressed the rapid growth of the wholesale sector. At the time one third of the over 400,000 Dutch wholesale employees were not covered by any collective agreement. Spanjers asked for more internal union co-operation, including efforts to negotiate wider collective agreements, as well as for closer co-operation of unions with the official regional labour supply agencies. After these introductions, an open and intense debate was held concerning possible solutions. Seven years later, a number of pioneers of the FNV indistribution project pointed to this conference as playing a crucial part in its development.

Although the contents of the analyses and debates mentioned above pointed to a number of regional experiences with implications for national union policies and, although more implicit, *vice versa*, these hardly affected the day-to-day union functioning, even that of the officers involved in rethinking the indistribution phenomenon. In the next two years, the traditional division of labour between the FNV confederation and the affiliated unions remained rather strict. With single unions' officers concentrating on collective bargaining issues, the regional confederation officers focused on two tracks: the environmental issue and the issue of unemployment among the low-skilled. Immediate cause was the start of the ROM project of a number of local communities in the Rotterdam area, aiming at the reconciliation of the two main public goals 'strengthening Mainport Rotterdam' and 'improving the environment of living'. In its reaction to the ROM proposal the regional FNV organisation in South Holland asked for more attention to labour problems, pointing to the persistence of regional high unemployment rates, with 15–18% the highest of all Dutch labour supply regions, mainly caused by a huge mismatch between the many unemployed low-skilled and a high rate of open vacancies for qualified technical staff.

In spring 1994, Jongerius of the Transport Union initiated talks with colleagues of other FNV unions on a 'FNV-wide' project concerning Value Added Logistics, notably the Industry Union, the Service Workers, and later the Food Workers as well. In the course of these talks a growing number of union policy makers proved to be aware of the growing importance of new economic activities influenced by new technology, new logistic concepts, new forms of outsourcing and management concepts like 'back to the core business', and the danger that employment might shift to non-unionised branches and areas. Closer co-operation between confederation and single unions was also broadly supported. Although a rather high level of joint problem awareness had been reached, a lot of tensions and co-ordination problems existed between the relevant FNV unions. Main sources of tension were the potential membership gains in (sub-) sectors that still were to be demarcated between unions, including most indistribution activities.

In June 1994, the FNV confederation presented a booklet written by STZ researcher Bouwman, '*Snel weg. Goederenvervoer, arbeid en milieu*' (*Quickly Gone. Freight transport, labour and environment*), in a carriage in the Dutch Railway Museum in Utrecht. The booklet, sponsored by the FNV 'Quality care and logistics' project, contained an analysis of the effects of the new logistic trends. In the debate after Bouwman's presentation, board members of the three FNV unions involved at that moment (industry, transport, services) agreed on a joint union effort to come to grips with the indistribution phenomenon. Both the content and the organisational conditions for a joint approach were spelled out. They suggested activities in the regions in the west-east corridor through the Netherlands: Rotter-

dam, the middle and east of North Brabant (Tilburg, Eindhoven), and the Venlo region in the north of the Limburg province. Looking back, most key persons pointed to this 'debate in the carriage' as the second event that was crucial for the realisation of the indistribution project, even more significant than the study conference of March 1993.

The critical remarks of Theo Bouwman concerning (the union support to) the on-going expansion of road freight transport kicked up quite some dust, mainly inside the FNV Transport Union, without giving way to policy changes yet. In the short run, his booklet succeeded more in attracting union interest to indistribution activities. It created policy space in which Jongerius (Transport Union), Sprenger (FNV confederation) and Bouwman (temporarily hired by FNV as external project leader) could go on to prepare the ground for a joint union project. In December 1994, Bouwman reported that nearly all regional players in the Rotterdam area, including GHR and OBR (Development Agency Rotterdam) as important local governmental players, felt committed to the project in the making.

In spring 1995, a number of preparatory activities for an indistribution project were carried out, mainly by the FNV confederation and the FNV Transport Union, with varying degrees of success. As I will show in the next section, problems with own union research frustrated these preparations. In autumn 1995, the Food Workers FNV joined the preparatory committee, and this union took part in formulating definite project goals and a working schedule. The project framework was quite pretentious. At the time, eight goals were formulated, from raising the degree of unionisation, building up a 'social infrastructure', to improving the quality of work and creating vocational training facilities.

In January 1996, the four FNV unions involved envisaged that they might encounter serious co-ordination problems at regional level when starting the project. Sprenger and Bouwman pointed to the capacities of the regional organisation of the FNV confederation, which had been out of the picture since the RIL activities in 1990/1991. As a result the four unions asked FNV Regiowerk to take the lead in forming regional working groups in the three pilot regions, bringing together the regional officials from the four unions involved. On top of that, a National Steering Group was formed by FNV and the unions, chaired by Jongerius of the Transport Union. This union brought in policy staff support and secretarial assistance.

In April 1996, Jongerius presented a draft project plan, mainly based on her and Bouwman's preparatory work. This plan was more modest than earlier versions and identified two main goals: raising union membership and density as well as building up a social infrastructure. The project was to last three years, with evaluations each half year, based on half-yearly national and regional working plans. STZ should go on in preparing requests for government subsidies. The Steering Group met for the first time two weeks later. The Group commissioned

STZ to carry out a preliminary study on indistribution, covering 15 selected companies, five in each of the three regions. FNV and STZ jointly pre-financed this research, in anticipation of government subsidies. An explorative main research project, covering 80 companies by interviews, as well as a telephone survey including 300 companies, was planned to follow the preliminary study. In April and May, Bouwman carried out a number of talks about financial assistance and policy inputs with the four ministries interested in the project: Transport and Public Works; Social Affairs and Employment; Economic Affairs; and Agriculture and Nature Conservation. By May funding for both the preliminary and the explorative research projects and a modest public relations campaign was already ensured.

In June 1996 the boards of all four unions give the formal 'green light' to start the indistribution project. The council of the FNV confederation followed suit in early July. FNV Regiowerk and the project leadership signed an agreement concerning the assistance of Regiowerk. In the meantime, finding patterns of co-operation between the national and regional union levels turned out to be difficult. The high degree of informality at the start could not be maintained. Three Regiowerk officials, experienced in these matters, advised a more stable regional structure, including working arrangements and task descriptions. This proposal was by and large accepted by the FNV and the unions' representatives. The latter accepted the suggestion to have the three regional groups chaired by regional officers of the confederation too, the time spent by them for this purpose being paid by the confederation. These regional chairpersons were to co-operate closely with the two part-time project workers, financed by government subsidies. Finally, it was agreed with the four unions that Regiowerk should be paid a fee for bringing in their expertise on regional labour market issues. Thus, workable conditions seemed to have been created for a more intensive connection between regional and national policy levels, at least within the confederation apparatus.

The regional activities took off in the course of 1996, with varying success as Section 3 will show. In December 1996 the four ministries in The Hague guaranteed funding for (re)training and other labour market measures within the project, as well as underwriting the organisational project expenses. In the same month Bouwman presented the results of the preliminary STZ study to the Steering Group. One of its goals was to test the commitment of 15 (selected) employers to labour pools and other initiatives to build up a social infrastructure. The results seemed to point to quite a high commitment. Obviously, the 'normal' employers' solution for filling in the many production peaks – hiring workers from temp agencies at random – was already causing a growing number of problems of loyalty, reliability, costs, and performance.

The official launch conference of the indistribution project took place on 6 March 1997. Presentations and debates were mainly concentrated at national pol-

icy level. Central were presentations of a videotape and a brochure, both based on the results of the preliminary STZ study. The brochure recommended a number of joint initiatives by unions, employers and government bodies: labour pools and (vocational) training programmes, a joint inventory of main problems in labour conditions, efforts to improve the many short-cyclical jobs in indistribution, as well as regular union-employer consultations. Only as a regulated sector, striving for 'quality', would indistribution be able to develop into a stable pillar of the Dutch economy, the FNV brochure argued. Ad Melkert, Minister of Social Affairs and Employment, supported this vision in his speech. After a contribution of a Nedlloyd manager on 'Working in the indistribution sector', FNV regional officer Els Bos presented the plans for the three regional pilots. The unions should use their existing regional networks in order to create a social infrastructure, but these networks might be insufficient. More creativity and flexibility in policy-making should be used to realise new solutions like labour pools. Obviously the FNV confederation advocated a more specific policy input than the affiliated unions. Policy measures, Bos ended, "have to be focussed on the bottom of the labour market, especially facilitating the influx of job-seekers".

Shortly afterwards, in April 1997, the four FNV unions involved in the project announced their goal to amalgamate. They were to adopt the name 'FNV Bondgenoten' (FNV Allies). The merger was to be realised in early 1998. The partners appointed a new national project leader, Roelie Hidding, whose decision power seemed to be quite large, as desired by the FNV Regiowerk officers. Yet, soon they were disappointed by the real position of Hidding. The 'classical' union branches maintained their autonomy in relation to indistribution-type activities in their resort. Some unions-to-merge even showed declining interest in the project. Under these conditions, the FNV regional officers needed to spend a lot of energy and time in formulating operational project goals and keeping the project going. It became clear that the new union was going to abolish the old regional structures of the existing partners and their regional co-ordinators. Therefore, FNV regional officers stressed the necessity of continuing to chair and co-ordinate the regional working groups, as it became clear that FNV Regiowerk would remain as the only connection between FNV-affiliated unionists who were active at regional level and the national level (except where national Bondgenoten officers were active in spatially concentrated industries, and branch and region coincided). This claim was honoured in a new project agreement with FNV Regiowerk.

On 29 January 1998 the foundation congress of FNV Bondgenoten was held and the four single unions were disbanded. As expected, former regional union structures were disbanded as well. Of course, the merger had some positive effects on the project, like unity of top decision-making and the gradual disappearance of the old tensions between the four unions (although the origins of paid officials

continued to play a certain role for some two or three years to come). However, the abolition of the old regional union structures was to cause serious problems. As a consequence of the merger the functioning of the National Steering Group came to an end too. Its role was taken over by bilateral contacts of the Regiowerk officials with project leader Hidding, representing FNV Bondgenoten.

In October 1998, the project leader decided to give a new impetus to the project. In an evaluation note she concluded that the project was not 'translated' sufficiently towards union activists and (potential) ordinary union members. Moreover, she stated, a real 'sector' indistribution did not show up: it turned out to be a number of similar activities in a variety of branches, like wholesale market garden, logistic services, (European) distribution centres, and wholesale second-hand clothing. Based on a two-day meeting with all relevant national paid officials of Bondgenoten, a number of spearhead sub-branches and companies were selected. Concrete, quantified goals were set. In November, STZ researchers Theo Bouwman, Ankie van de Camp and Arjen van Halem presented the final report of the main research project, *'Sociale aspecten van indistributie'* ('*Social aspects of indistribution*'). In this report, they agreed with the project leader that "there is no such thing as an indistribution sector". The researchers suggested that, on the one hand, in developing a social infrastructure it makes sense to link up with 'old' (sub-) sectors and collective agreements, while on the other hand solutions for issues like labour supply could better be based on joint initiatives of companies with indistribution activities.

On 28 January 1999, two years after the launch conference, the major conference 'Working on Quality, social aspects of indistribution' took place in the Automobile Museum of North Brabant, the input being the final STZ report. Project leader Hidding tried to link the future perspective of indistribution activities with immediate union needs. The headlines of her interview with FNV Magazine, published on conference day, clarified these needs: "Working hard, earning little. Indistribution is crying for a collective agreement". In her conference speech she emphasised that many indistribution companies still did not fall under such an agreement. After her, Minister of Economic Affairs Annamarie Jorritsma affirmed: "From a social viewpoint, something has to be done", especially concerning conditions of employment, training and labour conditions – quite a recognition for this liberal (which in the Netherlands means conservative) minister. Jorritsma praised FNV Bondgenoten for introducing training facilities for all-round warehouse workers in Venlo and Tilburg: "These people get a view on challenging and better work, while the employers get motivated and flexible staff". In her reply, Hidding pointed out that this should be the only practicable way for the sustainable development of these activities in the Dutch economy: "Indistri-

bution has to turn towards quality. That can only be produced if employers and employees are not mixed up in controversies”.

By forming Regional Working Groups Industriebution (RWIs), FNV Bondgenoten took steps to hand over more responsibilities to those paid officers with the centre of gravity of their work in the regions (although they did have national responsibilities). In February, a new agreement was concluded between FNV Regiowerk and FNV Bondgenoten, in which the role of Regiowerk in the project was phased out. I will describe the vicissitudes of these RWIs in the next section.

I have to conclude that two of the main conditions mentioned by the FNV confederation for optimisation of the regional consultation economy, namely substantial influence of results of the regional consultations at national policy level, and effects of national arrangements and agreements at regional policy level, were only marginally touched upon by the industriebution project. In my words: transfer of positive regional experiences to the national level remained scarce, both within the union realm and (as far as could be traced) outside that. Insufficient mechanisms were used to create ‘regional to national’ organisational learning.

On the other hand, it was also disappointing to see that ‘national to regional’ learning effects could scarcely be discovered. Influence in this direction mostly took the form of slightly adapted top-down instructions. I could neither trace new instruments for competence development nor new union working routines at confederation level that were inspired by the regional experiences. New national policy options or a renewed use of older options could hardly be found, with the exception of some labour market instruments like the labour pool (yet, a late development).

This relative absence of possible learning effects and internal feedbacks, which was also noted in other FNV projects, like Schiphol and Rotterdam Mainport, was also criticised in the single unions. In a way the FNV Mainport Project was the follow-up of the RIL project. The project was run by the confederation headquarters from Summer 1998 till Summer 2000, in order to develop a FNV viewpoint about the expansion of the Rotterdam port with a second Maas Plain. The original confederation viewpoint, stressing the negative environmental effects of this expansion and the related intensification of road traffic, was weakened after a clash with some local Bondgenoten officials. The confederation turned into conditionally accepting the expansion plans. Since then, confederation viewpoints on environmental issues were defined to be ‘no union core business’ and remained rather scarce.

3. Internal dynamics and union competence development

The first steps in union competence development concerning VAL/industriation were partly based on rather classical social research, partly more action-based. From March to September 1992, STZ researchers interviewed many stakeholders in the port of Rotterdam, like manufacturing and transporting companies, ship brokers, the main stevedoring companies, and NS (Dutch Railways), as well as a number of unionists and municipal officials. In May and November, two training meetings were organised for paid and unpaid union officials. Presentations of research results and debates led to growing insights in:

- the rapid development of logistic corridors through Europe, especially the growth of the west-east corridor from the Rotterdam port through North Brabant to Venlo and further eastbound to the German and East European hinterland;
- the development of new industrial and distribution sites on the edge of these corridors, for example the Distripark just outside the Rotterdam Port collective agreement area, giving rise to 'low-wage areas' (at least low compared to wage levels in 'port-bound work');
- activities on these sites, later to be referred to as VAL (Value Added Logistics) and industriation.

The industriation project was to concentrate on the latter activities, not on the development of the corridors as such.

Moreover, in autumn 1992 STZ colleagues brought in a warning concerning the quality of working life in distribution centres and warehouses. Their research for the FNV Services Union showed that 60–70% of all warehousing tasks performed quite poorly on quality of work items. Moreover, they proved that improvement of the quality of work of order pickers, fork-lift drivers and other blue-collar staff, striving for more integrated functions, had to be an intricate and long process (Kooistra & Tom 1992). Other Dutch research, published in 1992, also pointed at the widespread occurrence of bad and even dangerous labour conditions in distribution centres and warehouses.

I already referred to the study conference as of 24 March 1993, where the STZ report concerning RIL was discussed. This can be regarded as a first landmark, speeding up the dynamics of the project as well as the awareness of the need to build up union competence concerning the industriation phenomenon. A second landmark in the development towards a project certainly was the conference of June 1994, in the Dutch Railway Museum in Utrecht. Here, STZ researcher Bouwman assessed the great number of logistic expansion plans in the Netherlands, together with those of the 'mainports' Rotterdam and Schiphol, and

sounded a warning on a tremendous growth of road freight traffic with substantial adverse environmental effects. He criticised the assumptions of, among others, A. T. Kearney/Knight Wendling about the rapid growth of indistribution activities, arguing that a majority of the jobs envisaged were of the short-cycle, assembly-type. The related low wage levels and poor labour conditions might seriously frustrate their attractiveness to the Dutch labour force and for the Dutch economy. On the other hand, improving these jobs could make them acceptable for groups of low-skilled workers threatened by persistent unemployment. Such perspectives might offer new chances for union work, Bouwman concluded. His results built on classical research methods, including interviews and a literature survey.

In the course of 1995, as part of the trial period for the FNV project, own research was initiated by the Transport Union to chart VAL/indistribution-type activities in the Netherlands, especially in the new 'distriparks' set up near the towns of Rotterdam, Tilburg, Eindhoven and Venlo. The survey failed due to a low response rate and budget limitations. This failure resulted in growing uncertainty among the union representatives in the preparatory committee (and among the small number of activists) about features of the 'new sector'. "What exactly are we talking about?" was a recurrent complaint in this group. The committee stressed the need for more knowledge, and subsequently made an effort to build up a profile of VAL/indistribution activities from the bottom up, by gathering information from district officers and their contacts. However, after three months this more action-oriented effort was judged to be proceeding too slowly. As hiring external support now seemed inevitable, the FNV confederation requested STZ's Bouwman to build up a regional contact network and to write a draft project plan, including a research proposal. This project plan was especially meant to tap financial resources, mainly national government subsidies but possibly also contributions from the provinces involved (South Holland, North Brabant and Limburg), grants from regional Chambers of Commerce, et cetera.

In the late spring of 1996, the three regional pilot projects took off. The regional project group North Brabant/Limburg, in which the two pilot regions Tilburg/Eindhoven and Venlo co-operated, made a quick start, while the regional Rotterdam group only got off the ground with difficulty. The North Brabant/Limburg group, under the inspiring chair of the FNV regional officers Els Bos and Anne-Marie Snels, obviously made clever use of the initially high degree of autonomy of the regional pilots. Local authorities in these two provinces proved to be keen on the development of VAL/indistribution activities. Preliminary talks of Jongerius, Snels and Bos with them and labour supply agencies, as well as the research interviews carried out by STZ, showed that bottlenecks in the supply of warehousing and related jobs formed a good starting point for building up a regional trade union position on indistribution. Joint labour pools were discussed

as solutions: for the trade unionists, 'joint' here not only meant co-operation between employers, but pools run by foundations in which the unions and local government should also participate, although management should be afforded sufficient policy space to run the daily business. In the Venlo region, the first explorative talks were followed by tripartite consultation on this subject shortly afterwards. Especially in the province of Limburg (where Venlo is located in) and to a lesser extent also in North Brabant, tripartite consultation was eased by the existence of provincial consultation structures in which the union officials already played important roles.

However, the Rotterdam region caused more problems. Here, a 'social dialogue' with intensive debates between unions, employers and employers' federations and local government representatives broke down in 1991/1992, and the region now lacked consultative structures. Moreover, the FNV regional officers in the province of South Holland were heavily involved in a number of *ad hoc* debates, like those on the future expansion of the Rotterdam port (Rotterdam Mainport). This situation meant that one of the early strategic goals of the indistribution project – creating learning effects between union strongholds (like the Rotterdam port, with a 70–80% union density) and 'white spots' – could hardly be taken forward. The lack of this transfer mechanism contributed to the fact that Jongerius, chair of the National Steering Group, and Bouwman spent much more time than planned in supporting the regional groups in North Brabant and Limburg. Bouwman did this as project manager, a role (beside that of researcher) which he and STZ did not quite aspire to but created in the project structure because of the need to have regional project activities formalised and subsidised.

In October 1996 Ms. Bos wrote an evaluation report about the first six months of the project. She concluded that indistribution was rapidly developing into a policy issue for local and regional authorities as well as for development and labour agencies, and derived a number of challenges from this development. Bos sketched the dominant position of the Transport Union as a major internal problem. She also pointed to the amalgamation talks that the four unions involved had started in the interim, and to the paralysing effects these might have on the project. As a third threat Bos described the growing incompatibility between union goals and 'external' goals, the latter linked up with the way the project was subsidised. The project ran the risk of becoming 'externally driven': the goal of seizing external opportunities, including finance, could dominate over building up union work and union networks. This did not mean that Bos advised an inward-oriented attitude. She suggested that the trade union movement, in order to create regional win-win situations, had to look after potential coalition partners outside the (small) circle of modern employers. Yet, such partners "might run away with project results" she warned, adding that the unions in projects like this always might encounter diffi-

culties in claiming results. Her evaluation ended by stating that the preconditions of the project were in place, but that the next half year still had to witness the turn from a “structure for talks” to a “structure for action”. This turn could only be seen partially, in particular because seizing external opportunities continued to dominate over the building up of union work. In line with this domination, competence development concentrated on developing external networks, with the building up of internal networks lagging behind.

As I stated, in April 1997, the four FNV unions involved in the project announced their goal to merge. In spite of the threats this posed for the project structure, promising developments were going on during 1997 in two out of the three pilot regions. In the Venlo region, regular consultations started between officers of the FNV confederation, FNV unions and employers’ federations concerning labour supply arrangements for logistic functions. In spring 1996 the regional Chamber of Commerce had already made a plea for a labour pool for industrial and logistic production workers. The regional FNV officer, Snels, made this pool viable by persuading the province of Limburg to subsidise it. FNV Regiowerk took also the initiative in the Tilburg region. Using a statement of the regional employers’ federation concerning the large shortages of logistic production staff, Bos started to build up a network to discuss solutions. Both the Venlo and Tilburg developments had an encouraging effect on new labour supply arrangements and the creation of vocational training facilities for logistic staff elsewhere in the Netherlands, especially in the Arnhem/Nijmegen area. Informal contacts between regional FNV officers were the main vehicle for the dissemination of such good practice.

As mentioned earlier, the Rotterdam Mainport project especially took much time and energy from the regional FNV officers involved. This remained a problem during 1997 and hampered the Rotterdam involvement in the indistribution project. Yet, these officers initiated the STZ research project on ‘Trade unions in search of new economic activities’, which offered them opportunities to develop more precise ideas about future employment opportunities linked with port activities – like indistribution. This project offered an interesting combination of a snowball-like approach using the knowledge of mainly unpaid activists, with more formal research methods like interviewing employers, local authorities et cetera.

The regional developments in the course of 1997 fed the need for strategy and competence development of the FNV confederation concerning mobility constructions like labour pools, the integration of various collective agreements, and the continuation of the project. Together with the FNV Training Institute, Regiowerk organised two training days for paid officials and activists about union organisation in white spots and problems of new collective agreements. A small number of confederation officers were involved. On the other hand, it could not

be denied that results of regional developments were slowly affecting the national policy level of FNV. For example, a structured debate at FNV headquarters about the pros and cons of labour pools did not take place before October 1998. This debate resulted in a FNV policy note, that was judged 'useful but late' by the regional officers involved in the indistribution project. Indeed, the policy note came too late to support these officers to suggest practical solutions when a wider circle of employers in especially the Tilburg and Eindhoven areas showed a number of reservations against the pool idea. Such experiences undermined relations of trust with the Bondgenoten officers involved.

All relevant decisions taken by the foundation congress of Bondgenoten (January 1998) concerning the indistribution project were already envisaged and discussed by the National Steering Group. The actual debate in the Group concentrated on the lack of internal dynamics, i.e. on the risk of the project developing by being 'externally driven' and relying too heavily on the efforts of paid officials and external consultants. As a result, the Steering Group agreed upon a working plan for 1998 that concentrated on developing intensive contacts with unpaid activists and works councillors in spearhead companies. Paid and unpaid officials alike should shift their focus to developing internal networks, setting up Works Councils where they did not exist, raising union density, and then try to further building on a social infrastructure and labour pools.

From April 1998 on, developments in the Tilburg region went into the last direction surprisingly quickly. Based on reports by STZ consultant Van de Camp, a local network was created to prepare arrangements for a labour pool at the main industrial site, Katsbogten, for two functions: warehouse worker and logistics worker. The idea was developed in the regional steering committee to organise a bid for temporary employment agencies that might run a labour pool. Yet, the variety of companies and branches complicated the bargaining process. Finally, in July the six main logistic companies at the Katsbogten industrial site signed an agreement with LOPER, the personnel agency created and managed by the Tilburg steering committee. The daily business of LOPER was run by Randstad, delivering 15–24 fte additional staff per day. In September, a broader agreement was concluded by a number of bodies, including the mayor of Tilburg, the president of the local employers' federation, Bos on behalf of FNV Regiowerk, and a representative of FNV Bondgenoten, promising to expand knowledge about the Katsbogten construction to labour supply agencies, union members, and other pilot regions. Meanwhile Randstad and Manpower, the large temporary agencies, had already started efforts to expand the Katsbogten experience to other industrial areas around Tilburg. FNV Regiowerk was not enthusiastic about this kind of commercialisation. However, a union-inspired effort to expand this experience in creating labour pools to the nearby towns of Eindhoven and Helmond failed.

Although a survey, commissioned by the official labour supply agency and FNV Regiowerk, indicated that a large majority of the relevant companies in these two towns were interested in a joint approach, an offer of financial and managerial support met a low response from the same companies.

In the Venlo region, the position of the FNV confederation developed more comfortably. Here, the regional FNV officer took the initiative to create the Industriebond North Limburg (i.e. the Venlo region), chairing the board herself, and succeeded in keeping the initiative. The start of training programmes and low-skilled labour influx facilities was eased by rather generous funding from the Labour Supply Authorities, and speeded up by an active project manager. Within half a year the vocational training facility for all-round warehouse operators counted 70 students. This facility was completed with training trajectories for order pickers and fork-lift truck drivers. The Start and Adecco temporary agencies were going to run these facilities. Within the FNV confederation this development was regarded as trend-setting for regional labour market constructions; it was even advertised in the FNV Magazine as 'the Venlo model'. Moreover, FNV Bondgenoten officials seized the opportunity to check the viability of an integrated collective agreement for industrial/logistic functions with the employers participating in the North Limburg foundation. Thus, the Venlo case was a highly useful example of connections between regional and national union policy-making as well as regional linked with national competence development.

In spring 1999, the RWI Rotterdam/South West (Netherlands) took off, with a number of logistic companies, market garden auctions, and wholesale second-hand clothing companies as spearheads. The main goals were to bring these companies and branches into collective agreements, and to build up groups of union activists as well as to train them. After an internal discussion about which union bodies could help in attaining these goals, the RWI took the initiative to approach FNV Regiowerk in South Holland. At the same time a new RWI got off the ground, namely the one for Amsterdam. Its function was based on an inventory of industriebond activities in the Amsterdam region, produced by STZ's Van Halem for FNV Bondgenoten. The Amsterdam Working Group chose wholesale second-hand clothing as its main spearhead.

As stated in Section 2, in the course of 1999 the role of Regiowerk in the project was phased out. Only in the RWI North Brabant, FNV regional official Bos continued to participate, not as such but 'as representative of the external labour supply projects'. A number of FNV regional officers had mixed feelings concerning this ending of the confederation's involvement, because they judged a two year period too short to embed results of the project in the confederation's organisation and policies. From September 1999 on, the remaining activities of the FNV confederation in the Brabant and Limburg regions concentrated on two regional

mobility constructions. From mid-2000 on, the indistribution project as a whole was practically 'owned' by Bondgenoten alone.

In a new evaluation note of July 1999, the project leader was much more positive about the development of the project than she had been in August 1998. Hidding concluded that "despite the difficult start, the extra value of the Bondgenoten union is now reflected by good co-operation between the colleagues from various branches". The project had developed dynamically. Concrete goals had been set concerning spearhead branches and companies, and these had been largely met. In somewhat less than a year, the number of companies carrying out indistribution activities under a collective agreements grew from 37 to 68, representing 60% of the spearhead companies. The number of activists doubled, the number of Works Councils grew from 43 to 58 (covering 50% of all relevant companies). Membership grew by 600 to 1,810. Based on these figures, Hidding asked the board of Bondgenoten to continue the project in a modified, more low-profile form until the end of 2001. This was agreed.

Interviewed by the FNV Magazine in July 2000, Hidding gave an update of the final project results. Again, these were rather positive. Union membership in indistribution activities had grown again by 600. Close co-operation between Works Councils and FNV Bondgenoten had yielded good results, especially among groups of workers, mostly migrants, with whom the union hardly had established contacts before.

4. Analysis

The most important policy themes in the FNV indistribution project were labour market and employment policies, followed by spatial planning and environmental issues. Judging from the four year point at mid-2000 (at the moment that FNV Regiowerk nearly totally disappeared out of the project), the project could be called quite successful for at least three reasons:

- the basis of a social infrastructure had been laid,
- a number of companies obviously moved in the direction of quality-oriented production,
- and trade union presence had been strengthened.

As the project resulted in more regulated and quality-oriented indistribution activities, concentrated in a small number of regions, it indirectly contributed to a slower expansion of road traffic than might have been the case otherwise. Of course, these outcomes were facilitated substantially by the Dutch economic boom

of the 1995–2000 period. Nevertheless, the project also succeeded in creating some momentum of its own.

However, the substantial appreciation of the project by quite a number of outsiders – high government officials, labour market intermediaries and even employers – may mask a lack of internal dynamics. Indeed, the project may be called innovative from a (Dutch) union viewpoint, especially looking at the way officers of the FNV confederation and of single FNV unions integrated these themes in their regular work and adapted them at regional level. Generally, this was done rather flexibly, directed at the creation of internal and external networks, looking for win-win situations and without losing sight of (short-term) policy efficiency. As an outcome, the autonomous regional policy level seems to have been strengthened in at least two of the four regions involved. Yet, these (at least partly) new ways of union work, and the related learning effects, were relatively limited to individual regional officers or small groups of them, with little impact on the wider union organisation. As I already concluded, transfer of positive regional experiences to the national level remained scarce inside the single unions, inside the confederation apparatus, and (before 1998) between the regional union bodies and the confederation apparatus too. These outcomes did not support the position of FNV confederation *vis-à-vis* the affiliated unions, or at least stop its erosion.

I can see three main factors that hampered a smoother, quicker and broader internal development of the FNV indistribution project: the need to concentrate on (external) funding; the difficult relationship between the regional FNV organisation and the FNV unions; and the difficulties in defining an indistribution sector.

In my view, the first obstacle has been the need to concentrate on (external) funding and other outside support in crucial phases of the indistribution project. One should be aware that this need was created by the limited willingness of FNV and the four unions to invest in the project (at the time not by an absolute lack of financial resources). The project had a rather long initial period. In the early history (1990–1995), FNV regional officers and single union national officers were actively signalling and defining problems and opportunities related to the growth of logistic corridors and VAL/indistribution-like activities. This signalling work was intensified in 1995–1997 and completed by efforts in the pilot regions aiming at creating external networks and joint labour pools. Although in 1997–1998 the prospects for moving from the pilot phase to a more mature project structure were rather bright, FNV Bondgenoten did not want to invest more than the time of the national officers involved and rather modest administrative support. As a number of FNV activities already thrived on external finance, one might presume here a kind of subsidising habit. Consequently, the project management and the consultants involved spent a large part of their project time in searching for external

financial resources. As a result the project became rather 'externally driven': seizing external opportunities tended to dominate over the building up of union work. From mid-1998 on, FNV Bondgenoten undertook efforts to reduce the tensions between the internal and external pace of developments, which in the end by and large succeeded, especially by striving for classical union targets like a minimum union density, sufficient activists, and achieving good collective agreements. At the same time FNV Regiowerk, the other project partner, maintained a number of activities, especially those concerning labour pools. Although both partners tried to broaden the basis for a project approach within the FNV movement by organising training courses and by a lot of publications covering the project, it remained a major weakness that their activities were not closely connected.

A second group of problems could be traced back to the relationship between the regional FNV organisation and the FNV unions. Until 1998, FNV Regiowerk had built up a broad professional expertise concerning labour market policies, as well as (the credit for) a uniting role in many respects. This position was undermined by the merger of the four unions. Moreover, the new union created a vacuum in the regions by rapidly abolishing the old regional single union structures. Concerning the indistribution project some regional FNV officers suggested that the FNV confederation should have claimed regional project management in order to fill this vacuum. Yet a majority of the Regiowerk officials and the FNV confederation board chose the option of Regiowerk leaving the indistribution project. This happened very quickly, at the cost of possibilities to create and maintain organisational learning effects, i.e. to embed important elements from the project into the national (employment, labour market) policies of the FNV confederation and affiliated unions as well as in their working methods. About one year later, the same thing happened to the FNV Schiphol project. It seems that the effort needed to select and transfer learning effects from these projects, especially from the regional confederation level to the national FNV and affiliated union levels and *vice versa*, has been broadly underestimated. From mid-1999 on, potential organisational learning and competence development processes were not guided any longer by training activities and policy debates with a distinct role for FNV Regiowerk. The disappearance of this vehicle had a further detrimental effect on the remaining processes of organisational learning and competence development. Transfer of regional experience was not structured any longer. It was mainly left to (informal) bilateral contacts between regional FNV officials and activists on the one hand and national FNV and union officials on the other.

A third source of problems was the difficulty in defining an indistribution sector. In the course of the project, practical experience undermined the idea of a more or less homogenous cluster of economic activities and companies. The STZ report of November 1998 concluded that the existing branch divisions within the

unions should be as open and flexible as possible, also in view of the rapid changes in logistic chains. This approach was preferred over creating a new branch division. The FNV Bondgenoten board decided to follow this recommendation. Yet it lasted only one year, till the end of 1999, when union manpower and resources were clearly re-allocated towards spearhead companies with VAL/indistribution activities. The problems of this 'search for a sector' may be symptomatic for problems of finding a good locus for decentralisation of union activities, especially for union movements like the Dutch that have relatively little experience with decentralised structures. After a promising start in the 1990–1995 period, neither the FNV nor the affiliated unions matched the development of new logistic structures and new combinations of economic activities, leading to the blurring of old boundaries between branches and the formation of new ones, with larger organisational flexibility and with learning cycles based on combinations of research, training and internal debate. If this weakness is not addressed, the need to demarcate branches, economic networks or clusters relevant for the grouping of union activities will cause problems for the union movement every time branches, networks or clusters are split off and lose their relevance for employers' federations and government institutions. Recent developments in the Rotterdam area show the urgency for a stronger union involvement in these issues (cf. Van Halem & Wetzel 2001).

In identifying the main critical success and failure factors in the indistribution project as follows, I can point to the main strengths and weaknesses in the processes of organisational learning and competence development involved: building up internal union networks; developing and using external networks; the availability of a good mix of competences of regional union officers. These conclusions imply a number of policy recommendations.

Building up internal union networks

Directly after the start in 1996, the project organisation left a great deal of autonomy to the regional pilot projects. Yet up to 1998 the pilot networks had to cope with major uncertainties, concerning the definition of indistribution, the branch division within the unions involved, the division of power related to it, and uncertainties caused by a rather large staff turnover. In the first 18 months of the existence of FNV Bondgenoten, decision making on the project was diffuse, sometimes becoming a plaything of branch managers engaged in a competence struggle. These problems were magnified by the weak project organisation. For example, no systematic project documentation was maintained, either by FNV Bondgenoten or by FNV Regiowerk.

Under these conditions, decisions to concentrate on gathering external funding and to work with external project pioneers frustrated the development of organisational learning by union officials. In the first two project years, they had no chance to build up networks of their own nor did they gain any competence in project management. In the next phase, from mid-1998 on, the project was run mainly by paid officers with hardly any input from activists. In the Dutch union situation, with little embedded experience with bottom-up union activities, it is quite likely that 'white spot projects' in their first three or four years have to be developed and run by paid officials. Nevertheless, it remains a weak point that the transfer of union manpower, competence and experience from strongly to weakly organised branches went slowly, even with project support, leading to frustrating organisational learning between union strongholds and 'white spots'.

Developing and using external networks

In general, the development and use of external networks can be assessed as a success factor in the indistribution project. In this respect regional officers of the FNV confederation played a leading role, using their formal networks but also creatively making use of their basis of trust to create informal networks, including government bodies, intermediaries, training institutes, management and employee consultants, and groups of employers. Some of these networks developed into formal, long-lasting coalitions and even into partnerships. In these processes, the existing division of roles between the confederation and the affiliated unions was often used in a clever and well-co-ordinated way: FNV officials normally opened the 'entry' and 'kept the lines open', while the union officers did the (tough) bargaining with employers including the risk of temporarily deteriorating contacts.

Positive and negative experiences from building external networks turned out to be quite personal. A number of officers enjoyed it, including the related uncertainties (the 'early adapters'), but others retained their institutional orientation and continued to remain more or less alien to external networking. It should be admitted that the union organisations (confederation, Bondgenoten, Regiowerk) were not very supportive of the group of early adapters. They hardly recognised the efforts to develop and use external networks as 'in-depth investments'. This attitude could be cultivated by weak project management and weak internal communication.

Competences of regional union officers

The following individual competences of the FNV regional officers acting as project pioneers have to be regarded as (a combination of) success factors:

- creativity, ability to improvise, and orientation towards union renewal, showing competence in rapidly scanning and using possibilities for new union activities in rapidly changing contexts;
- competence to define the regional ‘policy space’, based on prospects and problems of the regions involved, including specific regional socio-economic features;
- competence to assess the possibilities for developing regional networks and coalitions, eventually into partnerships;
- competence in starting and using regional networks, acting as a ‘broker in labour relations’;
- competence in adequately using the regional policy culture;
- ready-to-use knowledge concerning legal constructions and funding possibilities at various levels (region, branch, country, EU);
- competence in claiming, advertising and disseminating project results, especially to unpaid officials and ordinary union members.

A distinction should be drawn between the first and second echelon of regional FNV officers. The first echelon contains the early adapters, people who already had an aptitude for this type of union work and developing the competences summarised above during the project. Yet the gap between them and most other officers involved grew, and obviously few of the second echelon were able to close it during the project. In my opinion this gap can only be partially closed. Dutch union organisations have to accept these differences, by and large. On the one hand, all-round regional union officers, ‘pitchers’ who are willing and competent to start up and run larger union projects as well as to function in ‘classical’ institutional settings (still widespread in the Netherlands) will continue to be scarce. FNV Regiowerk management should try to retain them in the organisation and give them excellent opportunities for further qualification. On the other hand, a second echelon of good ‘catchers’ is needed as well, both in institutional consultation and in projects. These officers should bring in project experience in the union representation in institutions like the labour supply authorities, the provincial socio-economic councils, and the Chambers of Commerce.

Notes

1. More or less the same kind of debate, although less intensive, seems to be going on in one of the two smaller Dutch confederations, Protestant CNV (membership: 360,000). The neutral, white collar MHP confederation (200,000 members) has a more decentralised character and is less vulnerable for this debate.
2. The regional activities of CNV and MHP are much more limited.

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Globalisation and regionalisation

Will networking help trade unions to shape change in traditional industrial regions?

Birgit Beese, Klaus Dörre and Bernd Röttger

Since the mid-70s the developed industrialised societies have found themselves in a period of accelerated economic change. Globalisation, information technology and regionalisation are just some of the key terms used when this change is discussed in social sciences and politics. To many scientific observers it is a proven accepted fact that the internationalisation of economies is driving forward the industrial structural change towards an IT and knowledge-based society and, at the same time, giving rise to new configurations at a global and local level. In trying to identify connections between the internationalisation of companies and the development of micro-regional economic areas, you are more likely to encounter questions than ready-made answers. Are 'increased globalisation' (Giddens 1995) and 'regionalisation' really two sides of the same coin? Is the 'informational economy' (Castells 1996–1998) of any use as an all-embracing model that all attempts to shape regional areas have to use as a guide? Or are there opportunities for 'regional development coalitions' (Ennals & Gustavsen 1999) to exploit the endogenous potential of small economic areas within the framework of sustainable development strategies?

We looked at these questions within the framework of a research project that investigated the activities of mostly trade-union related industrial-policy networks in urban areas with traditional industries – Nuremberg, Dortmund and Chemnitz. Will Trade Unions be able to become the engine of regional coalitions and, in doing so, confirm findings of sociological action research? The result of our research can be summarised as follows: A new level of action and management has developed in the micro-regions we investigated in opposition to the economic internationalisation and industrial structural change. This new level offers opportunities for participation to work-oriented networks and trade unions.

However, regional organisational scope is severely restricted by the dominant threads of internationalisation within structure-shaping companies as well as by the prevailing patterns of state economic assistance. The trade unions also see themselves faced with an additional problem. The more intensively they tie themselves to an official strategy of regional competition and the more dynamically the economic structural change progresses, the more difficult it is for them to realise their own organisational and political aims. Region-based political activities only work effectively in favour of the trade unions if based on autonomously set conditions of commitment and clearly defined success criteria. In developing such commitment and criteria for success, sociological work-oriented action research can be a vital support. If there is no critical reflection of trade union practice, opportunities for trade unions to participate can very easily become traps.

In the following we will explain in depth the result of our study. First, we introduce the theoretical background, structure, sample and research method (1). Then follows a sketch of industrial-policy networks (2) and the analysis of regional development aid (3). In the fourth section we deal with the development of employment relations within the region (4). We conclude with remarks on the possibilities of social-scientific action research (5).

1. Theoretical premises, method, empirical basis

Our study refers to a social scientific discourse characterised initially by the strong opposition between 'globalistic' and 'regionalistic' positions. 'Hyperglobal' reasonings (Ohmae 1994; Reich 1996; Thurow 1996) maintain that, in the globalisation process, footloose companies without national or regional ties would emerge creating an on-going 'de-territorialisation' of economic activities. Regional analyses (Storper 1997; Porter 1991), on the other hand, presume that, as a consequence of economic internationalisation, the importance of small-scale companies would increase provided the industrial players understand how to actively influence the investment behaviour of companies by, for example, making use of available public goods (infrastructure services, further training of employees). In the meantime, more differentiated reasoning has emerged in the debate on globalisation. From an empirical perspective it has been shown that we are dealing with an ideologically distorted image of the idea of 'global players' without territorial loyalty (Ruigrok van Tulder 1995; Dörre 1997; Pries 2002). The fact that international companies are able to sever from mature territorial connections and enter into new ones does not indicate a general revaluation of micro-regional areas. It is certain that, as a consequence of economic internationalisation processes, new global and regional configurations have emerged that are clearly acting as catalysts for an accelerated

economic structural change. Equally certain is the emergence in numerous regions of new industrial-policy networks partly supported by trade unions which aim at governing this structural change or at least making structural change socially acceptable. Whether or how this will succeed remains an open question for the foreseeable future, and the answer requires empirically backed research. The latter is exactly the purpose of our study.

Our investigation takes as its starting point three theoretical premises. *Firstly*, we assume that there is no direct causal link between the internationalisation processes of an economy and the concrete substance of regional structural policies. The internationalisation of companies constitutes 'spaces of possibilities' and 'action corridors' for the regional actors. However, it is strongly dependent on interpretation, definition and political decisions how the available options for action are used (Dörre et al. 1997; Röttger 1997). *Secondly*, we assume that the regional development process in market economies can only be regulated and planned in a very limited way. In order to be capable of acting at all, the regional players – local authorities, companies, industrial/trade associations, the trade unions, NGOs – are forced to develop frames of reference for action that define current and ideal-typical situations. The function of these frames of reference is to reduce the complexity of requirements in order to transform 'globalisation' and 'regional structural change' into relevant and manageable themes. Seen from this perspective, regional economic areas are not static. Allowing, of course, for geographical conditions, evolved economic structures, traditions and mentality, regions are 'made' and politically constructed (Läpple 1998; Lipietz 1998; Veltz 1996). This implies, *thirdly*, that regional-political strategies based upon frames of references are a result of negotiation and compromise where even dominant interest groups are as a rule not able to assert themselves. Micro-regions are incomplete partial economies with scarce resources and limited opportunities. This creates a certain pressure to agree. If they wish to have any effect at all, regional players with diverging interests must commit themselves to mutual projects and development options. In this way, the region becomes a partly institutionalised, partly informal political arena which can be influenced by dominant groups with powerful identities and organisations (Hirschman).

Being forced to compromise makes it interesting for the trade unions to participate in the definition of regional economic strategies. Policies whose aim is to develop the advantages of regional co-operation might, from a trade union point of view, represent an alternative to the simple cost-cutting strategies of competing companies. In the ideal-typical world of economic development policy the function of the entrepreneur in the regional area is 'socialised', that is to say it is partly disconnected from market calculations and reconnected to social objectives. Not the state in the narrower sense but the regional network becomes the

‘all-embracing regional capitalist’ able to compensate for the weaknesses of the private sector employers.

Our study is an attempt to translate such ambitious ideas into practice. We began our investigation at a time when the initial euphoria amongst regional players had given way to ‘new sobriety’. Setbacks and unattained goals created a need amongst trade unions and their allies for self-understanding and critical reflection on their own practices. Our intention was to take into account these processes in our on-going research. This had implications not only on our strategy but also on the method of our research. Our approach is located at two different methodological levels: A relatively conventional, empirically-based research strategy is linked to elements of action research (van Beinum & van Beinum 2001:310ff.; Martens 2001:340ff.) that is used as a scientific support by those working at a regional-political level. This research is not claiming to intervene at regional and development policy level. We are much more concerned to provide trade unions and labour-related players with empirical findings in order to motivate them for self-evaluation and if necessary for modifying their activities.

From this initial stage we also take into account the heterarchic-dynamic character of regional networks. Many things in the networks are improvised and subject to constant change. Generally there is no systematic control of the network activities. Occasionally, the impetus for thinking about sensible criteria of evaluation of network activities has come from the research team.

The empirical basis of our study are 110 semi-structured interviews with experts, managers, works councils, trade unions, financial backers, politicians, consultants and employees. This is completed by an analysis of structural data, first-hand observations and by lengthy discussions between academics and practitioners about interim project results.

2. Origin and structure of regional networks

According to Powell (1996:291), we perceive networks as “co-operating associations resembling more a marriage than a transitory relationship”. However, what we are talking about in the following is rather a marriage without a formal marriage contract. The network players are embedded in a mesh of dependence, reputation and obligation; their interaction is based on permanent social relationships (Kenis & Schneider 1996:29).

The objectives, structure, services and problems of trade union-initiated industrial-policy networks can only be reasonably understood if the regional context of their origin is considered. The regional work-oriented policy developed in Nuremberg, Central Franconia, is a reaction to the crisis in the regional metal and

electronics industry. Between 1992 and 1996 there were 10,000 net job losses in the metal sector. After 1980 there was scarcely any new industrial development worth mentioning. Dynamic growth in small and medium sized firms and in new industries like IT was not sufficient to compensate for job losses in the sectors in crisis. Correspondingly, by the mid 1990s, 20% of the interested representatives were anxious about the economic situation of their enterprises. In this situation the local section of IG Metall, the metalworkers trade union, was forced to recognise that the resources necessary to influence economic structural change by mobilising the capacities of trade unions were limited. At the same time, IG Metall had to deal with a regional state policy that was making substantial sums available to new knowledge-based leading sectors whilst the incremental change in evolved industrial structures was tackled rather defensively. Under these circumstances IG Metall in Nuremberg developed a concept during the 1990s that helped it to gain a voice in the regional political arena – despite the generally difficult conditions and decreasing membership.

What followed was the development of a network structure under the umbrella of the Economic Forum which relies on two pillars: The first pillar is 'economic competence initiatives' consisting of amalgamations of companies, academic institutions, trade unions and local politicians. The second pillar is composed of regional-policy projects and initiatives with differing tasks (e.g. rescue solutions when jobs are cut, continued training, factory modernisation, early crisis recognition). The driving trade union force is IG Metall, above all the head of the section and his immediate consultants. The network structure is comparatively dense and relatively strongly institutionalised. The relationships between the network players, however, are delicate. There is no agreement on a strategic centre. The highly professional network players act successfully in their own way; at the moment there are no co-ordinated efforts within the framework of a more or less binding strategy. This marks a clear difference to the mid 1990s.

In Dortmund, one of the largest cities in the Ruhr area, the work-oriented structural policy of the main trade union actors must be seen together with the well-nigh complete disappearance of the coal and steel industry that had shaped the structure for decades. At the beginning of the 1990s there were still about 15,000 steelworkers; in 2001 the number was heading for 1,500. Steel is no longer smelted on the spot. Mechanical engineering as well as iron, sheet metal and metal goods have shrunk by 40%–60% in the last eight years. In 1980 almost 70% of employees liable for social security contributions worked in trade and industry. Today, conversely, 70% are employed in the service sector. The trend is continuing. The loss of more than 40,000 jobs in the traditional industries is compensated for by a corresponding increase of 20,000 new jobs in the service sector and new industries. Above all, in the south of Dortmund, there is dynamic growth

in knowledge-intensive companies with the creation of more than 11,000 jobs. What is true for Nuremberg also holds true for Dortmund – that the growth in the new industries is not sufficient to compensate for the job losses in the traditional industries. The consequence is a large number of long-term unemployed.

The most visible trade union player is the DGB (Federation of German Trade Unions), the local trade union umbrella organisation for the trade unions. It participates in a fully differentiated regional network that tries to influence the economic structural change by targeted investment and assistance given to trade and industry. It is formed of the local authorities, the Chamber of Commerce (*Industrie- und Handelskammer*), the local metal industry companies' association, the office supporting co-operation between the scientific and work sphere (*Kooperationsstelle Wissenschaft und Arbeitswelt*), the Job Centre (*Arbeitsamt*) and last but not least the Dortmund Social Research Office (*Sozialforschungsstelle Dortmund*). The Dortmund network is even more institutionalised than its counterpart in Nuremberg. The difference between Nuremberg and Dortmund is that in Dortmund there is a clear tendency towards a central, industrial-policy project. This project is backed by the commitment of *Krupp-Thyssen* intent on the creation of 3,600 replacement jobs in the region within a reasonable amount of time in order to compensate for the job losses in the steel industry. This has led to a strong interest in one of the former companies that shaped the structure (*Hoesch*) to foster and promote growth industries in the region.

The aim of the Dortmund Project is to create 70,000 new jobs by 2010, 10,000 of which will be in existing industries and 60,000 in the new lead industries. At peak periods there were 52,000 people registered as unemployed within the Dortmund Job Centre area; in 2000 the number had decreased to 47,000 to 48,000 but the average rate of unemployment is still running at 14.4%. The Dortmund Project puts the main emphasis on the development of information technology, E-commerce, micro systems technology and E-logistics in order to strengthen existing industries, to expand training, the acquisition of further skills, science and research on an international level as well as to stimulate the setting up of companies and attracting new ones from elsewhere. The industrial-policy measures can be brought down to a multiplicity of individual projects. Counting those connected with the project and those offering assistance from trade and industry, about 70–100 people work on implementing these individual projects. This industrial-policy initiative is made possible by help from the state of North-Rhine Westphalia which has guaranteed subsidies of more than 50 million euros over the next ten years. However, very likely the total costs of the project are going to be considerably higher.

The region of Chemnitz in Saxony that we investigated is in a certain way a special case. The regional structural policy of the trade unions has been developed

within the context of the transformation of the East German economy. For many decades, Chemnitz was the main centre of an economic area with a long traditional history in the machine tool industry and the chemical and textile industry. During the Communist period, 40% of those employed in the machine tool industry worked in Karl-Marx City, as Chemnitz was then called. The attempt after the reunification of the local IG Metall to save at least the industrial centres strengthened, on the one hand, the political influence of the trade union but was, on the other hand, not very successful. Between 1991 and 2000 the number of employees in Chemnitz factories dropped from more than 47,000 to a little over 13,000. During 2000 there were signs of a slight recovery; the numbers employed in manufacturing industries rose by around 3,000 in the course of the year. Since the crisis year of 2002, however, employment has again fallen sharply, more sharply than in Nuremberg and Dortmund.

The difference of Chemnitz compared to the other regions we looked at is that the IG Metall-related network in Chemnitz has developed in direct competition to other initiatives. It focuses on stabilising and redeveloping the machine tool and textile industry, on the protection and redevelopment of industry, on the qualification of young people, on improving research and innovation, on addressing the issue of youth training and on supporting structures and training of the unemployed. One focal point for the regional-political activities is the Chemnitz 'consensus model'. Against the background of a multiplicity of shattered privatisations and looming bankruptcies in the region, a special co-operative grouping has been formed which is in charge of the regeneration and development of weakened firms in the production sector and production-related services. Large industrial-policy projects as in Dortmund or influential company associations (competence initiatives) do not exist in Chemnitz. The trade union-related Chemnitz network is far less institutionalised than the two other networks: it acts flexibly and spontaneously. At the same time – even more strongly than the co-operative structures in Nuremberg and Dortmund – it is tailor-made by a 'strategic head', the authorised advocate of the local IG Metall.

Common to the three industrial-policy networks is the basic problem of regions with traditional industries. In times of favourable economic activity the rise in employment remains below average; however, when crises occur, they are particularly severe (Bömer 2003). All the regions investigated have been faced with a decline in dominant industries, a situation where Nuremberg alone, in comparison to Dortmund and Chemnitz, proves to be a region of dynamic growth (Prognos 2002). The unemployment rate fell from its all-time peak (20% in 1998) to 16.5% in September 2002. About 30% of the 45,000 unemployed in the region are IG Metall members with a rate of long-term unemployed of 41.6%.

Furthermore, these cases also have in common that the work-oriented network structures have developed in the context of support that relies on the region's own initiatives. Further compliance can be seen in trade union involvement with the regional structural policy using their own ideas. This in turn allows us to identify three differing yet inclusive phases. Taking company closures and dismissals as starting points, conflicts often arise in the *first phase* and act as triggers for the regional-political demands of the trade unions. In the *second phase* the particular local financial backers (with the aid of professional consultants) develop industrial-policy projects (efficiency areas, clusters). These are influenced by trade unions and actors close to them acting in favour of crisis absorption and job security. The *third phase* is one of implementation and professionalisation. The networks consolidate and remain different, funds flow into the region but the trade unions run the danger of losing their political influence on the development.

Beside common aspects there are also important differences. These refer in the first place to the individual contexts of the regional-political efforts in the three federal states of Bavaria, North-Rhine Westphalia and Saxony. Bavaria stands for a policy of modernisation where the inhabitants of Central Franconia feel neglected. In the context of high-tech policies the bulk of the regional development funds (the proceeds of privatisation) is concentrated on the region of Munich rather than the Nuremberg region. In contrast to that, in Dortmund the regional players act in full compliance by focusing on regional state policy goals. There is absolutely no question at all of any kind of effective teamwork between regional-state policy, local authorities and work-oriented players in Chemnitz. In fact the policy of the work-oriented networks develops in numerous skirmishes and more than ever before it is this policy that wants to leave economic development to market forces. In contrast to the other two cases we have compared, the Dortmund initiatives benefit from privileged relationships with the government of North-Rhine Westphalia.

The regional-political constellations can to a large extent be explained by referring to the differing political cultures and traditions of the urban areas. Thus, the Nuremberg initiative finds itself in a strained relationship with the CSU (Christian-Social Union), the governing party in Bavaria. On the other hand, the Dortmund project, developed in social-democratically governed North-Rhine Westphalia stands for the tradition of social partnership of the Ruhr, a partnership that to a certain extent also includes the 'losers' of the modernisation process. This policy is expressed in the so-called Dortmund consensus that, in defiance of opposite interests, integrates all the regional players and imposes common goals on them. This is clearly the expression of a political culture which has lost its socio-economic basis with the disappearance of the coal and steel industry and the co-determination culture which went hand in hand with it. In Chemnitz, on the other hand, co-operative structures had to be created after the reunification.

Due to the rapid de-industrialisation, the weakness of the employers federations and trade unions, low wages and a non-existent tradition of co-determination, these initiatives have remained weak.

Differences in the political culture can also be seen in the quality of regional connections. In Nuremberg, regional identity has been developed *ex negativo* by keeping at a taking distance from the capital of Bavaria, Munich. In contrast to that, there is a clearly positive identification with Dortmund which is an important precondition for the close and conflict-resistant co-operation between the regional players. Chemnitz rather represents the opposite of positive identification. Even during the Communist period the city had rather a negative image. After the reunification the old reference points of identity – top class sport, theatre and art – have disappeared. The connective tissue between the regional areas is clearly very weak. An indicator for that is the continued emigration of well-educated young people. The different character as well as the different performances of the work-oriented networks reflect the varying regional preconditions and political cultures very well.

3. Globalisation, economic development and cluster formation – An inter-regional comparison

What exactly does regional structural policy achieve and what is the role of the trade unions? We pursued this question with reference to the policy areas of Economic Development Aid, Efficiency Management and Cluster Formation.

The policy area in question is central to regional structural policy. It implies straightforward crisis management and is therefore suitable for casting light on the peculiarities of radical structural change in regions with traditional industries. Porter (1993) developed examples of what he called *regional competitiveness* that initially form the basis of regional economic development aid. According to Porter, the formation of clusters is a suitable strategy for regional players to be able to react to economic internationalisation. Even on a conceptual level, there are important differences within regional-political initiatives aiming to overcome developmental differences within and between regions. Porter's concept of regional competitiveness implies regional winners and losers. The concept aims at intensifying the competition between the regions and accepts the fact of growing inequalities between them. Thus critics (Krugmann 1999; Mahnkopf 1997) accuse Porter's concept for its affinity to the orthodox market ideology of 'local competition'. Such positions, however, ignore the activating character of regional cluster policies and their potential to encourage compromise. For the regions we investigated, Porter's starting point is too imprecise and, in a certain way, too ambitious

for it to be adapted to the practice of regional economic development aid. Due to different problems and political cultures we were confronted in the three regions with different approaches within the paradigm of 'competitive regionalism'.

3.1 Regional development aid in practice

Concerning the Central Franconian Nuremberg-Fürth-Erlangen urban triangle it is appropriate to talk rather of endogeneous resource and efficiency area management than of a real cluster policy. The most important backers of this initiative are the regional competence initiatives (*Kompetenzinitiativen*), associations and networking structures made up of some bigger companies, research institutions, local authorities and trade unions. The competence initiatives work in the fields of energy, transport, IT and communications technology and medical technology/life sciences. The task of these initiatives is to open up and develop regional strengths and to make the Central Franconian economic area globally competitive at a local level. The region is regarded as a quasi-company. Even the competence initiatives are directed using entrepreneurial criteria such as turnover and profitability. Their task is to acquire funds for projects, to push for backing for technology, to exploit the advantages of regional co-operation and to improve area marketing. The efficiency areas of IT and medical technology are focal points corresponding to, found in and proposed by the State of Bavaria in its high-tech offensive. On the other hand, the efficiency areas of energy and transport are their own regional creations whose aim is to foster an incremental change of evolved industrial structures.

The regional compromise is intended to be embodied by the Economic Forum covering the above cities and came about as the result of protracted discussions. With its 200,000 employees, Nuremberg is the main regional centre. The cities of Fürth and Erlangen perceive themselves for various reasons as the main competitors to Nuremberg. There are also diverging interests within professional associations and economic groupings on the one hand and trade unions on the other. The associations and economic groupings, following the policy of the State, are solely interested in fostering radical innovations in new knowledge-based sectors neglecting the conservation of old industrial structures. The trade unions, on the other hand, have totally different priorities. The IG Metall-expression 'crisis regions Nuremberg', refers to the enduring structural problems in a partly very dynamically developing region.

Behind the institutions and ideas which are supposed to express the regional consensus, aims and strategies are hidden that are not always reconcilable. In a nutshell: the regional policy compromise within the greater Nuremberg area is *not* based on unilaterally agreed contents. As a result, the evaluation of the developmental policies is quite contradictory. From the point of view of urban economic

development aid and competence initiatives, the management of the endogeneous resource and efficiency areas is a great success. For these players the efficiency area initiative is primarily a marketing strategy. Industrial policy projects are only of minor relevance and their effects on employment are not checked. Taking marketing success as a yardstick, the economic development aid can self-confidently refer to the fact that Central Franconia – if you take as a criterion ‘Innovative potential and its use’ – can be rated as a rapidly growing and go-ahead region. Critics of the marketing strategy meanwhile point to the enduring structural problems of the region. The decline of the metal and electronics industries continues unabated and its peak is not yet in sight. The heterogeneous service sector is showing partial dynamic growth although it is also characterised by structural problems. Rationalisation measures in the bank sector lead to huge job losses. Even in knowledge-intensive industries there are massive job losses with dismissals and closures amongst the main players of the InfoCom industries (Lucent, Ericsson) that everyone is relying on. In a narrower sense the new economy – i.e. the small high-tech Internet-service companies that appeared in the wake of the boom – no longer has any quantitative role to play in terms of employment policy due to repeated crises. The local regional and industrial-policy initiative of the region is affected by this development in two ways: on the one hand efforts to achieve an incremental change, whose aim is the protection and modernisation of evolved industrial structures, are more and more often without success. Hoping to influence decisions about investment and factory location of international ‘Champions League’-players through regional-political efforts seems well-nigh impossible. On the other hand, the new industries are not always growing without crises. A lot of what could be achieved seems rather accidental. Thus the regional efficiency area initiative was able to secure development funds of more than 25 million euros; it is, however, completely unclear what effects these funds will have.

A cluster strategy oriented towards the creation of new employment has been successful in Dortmund for quite a while. This is different in Nuremberg where employment-oriented initiatives within and below the efficiency areas are only weakly developed. In the intensive discussion conducted in the constituent phase of regional structural policy, the trade union and trade union-related players formulated the demand to influence and change regional economic structures by positive action within the economic policy. To them the relationship between regional strategy and leading regional companies is of decisive importance for the cluster policy. Cluster formation can only work if the participating companies think strategically. ‘At the end of the day’, it is vital for the initiative that there exists some kind of agreement between the cluster strategy and the strategies of a region’s leading companies. From the point of view of the industrial-policy actors, it is a question of the clustering of directing investment that is not administered

by the state but generated within the framework of the cluster structures. In a region shaped for a long time by a 'planned economy' in the coal and steel industry, the concept of clusters is considered to be quite problematic by the professional associations and those used to daily practice. Thus, the local economy identifies the central problem of the local economy in the entrepreneurs' lack of initiative and in the lack of SMEs. Further, it seems that the top representatives of the entrepreneurs perceive the cluster initiative as a simple continuation of the old state corporatism – a corporatism they consider incapable of mobilising entrepreneurial initiatives.

For the trade unions too the cluster initiative contains one unsolved problem. It is recognised by those involved that an active shaping of regional structural change cannot be achieved without having access to structure-shaping companies and factories. The Federation of German Trade unions (*DGB*) as a protagonist of the regional cluster policy does indeed sit on various steering committees; however, quite differently from the Nuremberg IG Metall, it does not have any direct access to the efficiency areas. Yet the cluster policy occupies a central position in trade union policy formulation. The question of company access is not omitted – it is simply transferred to the political level. Trade union influence made itself noticeable within the Dortmund project: for example it can be seen as decisive in having introduced the development of the logistics sector in the project. By focusing on logistics, the need for jobs for employees with minimal qualifications would be taken into account.

In contrast to Nuremberg, the economic development aid for the Dortmund project functions according to explicitly formulated employment policy goals which are realised through a multiplicity of single projects. The implementation of these single projects is assessed periodically. There is a long tradition in the region of this type of industrial-policy commitment. It has already been successfully implemented in the context of supervising company obligations to create additional jobs as well as in the setting up of an industrial estate. Around 8,500 people work in the Dortmund industrial estate, mostly in small and very small firms. Even compared to the rest of Europe, the industrial estate has got a leading position. It has benefited directly from the scientific infrastructure of the university – many software companies came directly from the university. The Dortmund project uses these links and experiences.

From an organisational point of view, the project initiatives concentrate on equipping, advising and supporting companies in the E-commerce/IT sectors (E-factory), in the micro-system technology (MST factory) and logistics (E-port Dortmund) sectors. These projects are seen as incubators for the dynamic development of lead sectors; they work as private limited companies. Among their important functions are setting-up events where, by means of intensive manage-

ment, relatively vague business ideas are transformed into new companies. This is a form of state development policy that in a certain way is transforming traditional corporatism. On the one hand, it is referring to this corporate tradition when it develops a comprehensive support system for young first-time entrepreneurs which might even have close ties to the private sector. On the other hand – and this is what is new –, this support is designed strictly to promote and develop the *private* initiatives of entrepreneurs. In other words: those people setting up for the first time must sooner or later survive in the market by their own efforts. On a local level, the state merely guarantees assistance in opening up and developing market opportunities. If these promoted initiatives do not have the intended effects, support is removed from them sooner or later. All this works on the basis of a permanent control of the employment policy.

Periodical controlling is a strength of the Dortmund project whose implementation, however, carries with it high risks. The project is ambitious. Viewed critically from outside, it is under huge political pressure to justify itself. Its employment policy goals are based on the assumption of a reasonably stable economic development. In times of crisis when the effects of growth fail to materialise or are non-existent – as the present contraction in the Dortmund software industry shows – a project like this, along with those running it, can easily find itself in difficulties when having to justify its existence. However, one can see a considerable difference in emphasis when compared to the Nuremberg efficiency area management. Unlike Central Franconian initiatives, those running the Dortmund project work on the basis of economic and industrial-policy initiatives. Here it is not a case of a simple marketing strategy but of an ambitious attempt at industrial-policy organisation.

In Chemnitz the activities of regional economic development aid are clearly less intensive than those in Nuremberg and Dortmund. Even the question of a regional model leads to highly controversial answers by the leading players. Located on the one side is the official regional state policy and its regional advocates who are pursuing the project 'car supplier region'. However, this project is not even unanimously accepted by the members of the chambers of commerce and the employers' associations. Even the trade unions are quite critical. They find fault with the biased direction of the economic development aid's activities towards the information and communications industries which neglects the evolved industrial structures. Further trade union criticism relates to the fact that the economic development aid policy emphasises the weak trade union density and the obvious cost advantages compared to former West Germany as core advantages of the region.

On the basis of its criticism of the prevailing regionalised structural policy in Saxony, the local IG Metall has to a large extent given up its participation in the nu-

merous consensus committees. The trade union-related network operates mostly independently and tends to use state activities rather tactically. Whilst these activities access the various local co-operatives above all as organisations for acquiring development funds, IG Metall and its network partners have concentrated on a policy of 'intelligent regeneration' and of retaining industrial centres. The Chemnitz initiative indicates that a work-oriented commitment to this area does not have to be limited to formally-established trade union participation in regional consensus meetings. Work-oriented structural policy in Chemnitz is a look-and-learn process that is able to include the work of the consensus meetings as well as the creation of its own partially informal co-operative structures along with work-oriented self-awareness.

The core of the structural policy activities of the network grouped around IG Metall consists of the regeneration of embattled companies within the framework of the Chemnitz consensus model. With the help of this initiative, approximately 2,000 jobs were saved in the region. This regeneration initiative is the practical outcome of regional co-operation over many years. Apart from the local IG Metall support, the most important backers of the model are the consultants *Price Waterhouse* and the Job Centre (*Arbeitsamt*). If a company gets into difficulties, funds can be made available to it from the reserves of the Job Centre – assuming some conditions are met. These funds are allocated on a strict procedural basis and according to individual interests. A regeneration concept is worked out and supervised by a committee to which, inter alia, IG Metall, the creditor banks and the staff council belong. The eligibility criteria for development aid are sectoral requirements, whether the company is capable of being regenerated, contributions towards regeneration from everyone involved including the banks and employees, as well as the setting up of a management council with obligatory trade union participation supervising the regeneration plan. The successful regeneration at *Union*, one of the oldest machine tool companies in Germany, was the frame of reference for the concept. Despite frequent insolvencies in the past *Union* has since the mid 1990s become a successful employee-run company.

Besides securing jobs, the policy of 'intelligent regeneration' led to some additional effects. Against the background of positive examples of successful restructuring policies it was possible to put local companies under growing political pressure. This resulted in locational decisions which were in favour of the region. Despite its employment-boosting effect, the Chemnitz model is criticised by regional state authorities because of its somewhat tense relationship to EU law ('inadmissible subsidising'). The network players are, however, sticking to their approach and are striving to access other sources of funding. But the consensus model is confronted with inherent limitations. It can only be applied to companies in need of restructuring; it is completely irrelevant in the field of transnational

companies. Further it must be noted that staff resources are limited with the effect that advisory committees lack the required number of people.

3.2 Limitations of regional economic development aid

In summary we can say that all the networks we investigated are seeking to exert influence on economic structural change by developing advantages of regional co-operation. In each of the three regions there are partial success stories; and the network players can put forward the argument that without their efforts economic development would have taken a more negative course. All in all, the effects of regional economic development aid and cluster formation have remained limited in all the regions investigated. There are three decisive reasons for this.

1. Levelling effects of regional competitiveness: For all the regions investigated – and we could easily add more – the system of economic development aid was run according to the same formula. The similarities of the initiatives are striking. Marketing of commercial/industrial space, co-operation with research institutions, support for knowledge intensive industries, competition between first-time entrepreneurs, setting up companies and the creation of a regional infrastructure are all part of the standard programme. What is astonishing is that the efficiency areas and development focal points resemble each other. The former core speciality of the Nuremberg efficiency area, Information and Communication Technology, can nowadays be found in the other regions we compared. Regional competitive advantages are no longer being developed with such efficiency initiatives. It is quite similar with regard to many other regional-political efforts. Such levelling effects appear not least because of the activities of professional consultants who commonly operate on the basis of standardised programmes when determining regional competitive advantages when they and the politicians behind them have evidently followed models that perceive the dynamically developing focal point of a new economy in the IT and communications industries. In doing so it is implicitly assumed that in general terms an economic development model à la Silicon Valley is potentially possible. Profound studies (Lüthje 2001; Sablowski 2003) proved long ago that developmental processes based upon the IT and communications industries cannot be copied at will.

For that reason, the levelling effects of regional competitiveness have been increasingly criticised. More than anywhere else this is true for Nuremberg when the efficiency areas are reorganised. It is planned to foster market and technology support which will lead to an internal differentiation of the efficiency areas. Until now the competence initiatives have often focused on projects that do not lead to regional added value because they are also applied in other regions. One example is

the magnetic overhead monorail 'Transrapid' developed by Siemens. The Nuremberg efficiency network 'Transport' takes credit for this only because Siemens is registered in Nuremberg although this new technology will be used, if at all, in quite different regions. In contrast to this, it is understood that future innovations peculiar to one region will be used in the same region. Independent regional profiles will not be the result of the efficiency areas as such but of their overlapping. Further, much more attention will be paid to the endogeneous potential of the regions and to the heterogeneous sector of small and medium sized companies. It might well be just a question of time before other regions copy these ideas.

2. Coincidence and the power of communication: In all the regions we investigated we could see that regional structural change can hardly be regulated. Porter (1993:148) already points out that the strategic planning of the cluster development is again and again undermined by the factor 'coincidence'. In Nuremberg the efficiency areas were shaken time and time again by structural crises. It is difficult to maintain a fixed industrial policy on a fairly long-term basis if leading companies in the Transport efficiency area are affected by business crises and closures. In Dortmund the situation is different only because the decline in the former lead industries has stopped. But the new Dortmund top firms are also not immune against crises. In Chemnitz the laboriously stabilised industrial centres are already in danger because of macro-economic reasons. It is clear from this that a global economic constellation which is characterised by a high rate of crisis and structural uncertainty (Brenner 2003) cannot be dealt with satisfactorily through regional development funds. It is even more problematic if regional economic development aid becomes in reality a substitute for macro-economic strategies.

In the face of limited opportunities for regional regulation, one should not underestimate the 'productive power' of communication. Criticised for being a mere marketing device, the Life Sciences efficiency initiative based in Erlangen is successful above all because of the Mayor who is an excellent communicator. The Erlangen example shows that, in times of economic uncertainty, economic development processes are more often characterised by informal kinds of co-operation and intelligent communication rather than detailed industrial-policy planning. Individuals are often more important in the network structure than elaborate programmes. In this respect there are lessons to be learned from the way in which the Erlangen Mayor acts. Quite obviously a communication-friendly centre with charismatic personalities at the top is an important means to maintain strategic power in a world marked by coincidences.

3. Global players and the limited bargaining power of the regions: Obviously there are facts which cannot be influenced by 'great communicators' of the re-

gion. The growing lack of responsibility of international companies towards their regional locations is one of these facts. It is certain that the transnational companies that we covered have to build up local and regional relationships. From the perspective of the enterprises, what might at first sight appear to be an interplay of loosening and renewing of such connections has a completely different meaning from the perspective of the affected economic areas. It is true for the three regions we studied that in no case an industrial-policy network has succeeded in using its own power to substantially influence the (dis)investment behaviour of the companies operating on the spot. Where new factories have been set up by transnational companies, the financial and political assistance of the regional state government was needed in order to encourage positive decisions. However – as the *Lucent Technologies* case in Nuremberg shows – even sums of three-figure millions are no guarantee that new factories are immune from dismissals or even closures. In this case, the company's US head office decided to reduce the staff by 50%. Despite their protests and interventions, the actors in Nuremberg proved incapable of influencing the company's strategy. This example can be generalised. The relocation and the internationalisation of decision-making centres through mergers and take-overs, the adaptation of value-based forms of management that reduce the strategic decision-making power of local management; the management of decentralised units through projected profits and electronic control as well as the intentional rotation that weakens managers' local connections ensure that management's awareness of a regional competitive advantage is more and more being lost (Dörre 2002). Even long-established family firms like *Quelle/Fürth* are now working with managers overwhelmingly recruited from outside who have only fixed-term contracts. However, regional connections would pre-suppose that managers would have to stay longer at the same company. At least there are signs that some head offices have become increasingly aware of this problem.

Generally, distinctive regional interests are only found in those companies that have their headquarters or main office on the spot. But – as we have seen in Central Franconia with the structurally influential electronics giant, *Siemens* – even these interests are not fully identical with the development ideas of the regional networks. *Siemens* headquarters also makes decisions independent of the region's interests although it strives to monitor the industrial-policy activities within the region. This applies to those *Siemens* companies where managers are clearly instructed to become involved with regional economic development processes. In this way, *Siemens* businesses and managers are represented at the forefront of competence initiatives; in one case the company even makes available one manager financed by the company. Regional efficiency area management thus becomes an integral component of a globally operating business monitoring strategy. It is dif-

difficult to imagine that decisions can be made within the efficiency areas that clash with the interests of the dominant company.

The case of the Dortmund steel company *Hoesch* proves that a different kind of socially-responsible bargaining by old-established firms can grow out of the iron and steel industry's tradition of co-determination. Nevertheless, the agreement that has evolved from the Dortmund project could not be repeated as such. Dortmund does not have many large companies; in fact just 60 firms have over 500 employees. In the Chemnitz region the preconditions for such a deal have never existed. The production sites of the big companies (VW, *Siemens-VDO*, *IBM*) represent 'extended workbenches', that is to say sites with low-level competencies and low-level labour costs. Their main function is to stimulate business in the East. There has been hardly any positive effect of these sites on the regional development.

3.3 Regional economic development aid and the role of the Trade Unions

In the first instance, trade unions and players close to them are incapable of changing anything with regard to the limitations, chance occurrences and uncertainties of regional cluster policies because usually they enter into a completely new field of political interests with their initiatives. However, it has to be noted that the problems trade unions face are to a certain extent 'home-made'.

1. Limited definition power: The trade unions in Nuremberg and Dortmund did in fact at least succeed in gaining considerable influence over the official regional development strategy. Thus IG Metall in Nuremberg was a driving force from the very beginning in defining the efficiency areas. That was particularly true for the Transport efficiency area. An ecological and affordable mobility was the target here. An integrated system of mobility management was designed to include all forms of transport from local public transport to cycle hire. IG Metall had been demanding just such a policy for years; the employers' associations had consistently refused these demands by referring to the free interplay of market forces. The co-operation under the umbrella of the Economic Forum was from the trade union point of view a break-through. However, it became clear that to the extent that the efficiency initiatives developed the trade unions were lacking the means and resources to realise their goals. Almost the same is true for Dortmund. Even outsiders describe the regional chairman of the German Trade unions Federation (DGB) as one of the most important conceptual thinkers behind the Dortmund cluster initiative. The DGB's commitment to setting up the Dortmund project is widely acknowledged and it is due to the city's political culture that the DGB takes part in all important decision-making processes. Trade union power to influence,

however, is limited to steering and advisory committees. At the interface of planning and implementation, in the efficiency areas and cluster structures, there is no trade union presence. Accordingly, their ability to influence practical activities remains limited. This could be corrected if the DGB succeeded in integrating trade union and interest representatives at company level. But up until now this has hardly been successful. Unlike the two comparable regions the local IG Metall in Chemnitz does not even get the chance to influence the almost impenetrable structural policy. Its rather tactical presence in regional consensus meetings is not beneficial for pushing through their own project suggestions. But this relative non-presence also has advantages. The limited personnel and financial resources of IG Metall can be concentrated on its own co-operative structures. In Chemnitz the trade unionists do not know the severity of the problems the trade unionists in Nuremberg and Dortmund have in becoming involved in decision-making committees without having any real influence.

2. Lack of employment policy control: In trying to influence the regional cluster policy the Dortmund trade unionists – unlike their colleagues in Nuremberg and Chemnitz – are able to make use of a very effective vehicle. On-going control in the Dortmund project opens up opportunities for them to make the effects on employment a matter of constant discussion. This is a high-risk stance for those with political responsibility. Faced with acute crises, local politicians tend much more to massage the figures. Trade unions and those involved in urban economic development, on the other hand, push for a seriously reliable balanced view. Of all the conflicts, this is the one that illustrates that, despite all the uncertainties, the control of predetermined aims offers trade unions a starting point to request and investigate the effects on employment. Neither in Nuremberg nor in Chemnitz is there a comparable device. From the point of view of economic development aid, the employment policy in both regions is of subordinate importance. Effects on employment are regarded in Nuremberg as a welcome side-effect of an aggressive regional marketing strategy. In Chemnitz, projects that demonstrate a sensible employment policy control are not even defined. On the other hand, the lack of control is fatal to the Nuremberg network. Concerning regional policy, trade and industry representatives and work-oriented players use the same terms but they mean different things to them. IG Metall originally set out hoping that the regionalised structural policy might be able to build links to new employment opportunities for the labour force released from the old-established industries. But these win-win situations cannot be created in this way. How and with what effect the more than 70 million euros of Bavarian development funds are used nobody from the trade unions was willing or able to say. The trade union protagonists did

not even think that employment policy control might be necessary until they were confronted with the Dortmund example.

3. Weak company foothold in regional structural policy: On one other point the Nuremberg and Chemnitz trade unionists seem to have an advantage. In both regions IG Metall benefits from an open-door policy with companies and with the works councils it has a unique information system that they can also use for intervention at a structural-policy level. This also happens whenever network players intervene in company crises, organise rescue solutions, carry out company modernisation processes or put forward measures to improve qualifications and training. However, this is episodic. Neither in Chemnitz nor in Nuremberg is there strategically based teamwork in the area of regional structural policy between trade unions and the representatives of company interests. Those more familiar with the details hold three causes responsible for this. *Firstly*, the lack of information in the workforces; *secondly*, the lack of specialist knowledge on the part of those representing interests who have to enter the *terra incognita* of political interests but who are not trained for it; and *thirdly*, the associated fact that in most cases works councils only become active in acute crises while neglecting any kind of preventive control on crisis. In Dortmund the problem is even more acute. The DGB as an umbrella organisation does not benefit from an open-door policy to companies. Member unions are not even aware of its regional structural-policy activities. Hence representatives of company interests are even more difficult to mobilise than in Nuremberg or Chemnitz.

4. Time pressure to succeed and limited resources: Here we are confronted with another problem. The burden of regional structural-policy activities lies on a few shoulders. The work increases to the degree that the trade unions are drawn into regional-policy decision-making processes. Exercising influence assumes an ongoing commitment and competent, qualified intervention. The few activists in Dortmund, Nuremberg and Chemnitz can only achieve this to a very limited extent. In this sense what are seen as opportunities for participation easily become traps. This problem becomes that much more acute as the trade union representatives are often under short-term pressure to succeed. When a crisis occurs in a company the employees need a rapid solution to the problem; they will not be satisfied with looking to beneficial economic effects in the distant future. All the regions we looked at show that trade union resources are too limited to allow ongoing targeted intervention. This problem would decrease if there were a better teamwork between the DGB and member unions and/or between the individual member unions. In some Nuremberg competence initiatives they are considering consulting not just IG Metall but also ver.di and DGB. In Dortmund the DGB

chairman tries again and again to bring together representatives of member unions and company officials. And even in Chemnitz there are first signs of inter-union co-operation. But all in all initiatives like these are still under-developed.

5. Selective representation of interests: The shortcomings in co-operation have important consequences. Because the definition of developmental focal points, efficiency areas and cluster policies means that financial and personnel resources are related to developmental focal points, interests absent from regional structural-policy committees are not considered. This is a very tricky area for involved trade union structures. For in all the regions we looked at there were effects on employment in areas of the economy (e.g. business, trade, health industry) not covered by efficiency areas or clusters. In all the regions we examined, ver.di, the union responsible for servicing these industries, is generally not very active at a regional-political level. Consequently this means that those employment sectors and sectors in the economy (private and public services, atypical employment, sectors with a high quota of female employment) that will gain quantitative, qualitative and structural importance will have no influence on the definition of developmental focal points and the action strategies of the regional players. At the same time, the ability to co-operate strategically is weakened for work-oriented players. Usually the consequences are a concentration on the management of crisis and sporadic reactions to external pressure.

4. Radical structural change, employment relations and the Trade Unions' representation crisis

All in all, the outcome remains contradictory. Undoubtedly the cases we investigated prove that at a micro-regional level a political action and development stratum has developed where important focal points for the economic development of small social areas are planned. It can also be shown that the industrial-policy networks do contribute to the production of collective goods. Apart from the innovative stimuli (that despite all limitations have their origin in the regional efficiency areas and cluster policy) these goods have regard to the security of employment, to vocational training and continued qualification and to the reorganisation of mainly small and medium sized businesses. It has become clear that trade unions and their related players not only support such processes but are in fact their driving forces. These modernisation activities stand in clear opposition to the current discourse among economic élites, leading opposition politicians and liberal-conservative journalists who harshly criticise the trade unions for being a "cartel of those who say no to everything" (*Focus*, *FAZ*, *Spiegel*), which has to

be destroyed in order to achieve a profound societal modernisation and a clear reduction of unemployment.

Our study brings out a different picture. Wherever anything innovative happens in the regions under examination in favour of safeguarding employment, improving vocational training and continued qualification or in favour of the modernisation of company structures, trade unions and their related advisors are the driving forces. It is quite common that unconventional arrangements are accepted in order to gain more freedom of action. Trade union representatives have found a negotiating platform in regional forums and steering committees where they are able to publicly spotlight their requests. It is, however, difficult for this public position to be used to strengthen trade union density. This result is so far quite alarming as in the regions we investigated there is a major crisis of trade union representation. In Dortmund sectoral change and high unemployment have meant an erosion of trade union density. During the last ten years the trade unions have lost around one third of their members. Another third is made up of pensioners, low socio-economic groups and those in precarious employment. Trade union membership is concentrated almost exclusively in what remains of the old industries and public services. With few exceptions, the companies in the new industries are trade union-free and often also without co-determination structures. Although in Nuremberg there are still large corporate structures and an IG Metall capable of mobilisation, the membership development of the local DGB resembles the situation in Dortmund. In Chemnitz the situation is even more dramatic. There IG Metall has major difficulties in recruiting new members not only in the numerous very small firms and among highly qualified employees in large corporations but even among employees from restructured consensus-model-companies.

This situation produces a paradoxical result: the more successfully the economic structural change is driven forward and the closer the regional economies get to the model of an 'informational economy' with high service components and small-scale factory structures, the greater the trade unions' representational crisis becomes unless the trade unions succeed in organising employees within this new sector. We pursued the question of whether regional structural policy might be a means of assistance for the trade unions with regard to their penetration of new organisational sectors.

Looking at the 'New Economy' – understood here as the totality of a region's IT and communications industries – our hypothesis states that specific co-operative interests in small companies could be the starting point for a trade union policy aiming initially at trust-building measures. In fact, in the course of our regional research, we came across attempts by young IT companies to deal with new challenges and crises in a co-operative manner. Such companies are often too small to be able to deal with large orders. They can only increase the number of their em-

ployees through informal contacts and co-operative relationships. Internally the owners of small firms often face a mountain of unsolved management problems. This could be changed through specific forms of co-operation. Cross-company business co-operation could also make sense with regard to the use of specialists and scarce financial resources. The problem is that, on the one hand, a short-run economy whose *raison d'être* is 'expand or perish' makes it difficult to develop long-lasting loyalties and ties. On the other hand, however, compared to other sectors, the informational economy proves to be extremely dependent on stable trust-building institutions (Brinkmann & Seifert 2001). If one looks for example at E-commerce it becomes clear that it is under-used with regard to its technical possibilities. The reason for this is the low trust in virtual business practices. Hence the expansion of young high-tech companies basically demands market-limiting management services just because they build trust.

As a consequence, the necessity of co-operation has led to network structures between young IT and Internet-companies in all the regions we investigated. For instance, the Nuremberg's 'New Economy network' arose from an initiative of the city's assistance to trade and industry. Like Dortmund and other cities, the greater Nuremberg area had also experienced a short-lived boom of young companies offering Internet-based services. The region's 'New Economy' began as a spill-over from the universities with students who set up on their own in 1996/7 with Internet-services and business-to-business relationships. Particularly relevant is the fact that this kind of regional 'New Economy' represents a cultural phenomenon with its own cafés, bars, contact points and with a mentality still anchored in the student culture. This mentality corresponds with a certain work attitude: few hierarchies, highly flexible working hours, working extra-hours, individual salaries and performance quotas, no works council and according to the company owners no need for trade unions. The 'New Economy network' relies on the principle of achieving synergies through cross-company co-operation. A clear distance from the established economy is essential for the network. There is no wish to become part of a group where "everyone pays and one person directs". Instead the group relies on open structures: there are no membership fees, the meetings are open to anyone interested and the only thing expected is commitment. Up to 30 companies take part in the meetings where the principal purpose is to establish business contacts. The vision of the 'movers and shakers' is that in the future exchanging ideas, taking on workers from other firms in times of crisis as well as common qualification and practical training measures will be at the heart of the activities of the network.

Thus, the necessity for co-operation between small Internet-companies can be clearly seen. But in Nuremberg, Dortmund and Chemnitz this co-operation takes place without the trade unions. There are two reasons for this. The first reason

is strong anti-union resentment. The anti-trade union attitude among company owners has an ideological background. In company cultures characterised by individual participation, the collective representation of interests is regarded as a relic of a declining industrial society. Although the employees may be more differentiated in their reasoning, they too are afraid of losing their individual freedoms by collective representation and agreements. The second reason for the exclusion of trade unions is the cultural gulf between trade union functionaries and the organisational culture of the new economy. Their identity and political style which is often still marked by the world of industrial production represents some kind of barrier to the unknown world of the high-tech service industry.

In order to overcome the culture gap, the trade unions would have to establish personal contacts, to become receptive to company problems and to believe in the benefits of the so-called social capital. Such representative interests are, it is true, difficult to convey to a trade union organisation which is under intense pressure to succeed, has only limited resources and is usually oriented towards large company structures. Life is much easier for trade unions in those companies where employees under crisis-induced pressure and faced with imminent job losses discover the sense of a collective representation of their interests and are willing to set up a works council. Currently, in all the regions we investigated, inquiries from employees working in call-centres, IT and telecommunications companies wishing to set up a works council are becoming more and more frequent. In Dortmund there are cross-company initiatives which give assistance to interest groups aiming at penetrating 'trade union free zones'. These activities are of course still a long way from being a systematic organisation in the new industries. In companies with few trade union members, trade union officials tend to limit their activities. Where works councils are set up – say, on the basis of a crisis within the company or because of the wish for effective limits to performance requirements and working hours among an older workforce – that does not automatically mean an increase in the number of employees joining the trade union. It is a big step from setting up a works council to union membership – 40% of the 'new market' companies nowadays have some kind of elected interest representation (Ittermann & Abel 2002).

The trade unions do not just have recruitment problems among highly qualified employees in the knowledge-intensive industries. The development of structural change in the regions we investigated is characterised by employment increases in the industrial and service sectors (logistics, office cleaning, commerce, caring professions) where employees have average or below average qualifications and which are characterised by more and more atypical and precarious conditions of employment. In general terms, the regional labour markets increasingly resemble the scenario described by Robert Castel (2000). In contrast to a shrink-

ing 'zone of integration' comprising more or less protected types of employment and to which the majority of employees still belongs is a 'zone of exclusion' which unites all those who have little or no hope at all of finding regular work. In between is an expanding 'zone of vulnerability' with different types of flexible employment where protection and participation rights of the employees disappear little by little. It is true for all the regions we looked at that trade union organisational power is only to be found in a continually shrinking part of the 'zone of integration'. In the two other zones trade union representation is of little relevance.

So far, regional and structural policy by trade unions has not been able to solve the problem of representation because trade union involvement in regional consensus committees suffers from the general weakness of corporatist political models. Consultation and negotiation are normally restricted to a small number of experts. The members are more or less excluded from this process of decision-making. According to neo-corporatist theory (Streeck 1999) this means that *system* integration is driven forward at the expense of *social* integration. Trade unions certainly contribute to the social absorption of structural change in the regions but this is usually done without the participation and hence integration of the members. Whereas the corporatist constellation within the framework of the Dortmund consensus model proves to be able to minimise conflict, the regional players in Nuremberg became aware that building consensus around the Economic Forum seems more difficult in times of crisis. As a result there were discussions in the Nuremberg forum about codes of conduct which ensure that the companies respect a minimum standard in times of crisis. However, at a time when four larger companies were seriously threatened and the codes of conduct could have been applied, the Economic Forum was in fact no longer in existence. Now the trade unions have serious doubts as to whether the Forum is still representing the appropriate place of 'political exchange' in the region. Eyes are cast at other regions and the question is whether a regional parliament would not be a better arena.

More important, however, is another finding. It can be said that – independent from the instrument and the policy arena – activities in the context of trade union regional and structural policy are successful if they offer possibilities of participation to the members. No matter if it is cluster policy, employment security, company modernisation or continued education: no trade union or trade union-related activity leads to immediate organisational success. Such successes are possible if the policy is communicated to (potential) members and developed intensively and critically with them. A weak integration in corporatist structures as is the case in Chemnitz is not necessarily a disadvantage. This finding is the more important against the background that the corporatist strategy of an 'alliance for jobs' at national level in Germany has failed. Things are different in the

regions. Here spatial proximity and personal relationships are rendering 'antagonistic co-operation' relying simply on informal agreements and implicit contracts still possible. At a time where patterns of corporatist policy making are rejected by political concepts inspired by market orthodoxy, the regional-policy strategies of work-oriented networks have to be adjusted in order to fit the conflict-intensive context. For the trade unions this means that they *have to* develop an activating policy which helps to improve their image.

5. What are social scientists able to achieve?

What is work-oriented research able to achieve in such difficult times? Can it offer any help at all? Or is it doomed to failure with its demand for practical effectiveness right from the start? Firstly, one thing researchers certainly cannot achieve or provide: they cannot and must not fulfil the expectation of some of the practitioners to provide them with additional staff capacity. The ambition of an empirically-oriented research team has to be far more modest. It is at best able to 'collect' knowledge from experts with much more profound knowledge of their field of operation than the research team. The researcher has to be modest at this point and has to be very aware of the fact that he has no practical expertise. What the researchers can do is to bring together findings, evaluate them and make them available for others. A five-stage learning process that we came across in the course of our research can be identified.

1. Critical assessment of initial positions through the discussion of research results: Preliminary results of our research have become the subject of critical debates in the regions. It can be seen that the regional players are urged to formulate the objectives and criteria for success for their regional and structural-policy efforts more precisely. At the beginning the trade unions considered the fact of gaining new members as a clear success criterion for their regional activities. In the course of feed-back discussions with the researchers, it became clear that this cannot be the only and dominating criterion and further criteria were added: the security and creation of employment, the creation of popularity, the integration of members. The discussion showed that IG Metall of Nuremberg has the highest rate of unemployed members in Germany. This indicates a high loyalty to the organisation which has to do with the structural and regional-policy activities. IG Metall benefits in the current situation from its general ability to absorb crises even in the knowledge-intensive industries where companies like *Ericsson* and *Lucent* are shedding highly qualified employees. Different success criteria have an immediate practical effect. The actors are more precisely aware why they get involved in

structural-policy activities and with what effects. This makes it easier for them to justify their activities more realistically internally as well as externally.

2. Trigger for strategic reorientation: The public reaction to our research results initiated a discussion in the regions about a strategic reorientation of trade union structural policy. For example, in Nuremberg, there is a discussion about how the target of creating employment can be sensibly tackled and monitored. A strategic reorientation is necessary because even with the urban assistance to trade and industry it must consider reorganisation of the efficiency areas. Steps in this direction have already been taken, a fact that represents new challenges for the work-oriented actors.

3. Improvement of internal trade union communication: Our results became equally relevant with regard to the improvement of internal trade union communication. Our critical comments for instance on the poor teamwork between the DGB and its member unions in one of the regions (Chemnitz) has led to IG Metall approaching the regional *ver.di* organisation in order to find opportunities for co-operation. An initial meeting on co-operation between both unions has already taken place – a meeting where project results were presented. There are first informal agreements on common activities.

4. Informal learning: Learning processes partly develop without the immediate involvement of the researchers. Thus the Chemnitz consensus model initially appeared to trade unionists from other regions as an idea without practical relevance. Prompted by an informal exchange of experiences in Nuremberg, it is now considering the introduction of this approach in small and medium sized firms.

5. Inter-regional exchange and inter-linking: No less important for the results of our research is their communication to other actors than simply to those being researched. Trade unionists, works councils, financial backers and managers from regions not included in the project have asked for more details about the Dortmund project to prepare similarly ambitious projects in other states and regions of Germany. Our research project has been able to provide a platform for the mutual exchange of experiences and to contribute to the inter-linking of regional activities. One practical result of the exchange of experiences is that the participants are setting great store on employment policy control of industrial-policy projects in their own regions.

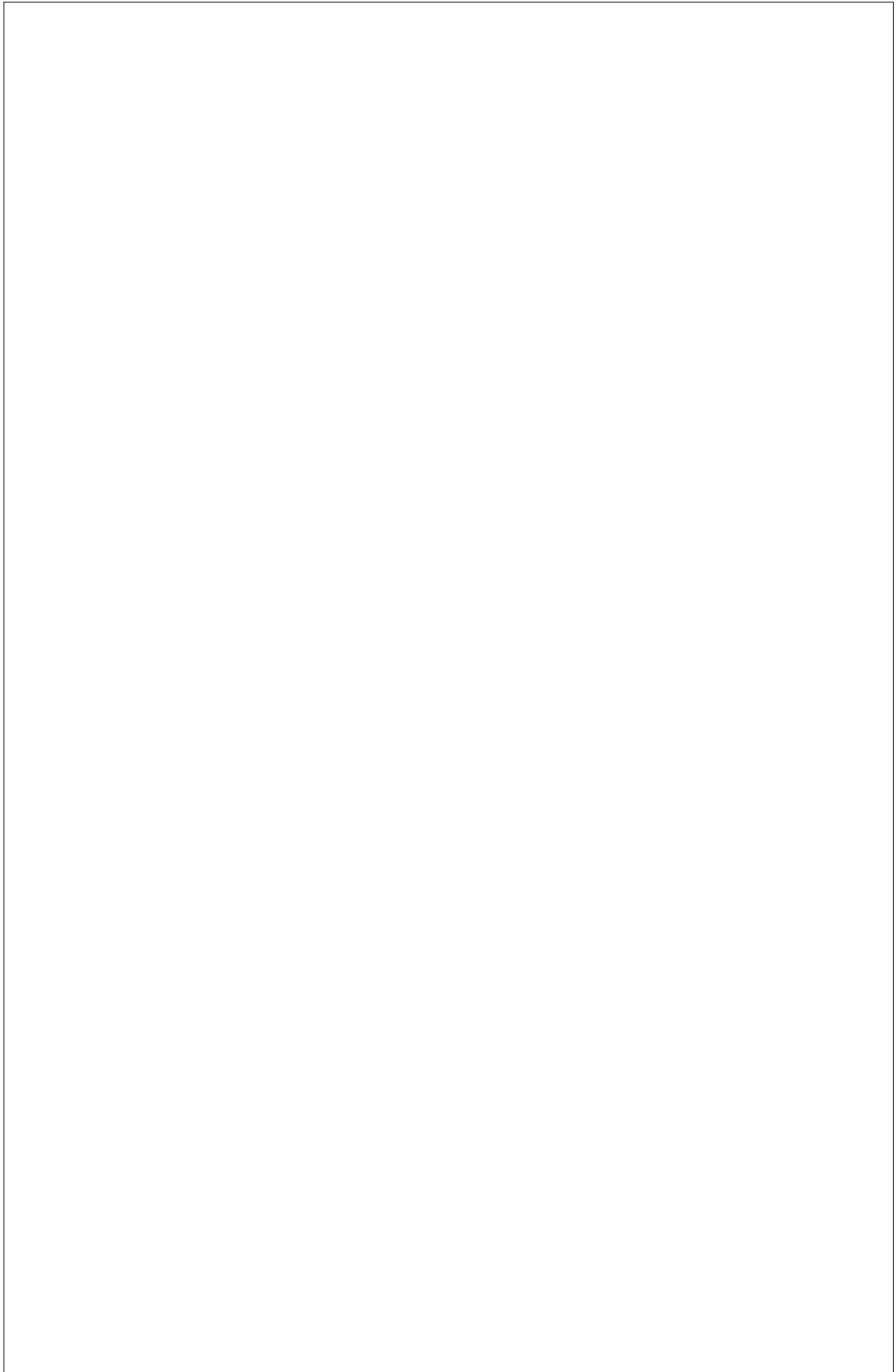
These might all be steps that may seem irrelevant when considering other great challenges which the practitioners face. It is, however, important that these steps are taken; they are also important from the perspective of the researchers. Due to

our close co-operation with the regional players we have gained knowledge that those at a distance will never be able to acquire. Shaping this knowledge into communicable ideas and ensuring that they are communicated is a practical objective of the project – but one not yet achieved.

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Moving beyond rhetoric

Creativity, organisations and performance

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A dramatic change in the workplace?

*All the world's a Stage
And all the men and women merely players
They all have their exits and entrances
And one man in his time plays many parts,
His acts being seven ages*

Jacques in William Shakespeare's *As You Like It* describes the stages of human ageing beginning with the mewling infant, followed by the whining schoolboy, the lover, the soldier, the justice, and the ageing pantaloon. Finally, we reach old age which marks a return to the toothless and hairless state of infancy. According to Shakespeare's narrative, during our journey through life we enact roles – play many parts which are, in some way, predetermined.

While these general phases of life may be considered universal, the number of roles we have traditionally played in our working lives have been decidedly mixed. For some people, the lifetime experience of work entailed joining a large company which had the ability to provide a 'job for life'. In recent and more turbulent times, there has been the suggestion that this golden age of employment has been superseded by an era characterised by short-term employment and multiple careers. The term 'lifelong learning' has become associated with an increased expectation of having to acquire the skills for various roles during our years of employment. However, it is argued that in previous generations (even Shakespeare's!) we have often undertaken different jobs throughout our working lives. As Bayliss notes (1998), stable employment was only ever for a privileged few.

Within the workplace, the roles that employees have played have been less varied and the arguments against narrowly designed jobs are well practised. The pervasive influence of Taylorism has created for many employees work which is

degrading (Braverman 1974), monotonous (Roy 1960), alienating (Blauner 1964) and stressful (Walker & Guest 1952). While Taylor's method of Scientific Management may have received academic criticism since its inception, in more recent years traditional approaches to work organisation, and the roles that people play at work, have been reappraised. The search for flexibility and the 'rediscovery of the human factor' (Coriat 1995) has meant that employees are being asked to participate in an increasing number of roles and this is confirmed by survey evidence. The Employee Participation in Organisational Change (EPOC) survey, undertaken by the European Foundation (1997), indicated that new employment practices are becoming increasingly common. Group working, in particular, is used more frequently, and similar findings have been reported by other surveys in Europe (Cully, Woodland, O'Reilly, & Dix 1999; Hague & Aubrey 1999; NUTEK 1996). The research undertaken in 1997 by Osterman (2000) in the USA demonstrated that the introduction of off line problem-solving groups, job rotation and self-managed work teams are also commonly experienced features of the North American workplace. But do these new forms of organising represent dramatic change?

The suggestion that jobs are changing *significantly* needs to be treated with some caution. For example, in an analysis of the EPOC data, Benders et al. (1999) observed that the Scandinavian or semi-autonomous approach to teamworking was used by only 2% of responding organisations. These models are distinguished from the more limited job enlargement activities which have characterised some of the most commonly used examples of teamworking. Increasing the number of employees' tasks may offer organisational flexibility, but can result in negligible autonomy over working practices. Similarly, the 1998 Workplace Employee Relations Survey (WERS), conducted in the UK, suggested of the 65% of organisations that had adopted some form of teamworking, only 34% could be described as nearing the semi-autonomous model. Furthermore, it is proposed that only 3% could be identified as being fully autonomous. Controversially, this is defined as having the ability to choose the team leader, and this narrow definition may be felt to be an insufficient indicator of team autonomy. Other commentaries have also been critical of new working practices. Many fail to offer access to new skills (Lane 1988; Wood 1989), and the resulting intensified working practices can rely upon internal 'management by stress' (Turnbull 1988).

To summarise, it appears that while some organisations have embraced a more radical reappraisal of work roles and have spear-headed leading-edge practice, many remain either unconvinced of the necessity to change, or have found solutions by a limited adaptation of existing organisational practices. These fall short of what could be considered the 'high road' to organisational change (European Work and Technology Consortium 1997). It could be argued, therefore, that while

changes in the world of work are undisputed, the outcomes have been far less 'dramatic' upon the scope and practice of many people's jobs.

Why does the curtain come down early on change processes?

When organisational change is introduced there may be an initial sense of enthusiasm and heightened expectation on the 'opening night'. But all too often this excitement is dissipated, indifference sets in and finally the programme is abandoned. Many reasons are suggested for the failure of change agendas. Perhaps a leading actor makes an unexpected exit, a couple of 'performances' may be postponed because of work pressures and other players become disheartened or disinterested. Before long the curtain is drawn down on another change performance. Such failures not only result in wasted time and resources, but an inability to meet raised expectations can also sow the seeds of resentment, apathy and mistrust; and jeopardise future opportunities for innovation.

When visiting organisations, it is quite common to observe the discarded props from failed change initiatives; these may include incomplete target boards, the fading minutes of a long-forgotten quality circle or a discarded mission statement – the lines of which nobody can remember. Peter Senge, a pioneer of the concept of the Learning Organisation, estimates that the approach fails in approximately half of organisations that adopt it (Senge et al. 1999). Likewise, commentators have also pointed to high failure rates of job redesign experiments (Kelly 1982) and teamworking (Buchanan 2000). Grey (2001) quotes Crosby (1989), who claims that 90% of TQM projects fail to meet expectations, and Stewart (1993) suggests a failure rate of between 50% and 70% for BPR initiatives.

Of course, many have tried to identify the underlying reasons for the failure of change programmes. A number of commentators have offered change checklists and key learning points which may provide guidance to hassled managers desperate for easily digestible advice. These commonly point to the need for senior management commitment, to communicate effectively, or to suggest that employees become involved in designing the change process (for an overview see Buchanan & Badham 1999). However, many of these analyses are developed from under-socialised methods of research and fail to look at the way in which change is shaped by political processes and contingencies at the local level. In addition, many accounts of change may follow particular methodological guidelines or research schema, but inadequately illustrate how change is negotiated within local contexts. The provision of training is a particularly neglected area and few studies detail the support given to employees to make the transition to new forms of organising. This is highlighted in a discussion on the EPOC research findings.

Benders et al. (1999) points to the poor level of training that is given to support the development of team processes. The survey reveals that training to help people become team members was undertaken in only 20% of cases.

For employees who may have had little access to training, or have had few opportunities to participate in activities such as problem-solving groups or team meetings, the transition to more participatory forms of work can be stressful and intimidating. This can mean that new team members may appear shy or reluctant to participate fully in group activities (Heller, Pusic, Strauss, & Wilpert 1998: 200). Even in organisations where there has been considerable investment in training, much of the focus has been upon the development of *individual* rather than *collective competences*, and this may not be explicitly linked to the specific contexts of work. Of course, teambuilding training activities are widely used and aim to create organisational *bonhomie*. Typically, such approaches are used to help individuals discover their own characteristic behaviours within a team environment (see Iles & Auluck 1993). A significant feature of many team-building exercises is the use of crisis simulations – the type of exercise in which a team might be asked to ‘escape from the jungle’, or undertake outdoor pursuits. The logic of such activities seems to depend upon creating a climate of mutual reliance by exposing people to challenging experiences and unfamiliar environments – as well as being an exhilarating and enjoyable learning experience. But how easy is it to translate the lessons learned from such abstract exercises to the daily experiences of work which may have no relevance in time, location or theme? There is a clear need to develop new tools and approaches which not only provide an opportunity for collective learning, but which are far more closely linked to the work context, and in this chapter we will explore action research being undertaken in Denmark and the UK.

Theatre as metaphor: Performing a script or writing the play?

When trying to grapple with the complexities of organisations, many commentators liken processes and relationships to elements of a machine. The metaphor has had a significant impact upon our visualisation and analysis of organisational life; and the language we use. When examining change practices we may seek to identify the ‘drivers’ for change, we analyse the ‘levers’ which can be pulled to achieve satisfactory outcomes, and we ‘engineer’ the organisation to ensure that there is a greater degree of ‘fit’ with the environment. Gergen (1992) attributes the pervasive use of the metaphor to the enormous social consequences of the industrial revolution coupled with modernist assumptions of rational and incremental progress. The machine metaphor was most dramatically used in Charlie Chaplin’s 1936 film *Modern Times* which illustrated the alienation experienced by production workers.

Chaplin himself used the film to protest against the overriding use of synchronised sound and film.

The use of the machine metaphor has been influential in perpetuating the view that organisational change is a linear, rational and somewhat mechanical process, facilitated through the use of sequential change recipes or checklists. These are referred to by Collins (1998) as 'n-step guides', many of which derive from the Organisation Development approaches proposed by Lewin (1951). Lewin suggested that organisations are static and rigidly resistant to change. Organisations, it is argued, are kept in equilibrium by opposing forces; and these have a restraining influence upon the organisational structure and individuals. Therefore, change requires an unsettling of the force-field equilibrium. During a period of transition the organisation needs to be 'unfrozen'. In this fluid state the force of change is 'set free' and can impact upon organisational structures and operations. But, as we have already argued, the emergence of new forms of organising is frequently untidy, often awkward, and rarely straightforward. Subsequently, the utility of planned change recipes and n-step guides has been questioned by a number of authors. Alone these inadequately support processes of organisational change as they fail to accommodate the complex interplay between the local contexts and the collective actions of employees (Buchanan, Claydon, & Doyle 1999; Dawson 1994; Wilson 1992). Indeed, the continued use of the machine metaphor has tended to conceal the role of agents in the change process. It may be argued that the employee voice has become silenced within a theoretical 'black box'. Such a perspective has the implicit assumption that individuals are merely cogs in the organisational machine which, if given the correct inputs, can be expected to act rationally in the pursuit of organisational goals and are part of a hidden system which churns out the goods at the other end. If problems are encountered which inhibit the function of the machine, then the system may need re-engineering. From an Organisational Development perspective, failures in the smooth running of the organisational machine are typically attributed to blockages caused by failures in communication (Buchanan & Badham 1999). Suggested solutions therefore rely upon increased opportunities for sharing information and perspectives. However, as the authors note, this is only a partial view and the 'pervasive political nature of change is denied. The political dimension of change is repressed'. Instead it is argued that effective change processes require 'local knowledge, informed managerial judgment and intuition and creativity' (p. 189).

To return to the metaphor of life and organisation as *theatre* the suggestion, in many accounts of change, is that organisational actors are somewhat passive players, merely repeating the lines of a script already prepared. Opportunities for more active participation, the imparting of local knowledge, or being able to cre-

actively participate in writing the script themselves appears lacking in mechanistic accounts of change processes.

As the introductory extract from Shakespeare has illustrated, theatre has also been used as a metaphor for ordering the complexities of daily life over centuries. Within organisational research a number of authors have attempted to open up the 'black box' by representing organisations as theatre with all the possibilities of visualising creative processes, the craft of performing, backstage activity and public performance. Mangham and Overington (1987) extend the metaphor to suggest that organisational scenarios can be either comic or tragic.

The *dramaturgical* work of Goffman (1959) and the *dramatist* work of Burke (1945, 1969) have both been significant in encouraging the use of theatrical vocabulary for analytical purposes. However as Mangham notes, the work of Burke has viewed theatre in a literal sense, whereas Goffman and other dramaturgical writers have used theatre metaphorically (for an overview of these debates see Mangham & Overington 1987; Clark & Mangham 2002). For Mangham (1987), it is not necessary to argue that the theatre metaphor has superiority over any other, as this would treat metaphors like literal devices; however, as an underpinning concept the use of the theatre metaphor

... permits a humanistic, artistic and creatively playful approach to organizations which offer a resistance to heavy-handed models of systemic rationality that are 'thoughtlessly' tragic in portraying people in organizations as the victims of forces they do not understand and cannot control. (Mangham & Overington 1987)

Mangham (1987) argues that the rich description afforded by dramaturgical accounts of organising has a potential to emancipate employees and ameliorate working conditions. If, for example, organisational scenes are viewed as staged tragedies, there is an obvious potential to explore the liberation of spirit and person that is achieved in high comedy. The dramaturgical perspective also helps to illuminate the active role that organisational actors have in constructing and enacting organisational life and in this respect avoids the determinist assumption that the world is made by forces over which employees can exercise no control. Like other constructionist accounts, there is a dialectical aspect to Mangham's analysis which also aims to highlight the constraining role that contingency may have upon individual and collective action, and therefore the dramaturgical metaphor is also contextualist in principle (Mangham 1987: 21). Viewed from this perspective, the organisational context – including the region in which it is located – becomes more than a descriptive or colourful scenic backdrop, but may also contribute to the shape the outcomes of the drama.

Theatre for organisational transformation

While the metaphor of theatre has provided a useful concept with which to explore organisations, in recent years there has been an emerging interest in the use of theatre for training purposes and organisational development. In aim and practice these techniques vary considerably and, therefore, it is useful to describe three commonly used approaches which aim to *instruct*, *motivate* and *animate dialogue*; the final category of which will be described in more detail later in this chapter.

But first, let us consider how theatre is used to instruct. Role-play techniques have been used for some time and can provide the opportunity for individuals to practise skills in a simulated environment. These methods have been used in a variety of settings, such as dealing with customers (Anon 2002; Cotton 1996), how to deal with emergency situations (Alexander 2000) and as an approach to support university management programmes (Hodgkinson 2000). However, the focus of role-play is geared towards instruction and there is a significant difference between these approaches and the use of drama as a medium to stimulate participation and involvement. From a critical perspective, the term 'role play' might be associated with attempts to create a corporate monoculture, in which organisational actors are taught to recite the corporate message and provide consistency in public performances. While this may well be the motivation for the use of role-play in some situations, the term is used to describe a range of activities. However, what is sometimes described as 'role play' is more than mere instruction and is closely related to other methods which encourage dialogue and discussion. For example, role play is typically undertaken as a group learning activity and the audience may be invited to give advice on the enacted scenes and performances (see Pickard 2000).

Another form of theatrical spectacle that is being increasingly used is what Clark and Mangham (2002) describe as 'corporate theatre'. These occasions are clearly used to enthuse a workforce. Originating in 'corporate shows', which were performed within annual sales conferences (Pineault 1989; in Mangham & Clark 2002), corporate theatre is used to motivate and excite a selected audience about the organisation, its products, or services. One example is given by Mangham and Clark (2002) who describe the writing and performance of *'Your Life, Your Bank'*. This lavish performance of music, dance and singing was used to celebrate the merging of two large banks. The authors' analysis suggests that the aim of the event was to change the perceptions and values of the audience. The performance, described in the account, was a subtle and enticing way of making employees feel optimistic – even excited – about the major upheaval in working practices that would accompany the merging of the two businesses.

A third use of theatre techniques in organisational development is where scenarios are performed and discussed for the purposes of animating dialogue between different organisational actors and two different approaches are discussed in the following sections.

Forum theatre

Originating in the work of Brazilian author Augusto Boal (1979, 1992, 1998), forum theatre is one of three theatrical techniques which come under the heading the 'Theatre of the Oppressed'. In the early 1960s Boal pioneered political protest theatre with *Revolution in South America* at the Arena in São Paulo. His performances were subsequently inspired by the educational author Paulo Friere and were developed through his outrage at societal injustices. Often performing in the poorest areas of Brazil, Boal began to draw upon local dramatic traditions and rejected many of the European dramatic conventions. Boal aimed to break down the unnatural barriers and power relations between the actor and the audience, as he saw them.

The Teatro del Oprimido does not dictate nor does it indoctrinate. It presupposes the creation of a dialogue, a process of interaction in which both actors and audience learn together. (Boal 1979)

Other methods described within the Theatre of the Oppressed canon are 'invisible theatre', in which a performance is covertly made with the audience members not realising that they are spectators of a drama, and 'image theatre', in which frozen images are made by actors and reshaped by the audience. Accompanying, the three methods are a number of games and exercises which are advocated to help the audience become active participants in shaping the drama. Monks et al. (2001) describe how a range of Boalian techniques and exercises have been used to enhance management education and Ferris (2001) also describe the use of image theatre to enhance teambuilding activities.

Through the depiction of problem scenarios, forum theatre seeks to engage the audience in resolving the conflict that is presented, at the same time stimulating dialogue and providing the opportunity to evaluate alternative solutions for organisational improvement. At the heart of forum theatre is a desire to break down the barriers that exist between actor and audience in traditional theatre. Following the presentation of a play, or scene portraying a problem – which Boal calls 'the model' – audience members are invited to participate as 'spect-actors' and reshape the action. In its purest sense Boal advocates that a number of games and exercises are performed to enable audience members to 'know the body' and to 'make the body' expressive in preparation of becoming spec-actors. However, not all propo-

nents of forum theatre stick rigidly to its classic form, and there is some variation in practice in different contexts.¹ Although forum theatre has been applied to a variety of situations as diverse as psychiatric care (Boal 1995) and for visualising the impact of new laws in Brazil (see Boal 1998), the use of forum theatre in organisational settings seems relatively recent and few accounts exist which describe or analyse the approach. An exception to this is the study of *Dacapo*, the Danish forum theatre company, which was undertaken by the Danish Technological Institute (Abrahamsen & Land Hansen 2000). In addition, Schreyögg (2001) looks at the growing use of organisational theatre as a means of portraying some of the critical issues in working life. The author quotes the work of Wehner and Dbitz who estimate that in 1997 two thousand performances were undertaken in French organisations, with two hundred also performed in German enterprises. However, it is unclear how many directly used the forum theatre approach developed from Boal's work.

So how does forum theatre work? The following snapshot provides an idea of what might typically occur in a forum theatre session.

Snapshot 1

The employees are gathered in the production hall and the open space in front of the rows of chairs constitutes a stage. On the stage, employees and managers from the coin factory '*Hard Cash*' are expressing their feelings about the new working methods. The introduction of autonomous teamworking has caused particular conflict and this is explored through the experiences of three very different people: Bente is a fiery soul who in her enthusiasm assumes the role of an informal manager; Thorkild is a sceptic, unconvinced of the benefits of autonomous working, and Inga who timidly declines to try out a new machine. Inga struggles to see the benefits of the new job which has increased both stress and the demands from the other workers. The group's former works manager, Allan, is also trying to find a new role.

The audience comprises of people from all sections of the company and brings together employees and managers to observe scenes which are easily recognisable from their own experiences of work. The spectators clearly empathise with the predicaments of the characters – which leads to some hilarity but also starts a discussion amongst members of the audience. At one point, the actors walk out in the audience and ask for assistance to help overcome the conflict and the deadlock that has occurred between the characters. While there is no pressure to get involved it is common for the spectators to become 'spec-actors' and participate by taking over the characters Bente, Inga, Torkild or Allan – and thus break down the traditional barriers that exist between the actors and the audience. Indeed, the entire audience is empowered to stop the action at any time and suggest ways in which the problems between the characters might be resolved. The whole activity is facilitated by a 'joker' whose

role is to ensure that the audience's suggestions and participation result in an acceptable outcome.

Following the exploration of a narrative, drama, or series of events, traditional theatre typically ends with a round of applause, the curtain comes down and the audience goes home. However, it is at this point that forum theatre differs from the usual theatre experience and invites the audience to comment upon – even re-shape – the drama that they have just watched. The idea of the forum theatre is that the individual can make a difference by playing an active role and assist in providing another ending to the story. Through the use of forum theatre, the individual employee is encouraged to contribute in solving the problems presented. As we have previously noted, creating an environment where employees feel confident to participate and become involved in broader issues of organisational development can be difficult to achieve. Forum theatre appears to offer significant possibilities of creating an environment which encourages the contribution of individuals who may never have been asked their opinion before, and this seems to be part of the growing enthusiasm for the approach.

The implementation of group working, in particular, can be the cause of significant conflict and forum theatre has been successfully used to explore issues such as 'new leadership roles' particularly where there has been a shift from traditional 'command and control' styles of managing. Forum theatre is also used to explore the difficulties that can occur within teams themselves, and how problems are overcome in the early stages of team development.

The power of using fiction is that it plays on both *brain* and *heart* – words and body. The use of *archetypal characters* and *conflicts* can be used to create realistic and recognisable aspects of working life. These scenarios also play an important function in allowing the spectators to recognise common problems and to humorously explore joint solutions. The forum play achieves new levels of involvement when spectators become co-players and creates new learning processes which are opened up, ie through the different roles and conflicts to which the participants lend their voice and their actions. One of the important elements of forum theatre is that it allows the audience to consider problems from a range of perspectives and at the heart of the approach is recognition that there is a collective responsibility to find solutions which are acceptable to as many people as possible. Another benefit of fictionalising organisational problems is that it helps employees to look more objectively at situations. Of course, the issues presented may have strong resonances with personal situations; however the ability to project these on to the fictional characters enables audience members to explore solutions while avoiding direct confrontation.

Improvisation – The organisation's 'instant coffee' for idea generation?

Improvisation theatre is another type of participatory technique that can be used to supplement the theatre methods employed by the enterprises. In this field, the work of Johnstone (1981) provides a seminal text for theatre practitioners. However, the following description of work undertaken by the Danish Technological Institute illustrates how improvisation techniques can be utilised in organisational development settings.

Improvisation theatre possesses some of the same characteristics as forum theatre as it also provides opportunities for stimulating workplace dialogue. The method cultivates play-acting and rather than focusing on individual attitudes, the attention is placed upon the relationships between the 'co-players'. In improvisation theatre, different tableaux are portrayed and it is common that actors can be asked to switch to another character or play the opposite part. This way, the actors and audience get an insight into the relationships between characters, the experiences and perceptions of the individuals that they are portraying. The 'impro-theatre' typically requires an experienced facilitator, particularly if the target group consists of employees unfamiliar with the technique. As the drama is not based directly upon the experiences of the audience, the intermediary plays an important role in linking the drama with the audience's own situations.

Snapshot 2

A male actor is walking around a crescent-shaped stage in front of an audience of about 80 people. He is looking for something – something lost. He holds a screwdriver in his hand and screws a bit aimlessly on an overhead projector and looks searchingly beyond the audience under their chairs.

Who has taken my problems?

Who has used my inhibitions without putting them back?

The audience chuckles a bit insecurely as they wonder what the man is doing, who is he, and why is he searching for his problems? Is he really able to put his inhibitions back?

Later, the participants meet the character again. He plays a service manager at a school who is being followed through an 'ordinary working day'. The service manager's day starts at 4:30 am when he attempts to start work on the most important task of the day – to go over the annual accounts of heating expenses. However, it is not long before he is disturbed by first one teacher, then another. One wants 8 light bulbs changing in the geography room; the next wants some dangerous thorns on a cactus removed; a parent wants some racist graffiti in the courtyard painted over ("just before my daughter leaves at 10:30"). The service manager becomes increasingly agitated. His constant glances at his wristwatch show that time is running out and while he tries

to keep on top of his work tasks he seems to be getting further and further behind. In the end all that he seems to have achieved is to make a long list of things to do in his notebook; “Because – I also have to show what I have been doing all day” – another new task that the service manager has been asked to complete! As the day comes to an end it is clear that the service manager is failing to cope with all that he has to do and he is stressed and exhausted. At this point the Principal appears, and the service manager musters up his last ounce of energy to explain the pressures that he has been under.

The play illustrates how a service manager must deal with such a large number of people and enquiries, that it is difficult to prioritise and plan his work.

The example shows a way to present results from a pilot survey of a development project. After undertaking workplace interviews, research staff from the Danish Technological Institute were able to identify a number of central problems in the participating companies. Before the performance, the actors were briefed on the key themes that had emerged from the interviews. The research findings were used to devise three tableaux which were subsequently used as a vehicle to illustrate some of the issues that had arisen. From the audience reaction, it was clearly evident that the tableaux were portraying topics that needed addressing and this verified the results of the analysis. Consequentially the tableaux provided an excellent foundation upon which to start of a process of dialogue.

Following the presentation of the tableaux both the actors and consultants reviewed the comments that had been given by the audience and a series of key questions were formulated. The participants worked in groups around a desk, and each group was given a theme for discussion. The results of the debate were subsequently presented to the other participants in a plenary session. If the groups needed any support they could request help from the actors who would act out and improvise the results from the discussion.

Snapshot 3

“It seems as if she doesn’t have confidence in us ... I have an illness that doesn’t show. It is not physically visible and not immediately noticeable by my appearance, but it affects me. As a result I can’t sleep at night, and for some days I can have a buzzing in my ears that goes on and on When I haven’t slept for several nights in a row, I can’t go to work and do my job properly ... But each time I ring, they ask for a medical certificate ... To me, it’s a way of saying that they don’t believe me – that I’m not ‘really sick’, and each time I have to ask my doctor to sign to say that my illness is genuine. The fact that they don’t trust me is fatiguing in itself. I would like the actors to portray that.”

In many projects, the aim is to find methods for combining individual and collective viewpoints and attempting to create synergy. It is a pre-condition for adding vitality to the organisational development processes that individuals' thoughts and experiences are aired and tested in communication with others. At seminars and similar occasions, a model is often used in which groups debate alternates within plenary sessions, sometimes combined with individual work. On occasions a group debate can be restrained because there is too much focus on how to present ideas and issues in an attractive way, and there is a considerable risk of having to edit your own opinions which may tone down the size or nature of any problems. Even in organisations that encourage open and honest dialogue, individuals may not want to be identified and may wish to keep their opinions confidential. Similarly, there may be fear, or awkwardness, in disclosing the results of a small group discussion to a larger audience. Therefore, it is important to try and create a safe environment in which ideas and opinions can be given without having to worry about personal retribution or embarrassment.

One method to dismantle the 'fear of the plenary session' is to invite a team of actors to listen to the group debate. Having heard what the group has to say, the actors can then feed back the discussions to the entire group using drama. Of course, the actors do not merely substitute for the use of a flipchart; instead they create and deliver another product. This puts somewhat different demands on the participants. They must be willing to engage in the actors' interpretation. The group members must also be prepared for their opinions to be shaped and altered slightly as the actors attempt to represent the debate artistically and this may mean that an extra dimension is given in the presentation.

Experiences show that the method can be applied to describe, interpret or present problems from other viewpoints and can also be used to highlight new ideas and development opportunities. For example, the actors may illustrate how new solutions can emerge from a positive and open team meeting.

The creation of images, scenarios and fictionalised narratives by the actors can also create new possibilities of illustrating workplace problems. For example, the scenarios that were described in the snapshots above were videotaped and used by some of the groups afterwards, both in staff meetings and in discussions with pupils' parents. The ability to visualise problems in this way starts a process of joint problem-solving which can also provide a foundation of development programmes and activities. The method is enticing and flexible allowing for the participation of employee groups who might be excluded from other communication processes; staff meetings for example. However, the approach requires a significant degree of skill and professionalism from both the actors, and the mediator or 'joker' who has to carefully manage the interplay between fiction and reality.

Interactive methods like theatre can prepare the ground for dialogue by adding topics to the agenda, creating dialogue and tearing down taboos – and thereby creating pre-conditions for a deeper developmental process than more traditional staff development strategies, rhetorical organisational visions or mission statements. It can help bring attitudinal change and create dialogues that are necessary to decisively change the horizontal and vertical division of the work – a change that is needed in order to create flexible and competitive enterprises.

However, a theatre session cannot stand alone, and should be embedded within a wider programme of organisational development and support. Planning is an important part, and no less decisive is the further development of the work. The enterprise must have a plan for following up on the activity of both forum and improvisation theatre activities, as well as having a clear understanding of the resources that need to be allocated to the programme. Without follow-up, the workplace will not break through the boundary that exists between entertainment and learning. Therefore, management must have a clear understanding of how they will apply such techniques and identify the level of support to be given. This will ensure that the benefits of using such innovative techniques are maximised.

From actor to film-maker – Other methods of stimulating dialogue and change

During the last 20–25 years, video has been extensively used for training purposes and for providing case studies, but its use in setting change agendas is relatively new. The following section outlines how video has been used in workplace development.

In change initiatives it is quite common that participants fail to monitor, document or even remember the changes that have taken place. A consequence of this is that the lessons learned in the processes of change are not captured and opportunities to celebrate successes are missed. Video, therefore, can play an important role in visualising development processes and can be used to document the experiences of the participants in a project. The use of video allows key actors to narrate the change processes that have taken place and, like other interview techniques, the participants are provided with an opportunity to reflect upon the process. Therefore, this type of video presentation is also used as a form of mediation and evaluation.

An extension of this use of video, and which builds upon the previous descriptions on the use of theatre and fiction, is where groups of employees create ‘mini films’ about issues in their own working lives. A typical project would start with a group of employees identifying workplace problems, along with suggestions

about ways these might be resolved. During the course of the projects, the employees can draw upon the support of organisational consultants, teachers, artists or professional film-makers. Employee-made videos can be the focus of project assignments, provide an *aide memoir*, or be used within future development projects in the enterprise.

But, in what way is the use of video a strong method for establishing learning? We shall take a closer look at an innovative project in which employee-made videos were used to trigger workplace improvements.

The MOVE project, financed by the European Commission, was a two year network project between three enterprises, supported by an educational establishment and a consulting firm. The combination of three enterprises having a relatively long experience with continuing education, an ever-pressing development requirement and an advisory team with ambitions to try out a new method, made the basis for using videos for employee involvement. The workers were encouraged to look simultaneously at organisational problems and to think creatively about how these could be portrayed. This made the learning experience relevant, motivating and provided a wide scope for experimentation. The video sought to find a way in which employees were to identify problems from their everyday life and propose solutions. The project concluded with the production of a video that, apart from being a very satisfying outcome of a challenging project, also provided an innovative method of allowing employees to put forward their ideas and opinions.

The employees were assisted by a professional film-maker for the technical side of the video production, and this allowed them to concentrate on the contents of the work. Therefore quality was assured from the outset and meant that they would be producing something far superior to the quality of the usual home video. The most important part of the project was that the employees had to collectively work together to decide on the issues that the film would cover, to plan the resources that would be needed and to create time for rehearsals.

At the start of the project the employees were clearly briefed that the videos should aim to identify problems and propose solutions. These ideas should bring about a better way of working for individuals, and also result in tangible business benefits. In this respect the project had a Utopian starting point but focussed upon the necessity to find compromises between employee and enterprise interests, and at the same time recognising the diversity of interests within any organisation. The assumption behind this is that such solutions do exist and an underlying motive of the project was to investigate what new possibilities for organisational development would appear if the production workers were given the opportunity to express themselves.

The videos were recorded within the participating enterprises and this captured the actual working practices of employees in a very tangible way. This provided other work colleagues in production, and the managerial and salaried staff especially, with a new view of the hourly paid employees. For the participants, the films not only challenged work colleagues but also resulted in others expressing appreciation of the sharp and precise picture presented by the hourly paid workers. For the managers and the salaried staff, the video presentations were extremely beneficial as the production workers were highlighting problems that were not only experienced by them, but which had consequences for the whole organisation.

The ability to act out organisational problems as characters in a video gave employees the opportunity to verbally and physically express the problems they see in their daily life, but do not usually have the chance to put forward. In addition, they have also addressed difficult subjects such as workplace bullying, unresolved managerial issues, or problems relating to allocation of tasks within autonomous groups. Through the process of writing a script and acting out the situations, the participants experimented with alternative work routines and ways to resolve conflicts.

As previously mentioned, the project stipulated that the participants were not only to illustrate the problems, but they were also to present proposals for solutions. Thereby, they had to consider the consequences of the changes they were suggesting, and by playing different parts they reflected upon different perspectives of the same issue. In the subsequent follow-up, the videos were subjected to debate and stimulated discussions between those involved in the project and other employees in the organisation. Together with the management the employees made practical suggestions for improvements resulting from the videos. The video work, therefore, invigorated and reinforced organisational learning by triggering a reappraisal of existing ways of working, by illustrating concrete changes in working practices and by helping to start a process of reflection on patterns of co-operation between management and employees.

During the follow-up, a number of development projects were started which were based on the employees' videos. One example was the development of target boards which were used to indicate acceptable levels of quality. Other outcomes also included the establishment of a pilot group to try out some of the employees' proposals; changing the group co-ordinator, introducing a new wage system for the group, and so on. However, it goes without saying that these changes did not happen serendipitously. Rather it took substantial preparatory work to introduce the suggestions emanating from the production and use of the videos. The training given in the initial stages was a crucial component in helping managers undertake the changes in working practice; with the close supervision and support of the

project management team. Without this, the ideas arising from the project might not have been translated into concrete plans for action.

Both for individual participants and for the organisation, video is a strong and authentic way to make changes, but it can also be challenging. It takes considerable work to establish an environment in which organisational learning can take place, particularly for an innovative project of this nature. Experience of running this programme suggests that adherence to a well-formulated methodology, combined with broad technical assistance are important steps on the way.

Video has also proven to be very successful in follow-up activities, but the debriefing methods should be given close consideration. Among other things, this can be done by explaining the context of the video project to the remaining employees and create a framework for their active involvement. Although the videos, and the strong messages they portray, can receive considerable attention it must be remembered that others might fail to take the project seriously, regarding it as Utopian, and in this way there is also the possibility that some might begin 'digging trenches' instead of 'building bridges' to organisational learning.

Performing regions?

Over the past two decades (and beyond) there has been considerable discussion on the emergence of new forms of organising. Influential accounts include the discussions on Flexible Specialisation (Piore & Sabel 1984), substantially based upon the experiences of the Third Italy; New Production Concepts (Kern & Schumann 1987) observed within West Germany and, of course, the countless discussions about Japanese manufacturing techniques (Womack, Jones, & Roos 1990). While there is considerable variation between the approaches, they all attracted significant interest due to the reported benefits claimed in terms of enhanced flexibility, the up-skilling of employees and the potential to retain employment in traditional sectors. But was it possible to transfer the innovation observed in one context to another? Many did not think so. Lane (1988) examined that potential for transferring new production concepts from Germany to the UK, but argued that, in the context of the UK, there were a number of restraining factors that would inhibit innovation. These included the poor record of vocational training and the demise of the apprenticeship system. Similarly, Hirst and Zeitlin (1991) argued that it would therefore be difficult to 'slavishly' copy flexible specialisation in Britain because of the lack of institutional support available at the time of writing. Other commentators have identified contextual constraints in transferring models from one area to another (Osterman 1994; Phillimore 1999). Many have advocated examining change in context (see Benders 1997; Dawson 1994; Pettigrew 1990), but how do

we move beyond the identification of contextual constraints? If we explore the region as a context in which new forms of organising emerge – as the studies above did – what do we know about the way in which knowledge is generated within and between enterprises, and what are the most effective ways of creating arenas for dialogue between diverse communities, such as public and private sector organisations, academics, consultants, business support agencies and local and regional government? This is a difficult task as the different languages, experiences and agendas of a region's stakeholders jostle for an audience and understanding.

In Nottinghamshire, in the East Midlands of England, drama has been used in several collaborative projects between the County Council's economic development department, The Nottingham Trent University and small businesses. In one instance, the Council and academics in the university were partners in a project which aimed to highlight some of the difficulties that were experienced by companies as they attempted to pursue higher value markets. Not wishing to provide check-list answers, or an academic model which may be inaccessible to some, a play was developed which illustrated how employees from all level of a business needed to be involved in delivering strategic change. Entitled *Guilty or Not Guilty?* the play put a failed business in the dock, accused of letting down their customers and employees; the charge was mismanagement of the business. Performed to an audience of 40 managers of small businesses, the 'rich description' was based upon longitudinal and ethnographic research undertaken in several enterprises (Hague 2002). This was later developed into a 'docu-soap' *The Trials of Barry Simpkin*² and the film has been used widely within industrial, policy and academic debates.

Another example is the *Much Ado About Something* project in which The Work Institute, at The Nottingham Trent University, and Nottinghamshire County Council delivered an innovative development programme to eight businesses. Using the forum theatre methods described above, actors from the *Partners @ Work Theatre Company* devised dramas that were performed in the eight companies. The companies varied considerably; the number of employees ranged from 1500 to as few as 5, and they inhabited sectors as diverse as manufacturing, health care, and public relations.

The forum theatre was followed up by the creation of a 'partnership team' within each company. The team then met regularly to discuss issues of company improvement. In these forums a variety of issues emerged and were turned into action plans. Improvements were made in many areas including:

- Appraisal systems
- Better capacity planning
- Team-briefing sessions
- A better office environment
- Company social events

The project ended with a conference which brought the companies together to learn from one another's experiences. The process of partnership development was different in each company, and these were synthesised into a new drama which mediated between the experiences of all the participants on the programme. Not only did this provide an opportunity for reflection and collective learning, but also served to reinvigorate some development processes which, for a variety of reasons, had started to become stale.

The need to build effective regional innovation systems, generate capacity and to find new ways of creating 'social glue' between regional stakeholders is a key theme of the papers in this book and other contributions to the DOWI series. Theatre (and other art forms) has the potential of being an effective tool to mediate between different experiences. As Gergen (1999) notes, the use of the arts, in non-traditional settings, has the possibility of engaging people unfamiliar with theoretical debates, and for whom the conventions of academic discourse are a barrier. In addition, theatre and the arts has exceptional potential to explore the interplay between context and local action. This dual perspective, which Pettigrew (1987) terms 'contextualist', does not view a firm's environment as being a restraining factor, or a scenic backdrop but allows for an exploration of the complex interdependence between structures and the role of agents. This avoids any simple determining causality between the environment and the form of organising, but recognises the importance that contexts such as the environment, history, strategy and stakeholder interests can have upon organisational life.

Drama, underpinned by rigorous research, has the ability to capture the capricious process of change in a way that might be considered truer than conventional academic, or business support approaches. The tools described above, therefore, do not make claim to ultimate truth, or normative prescription, but may support the development of learning regions. The emphasis is therefore switched from the transfer of external solutions towards the creation of local solutions; or to use a phrase articulated by Gustavsen (1986) to generate local theory. Local theory, developed through processes of dialogue, negotiation and experimentation is, therefore, not judged by claims to uniqueness, but rather from the utility that can be derived from it. As Gergen (1992) notes:

... the primary ingredient of theory is not in its data base but in its intelligibility, and the very communication of this intelligibility already establishes grounds for its utility. Theory and practices are inseparable. (p. 217)

Some conclusions on the application of creative methods

This chapter has examined whether a dramatic change has occurred in the workplace and highlighted the need to develop alternative ways of visualising organisational life and opening the 'black box' of change processes. It has been argued that new tools and approaches are needed which allow employees to become more involved in change processes and the innovative use of forum theatre, improvisation and employee videos have been illustrated as being effective means of triggering organisational dialogue. While some training methods rely upon case study examples or abstract games and exercises, the approaches described in this paper are grounded in local organisational practice. Importantly, the methods link the training and development activities with the actual issues and experiences of work. Rather than working through pre-determined agendas, these methods allow for themes to emerge from the reflections of the employees themselves, and therefore provide a foundation for collective problem-solving and organisational development.

It is suggested that organisations will meet ever-increasing demands to respond to changes in technology, markets and customer demands, and this will continue to force a reappraisal of traditional, and even newer forms of organising. However, as the survey evidence has shown, there is a danger that the gap between leading organisational practice which seeks the full potential of its workforce, and those who persist in restricting employees' abilities through the use of narrowly defined jobs will widen. Traditional educational models based upon externally designed programmes which focus upon the instruction of individual skills and competences may only provide partial solutions. Instead, it is argued that organisations need to find new approaches which allow the specific, timely and contingent development needs to emerge from local dialogue and to which collective solutions can be found.

The chapter has also illustrated ways in which forum theatre has been effectively used to stimulate thinking and experimentation between regional stakeholders and enterprises. Collaborations between policy makers, academics and businesses are sometimes hindered by the lack of a common language. Forum theatre appears to offer new opportunities to engage people otherwise alienated from unfamiliar discourses.

Similarly, the approach also appears to have the capability of integrating employees, perhaps estranged from more formal educational and training programmes, into wider processes of organisational learning. In particular, the use of fictional scenarios has been highlighted as a way of involving employees in discussions which do not ignore underlying issues, but avoid some of the dangers and inhibitions of talking more subjectively. The use of fiction has also been de-

scribed as being able to allow employees to explore issues from the perspectives of other organisational actors and thereby offer opportunities to develop better mutual understanding and trust. Indeed, a particular benefit appears to be in the potential for improving dialogue between all levels of an organisation. All too frequently, training activities are designed horizontally through an organisation. Managers, supervisors and operatives are almost exclusively trained amongst their peers, whereas these approaches provide new opportunities to create programmes which are used to simultaneously involve people from all levels.

As Schreyögg (2001) notes, theatre and other arts-based activities are unable to bring about sustainable improvements if used in isolation. To use Schreyögg's words, theatre has no 'magic transformational power' in itself. Rather, careful attention must be placed upon integrating these activities into wider programmes of development and learning. This finding was also echoed by a study on the use of forum theatre in Denmark (Abrahamsen & Land Hansen 2000). Again, the study concluded that theatre does not create miracles. Instead companies need to have a clear development strategy and there must be an understanding about the way theatre can help achieve defined targets. The authors also conclude that the technique should be embedded in long-term initiatives, where resources are devoted to follow-up and continued training activities. Particular sensitivity needs to be shown when exploring the gap between the fictional world of the drama and the real-life problems and development needs of individuals.

Despite these caveats, theatre and video appear to be extremely valuable in starting or re-animating the process of dialogue, and while these programmes may be great fun to participate in they offer considerably more than mere entertainment. However, the combination of learning and laughter may have an emancipatory effect. To reiterate the comment of Mangham (1987), such approaches may result in the 'liberation of spirit and person' that has been at the heart of debates on the quality of working life over many decades.

The methods we have described have, to date, received little academic attention and research is needed into the effectiveness of such approaches in achieving sustained organisational change. Research needs to identify in what situations should they be best applied, is any one approach more effective than any other, how can these approaches be used to complement other tested techniques, and so on. Also, we have only focused on the use of theatre and video, but what about the possibilities of using other art forms to stimulate creative thinking: poetry, literature and the visual arts – painting and sculpture, for example? What about the use of art-forms which have developed from non-European traditions?

While a number of organisations have started to look at the use of the arts for training and development, little systematic evaluation has been undertaken and therefore there is considerable potential for research in this field.

Notes

1. In July 1998, the Danish Technological Institute and Dacapo Teatret organised a network meeting in Vejle fjord, Denmark. Drawing together forum theatre practitioners from Denmark, Sweden, France and the UK, the event examined the different styles of forum theatre being used in workplaces. There was considerable variation in the styles of performance, varying from the more 'classical' Boalian approach used in France, to the scripted plays used in Denmark and the UK, and the improvised scenarios of Pocket theatre from Sweden. However, all performances encouraged full audience participation.
2. *The Trials of Barry Simpkim*, produced by Phil Swerdlow and Enterprising Nottinghamshire of Nottinghamshire County Council, won three gold awards for motivational training, best performance and best drama at the International Visual Communication Association awards in 2001.

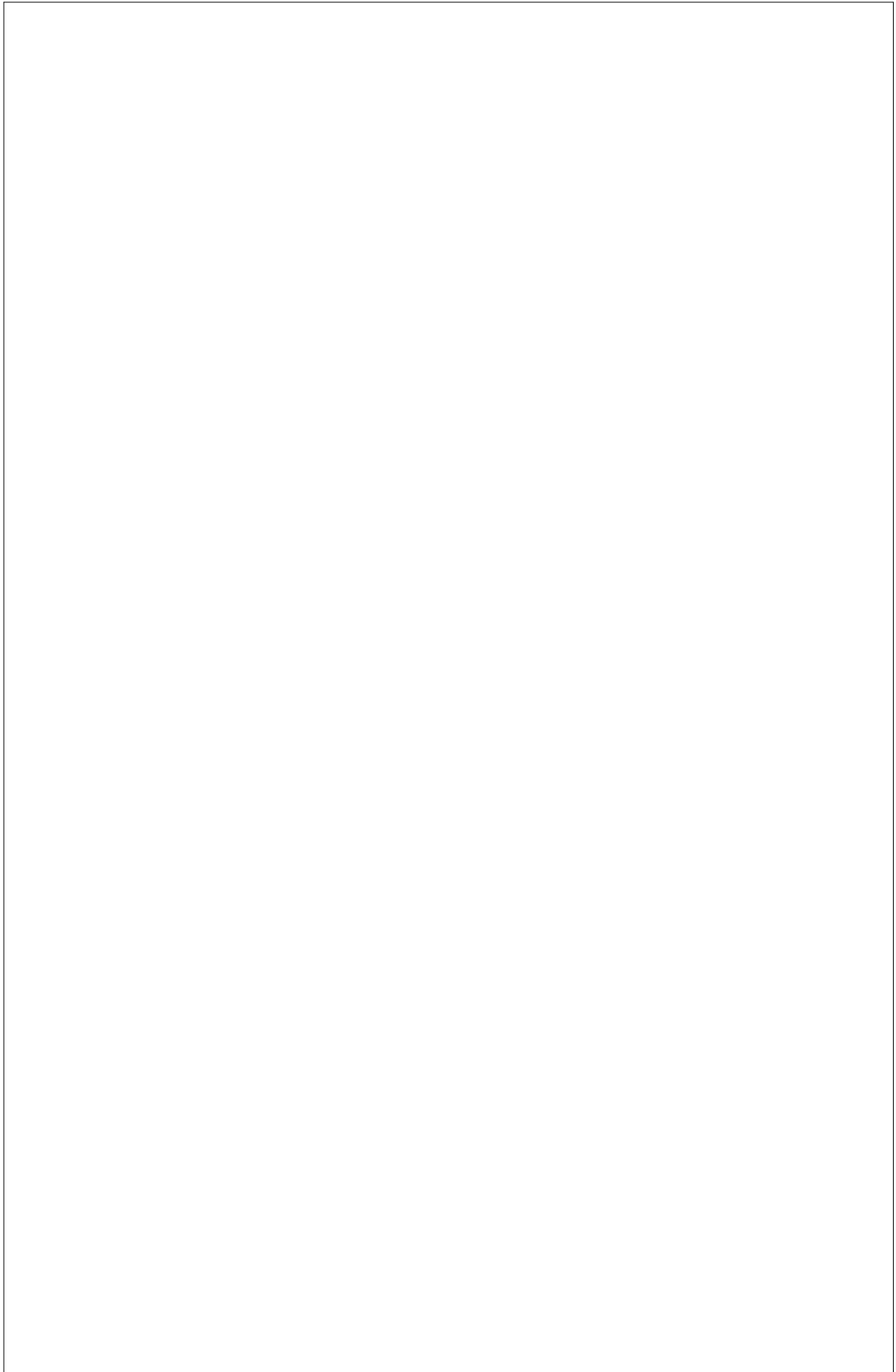
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The policy framework



Regional workplace forums for the modernisation of work

Richard Ennals

Introduction

The purpose of this chapter is to identify gaps in the existing policy framework for modernisation of work, and to assess the possible roles of actors who might fill these gaps. There has been extensive dialogue with researchers from across Europe and beyond, at a series of seminars and conferences since 1997, cited in the annotated bibliography. In addition, the author has worked with a number of national and European Commission programmes, engaged in action research, and developed new projects concerned with European regional development coalitions. The principal recommendation is for the development of regional workplace forums.

Initiatives

Since the launch of the 1997 Green Paper on Partnership for a New Organisation of Work (European Commission 1997), the European Commission has taken a number of initiatives to promote the modernisation of work organisation. In a number of member states of the European Union, governments have also set up national programmes.

There was considerable policy momentum in 1997, as the Partnership agenda coincided with the launch of the European Employment Strategy (Larsson 1998; Ennals 1998). Some of those engaged in pilot projects across the European Union assumed that the Green Paper was launching a substantive change in policy direction, to be followed by new European programmes with significant funding. The Green Paper was a consultative initiative from the European Commission, while additional funding would require approval from the European Council, based on committed support from governments of member states.

The lack of capacity

In many member states, there has been a lack of adequate capacity to encourage and resource workplace innovation and work organisation on a widespread basis (EWTC 1998). The encouragement and resourcing of workplace innovation and work organisation is not a trivial matter (Andreasen et al. 1995). It is not simply a matter of funding top-down programmes, and rolling out solutions. Evaluations of major national programmes, such as the Swedish Working Life Fund (Gustavsen et al. 1996), have shown that successful sustained innovation involves a complex mix of ingredients, with sensitivity to the social, economic and cultural context. In particular, investments in training need to be linked to organisational development (Toulmin & Gustavsen 1996) in order to bring the desired benefits in terms of productivity and innovation. Subsequent work in Norway (Gustavsen et al. 1997, 2001) supports the argument that innovation is not an isolated phenomenon, or peculiar to single enterprises, but arises from innovation systems, typically operating at a regional level.

The Green Paper did not argue that the process of modernising work organisation was easy, but that it was important, and added work organisation as a renewed ingredient in the policy debate. The European Commission was leading the way as an opinion former, drawing on research: practice in member states trailed behind the aspirations of DG Employment and Social Affairs, which does not itself allocate major project funding: this is a matter for the European Social Fund, and for member states. Capacity building would have to precede major programmes if they were to be sustainable. This meant building a platform on uneven foundations across the European Union, for example in terms of social partnership, and the involvement of universities in regional economic development, due to the diversity of circumstances (Brulin & Ekman Philips 1998; Baburoglu & Emery 2000; Bessant & Tsekoura 2001). At the end of 1997 the European Work Organisation Network (EWON) was established to maintain communication between national efforts, and to engage in some enabling research.

The lack of capacity may include:

a. Limited awareness amongst policy makers and social partners

The impression of limited awareness of the issues of work organisation is reflected in studies of individual member states. The situation in each country reflects their particular background in terms of policies and institutions, and adherence to established ways of working. There has been limited unified discourse, as each member state started by speaking from their own distinctive experience, and actors lacked experience and knowledge of the situation elsewhere in the European

Union. As a result, discussions of the modernisation of work could be at cross-purposes, with some consultants interpreting modernisation as endorsement of outsourcing and privatisation (see the GovAgency case study in Business Decisions Ltd. 2001). Effort was required to develop constructive dialogue.

The European Employment Strategy is predicated on maintaining a balance between flexibility and security (Larsson 1998; Rouilleault 1998). Individual governments of member states may take different positions, depending on the extent of their emphasis on flexible labour markets and reduced costs for employers, and changing with the political balance of the day. Thus agreement with the conclusions of the Lisbon Council regarding future developments in the European knowledge-based economy and society can be given many different interpretations. The same applies to commitments to quality in working life, at the Stockholm and Laeken Councils. Quality needs to be given substantial form, for example through the development and application of indicators, and the use of profiles at organisational and country level (European Foundation 2001, 2002; Rantanen et al. 2001; European Foundation 2001, 2002). The 'third way' (Giddens 1997) is broad, and paved with good intentions.

Policy makers and civil servants, by virtue of their conventional career paths, often have limited perspectives, with promotion and advancement often based on winning territorial battles between departments. For some, working with partners across government, and with the private sector, is a novel experience.

Social partners may lack European language skills and knowledge of European institutions, which are required if they are to take full advantage of new policy developments. This needs to be considered by those developing education programmes or managing career development. Career trade union officials and employer representatives now require a European perspective, and new role models are emerging as national leaders progress to international office.

Where trade unions have had an established institutional position, such as in Scandinavia (Johansson 1994), the European Employment Strategy seemed relatively unexciting. Where they had developed the habit of 'dancing', rather than 'boxing' (Gregory 1996, 2001; Huzzard 2002), they felt ahead of European policy developments. In those member states where trade unions have had to fight for their survival, their resources have been limited, and the capacity to respond at speed to new initiatives has been finite. There was no one single social partnership arrangement, and both trade unions and employers have had to develop their own networks and policy-making structures. Time is an important factor: a new generation of trade union officials and employer representatives have gained experience during the years of the European Employment Strategy (Bergström 2000) and are moving into positions of influence.

The European Commission may have been somewhat over-optimistic in expecting immediate responses from the social partners to invitations to take responsibility in the area of work organisation. Culture change cannot be produced overnight in such diverse contexts. The environment has had to change, creating new possibilities, and enabling social partners to re-express priorities in their own terms, for their own constituencies. This has taken five years, while the European Employment Strategy has developed and matured. What happens now, given that awareness has spread? (EWON 2001) For example, the new invitation to the social partners in 2002, to consider stress at work as part of the social dialogue, is highly significant, but will take some time to mature.

b. Too few opportunities to share good policy practice between member states

Because of the separate distinctive histories of member states, demarcations between institutions and government departments vary. There is competition for public funds, allocated according to national priorities and established procedures. Traditional hierarchical approaches continue at national level, with vertical reporting. This may not include arrangements for partnership, either social partnership or between organisations, even within the country concerned. Informal networks have been nationally based.

Experience of participation in European collaborative programmes has been valuable but has affected only a minority of actors within the arena of the European Employment Strategy. For the majority of actors at national, regional and local level, the workings of the EU, and other member states, remain unfamiliar. University students may have had access to mobility programmes such as Erasmus/Socrates, but this is rarer for shop-floor workers. On the other hand, there is now increasing experience of bringing practitioners together from different regions around Europe, with practical benefits (Ennals & Gustavsen 1999; Fricke 1997, 2000). This presents new challenges in overcoming barriers of language and culture.

c. Weak policy frameworks at national and/or regional levels

The roles of national governments vary between member states, with an increasing tendency for governments to pass responsibilities to the private sector and market forces: the UK led this trend, sometimes described as modernisation. As a consequence, it can be difficult to make simple comparisons between countries. Discussion of work organisation raises further complications, as it cuts across departmental boundaries: there are issues for economic development, employment, industrial relations, technology transfer, regional policy, education and training

(Totterdill 1999). 'Joined up thinking' is the exception, rather than the rule. The situation can be eased by the presence of national institutes and infrastructures for research, development and technology transfer (Alasoini et al. 1997, 1998). Such institutes can develop their own rigidities.

Although a Europe of the Regions has many adherents, in some member states such as the UK, devolved policy structures and frameworks at regional and local level are undeveloped, inconsistent, and as yet lacking in democratic accountability. In the UK, the devolution of responsibility to a Scottish Parliament and a Welsh Assembly has left unresolved the question of regional government in England. There is no shared European understanding of what is meant by a region. History is recalled in terms of nation states. One challenge for the European Union is to regard this diversity as a source of collaborative competitive advantage (Wynne 2002).

d. A lack of appropriate institutions capable of designing and delivering appropriate measures

In the absence of a local tradition of social partnership, it takes time to develop sustainable institutions. This challenge is being addressed in the applicant countries, with collaborative input from the European social partners UNICE, ETUC and CEEP: this casts light on some problems within the European Union. In the UK, where the Thatcher government from 1979 had eradicated tripartite institutions, with the exception of the Health and Safety Executive, the UK Work Organisation Network (UKWON) was founded in 1997, as a bottom-up national network. There have been encouraging signs, and the beginnings of constructive social dialogue (Ennals, Totterdill, & Ford 2001).

In the cases of initiatives under the European Social Fund, delivered through national programmes administered by individual government departments, the priority is to meet needs of member states in vocational education and training. European policy directions derived from the European Employment Strategy are seen as ancillary, and are thus diluted by national and regional authorities. Projects dealing with work organisation, which have been developed and submitted under ESF, EQUAL and Article 6, in line with EU policies, have been assigned little priority at national or regional level, and not funded. National and regional authorities invoke the principle of subsidiarity, and declare their right to determine policies and priorities.

On this basis, initiatives regarding work organisation raise constitutional issues. The European Commission may reach policy conclusions in Green Papers and Communications in line with the European Employment Strategy. These will not be translated into practical programmes at national and regional level unless

the relevant authorities at the level of the European Council and member states decide that this is their preference, giving priority to such programmes over other contenders for support. We might conclude that the European Employment Strategy is not being implemented at workplace level. This would be misleading, as the Strategy is based on a longer term process of soft law and social benchmarking, involving cycles of development, rather than top-down imposition of a standard European Commission régime. Where an emphasis on work organisation leads to a successful outcome, this should be picked up in subsequent iterations of National Employment Plans. This requires improved information, working case study examples, a strong business case, and an ongoing networking infrastructure.

There has not been a strong budgetary lead from the European Commission, as opposed to rhetoric. The 1998 Communication on Work Organisation announced the formation of the European Work Organisation Network, but only a limited budget was assigned for development projects, and even support for the EWON newsletter was later withdrawn. Subsequent Green Papers and Communications have led to the foundation of alternative structures, such as the Observatory of Social Change hosted by the European Foundation for the Improvement of Living and Working Conditions, in Dublin. The agenda has moved on over the years since 1997; this has not always been explicit, and not all of the actors have kept pace. This is soft law in practice.

Work organisation raises further issues concerning EU enlargement, as the applicant countries, many of them former members of the Soviet bloc with a tradition of central state socialist economies, typically lack a prior background and available resources. This is being addressed through European programmes such as PHARE, and initiatives such as the Swedish-led Work Life and EU Enlargement programme, which involves EU institutions and the social partners.

e. Poor networking between key actors

Collaboration and networking do not arise by chance; they require a supportive cultural context, in which consensus is valued, where it is possible to make horizontal contacts between organisations, rather than everything being governed by hierarchies. Networking is a complex interpersonal skill learned through practice, not from handbooks (Castells 1997). Relationships of trust are built incrementally over time, and this has been a major argument in favour of successive European Framework Programmes, fostering patterns of collaboration. In an environment of scarce resources, where central financial controls are imposed, and initiatives are in competition, progress will be slow. The European Commission manages portfolios of projects, or delegates the management to large networks: this principle underpins the Sixth Framework Programme. There are lessons to be learned,

regarding 'creating connectedness', from the Norwegian Enterprise Development 2000 and Value Creation 2010 programmes (Gustavsen et al. 2001; Levin 2002; Gustavsen 2003).

Whereas employees of the European Union, from different countries, have learned to work together with a common employer and build a new policy infrastructure, the development of international networking can be more complex, with issues of language, culture, administrative tradition, and finance. Initial entry costs can seem high, including steep learning curves. This is part of the challenge for institutions such as universities.

Nationally based programmes, such as the Swedish SALTSA programme in European working life, with international research partners working in association with the Swedish National Institute for Working Life and the Swedish trade unions, have helped in developing the networking culture. Sweden is relatively new to EU membership, and has traditionally had ample national research funds, so there has been limited experience of international networking in the European Union. SALTSA has provided a valuable transition to European collaborative ways of working, and opened new approaches to dialogue. The model of involving the trade unions in a pivotal role in project design and project management has been enlightening, but the problems still remain of accomplishing the transition from research to practice. Within the SALTSA Work Organisation theme, the NICE (New Innovative Coalitions in Europe) consortium developed, piloting work with regional development coalitions (Brulin 1998; Mazzonis & Ennals 1999; Asheim & Pedersen 1999; Prätorius 1999), and building sustained relationships over time (Fricke & Totterdill, this volume).

Some long-standing European Commission research programmes, such as ES-PRIT, have had a substantial underlying work organisation component, especially concerning trans-national relations between enterprises. Often the development of such relations, for example in strategic industrial sectors such as aerospace, has been as important as the particular technologies, which are the ostensible focus of attention. This may have been the reason why evaluators decided in favour of funding the project when proposed. Despite this, project management tends to have concentrated on hard technology, at the expense of the softer areas of work organisation. Research management needs to take more account of the network culture, and the culture of research management itself needs to change.

f. Underdeveloped roles and responsibilities of social partners, universities and business support organisations

We should not expect a uniform pattern of organisation and networking across the European Union. It is however vital that the European research culture sup-

ports social partnership consistent with the European social model, as opposed to adversarial industrial relations. This may have been taken for granted in Scandinavia, where in particular the Swedish social model provided stability over several decades (Johansson 1994), providing senior trade unionists and employers' representatives with insights into government. In Ireland, nine years of social partnership preceded the New Work Organisation in Ireland programme (Savage 2000). The evaluation model, including a team of international evaluators, both provided insights from overseas, and also provided valuable experience for those at an earlier stage in the partnership process, such as in the UK.

It has been easy for governments and educational institutions to give lip service to the importance of education for the knowledge-based society, to lifelong learning, and to Higher Education Reaching Out to Business And the Community (HEROBAC, in the UK), known in Sweden as The Third Task (Brulin 2002). Traditional universities have often been reluctant to change, and to address a world beyond academia (Baburoglu & Emery 2000). Effective networking and delivery requires culture change, which takes time and encounters resistance. Once in place, it can enable new forms of knowledge production, as has been argued in the case of the sciences (Gibbons et al. 1994; Nowotny et al. 2001). Variations in culture and work organisation impact on the form taken by lifelong learning, and affect structures such as employer learning networks. The process takes time: levels of participation in higher education have risen in recent years, and there is a backlog of remedial education required in business and industry.

It is not enough for an organisation, whether in the public or private sector, to declare itself to be a business support organisation, and to adopt private sector patterns of operation. The role of intermediaries is vital, in particular for small and medium sized enterprises (Walters 2001, 2002; Frick et al. 2000), but they need to operate in a culturally appropriate manner. It is not a question of rolling out one-stop shops. In particular, the roles of intermediaries develop over time, but they are often introduced in successive short-term initiatives, which may lack evaluation. There needs to be a facilitating environment at regional level.

The missing link

As attempts to develop new forms of work organisation encounter problems of lack of capacity, we must ask how work organisation has been defined. Is an alternative perspective required? The two definitions need not be mutually exclusive. Programmes in work organisation have given us a language to discuss change in work and society. Work organisation was identified (Andreasen et al. 1995) as 'Europe's next step, as 'the missing link'; the challenge has been identified as dif-

fusion. Further definitions were published by EWON (Totterdill 2000) and Hi-Res (Totterdill et al. 2002).

One approach is to concentrate on the organisation of work at enterprise level, presenting models of good practice to which enterprises should aspire, based on characteristics such as teamworking and participation, perhaps offered on a web-site. The aspiration is given the label 'high performance work organisation', seen as the culmination of a linear process of development. Particular distinguishing features and techniques are highlighted. Business Decisions Ltd have taken this approach in a series of reports to DG Employment and Social Affairs (Business Decisions Ltd. 1998, 2001).

We may prefer to think in terms of a variety of forms of work organisation, according to the needs of the sector or context, and the trajectory of development of the enterprise. Concepts such as teamworking and empowerment have often been appropriated and used in contexts which are not to the advantage of the workforce (Ainger et al. 1995). Business process re-engineering and other approaches to restructuring have often been to the detriment of the workforce: this has been addressed in the recent Directive on Information and Consultation, and the Communication on Corporate Social Responsibility. This development of the European Social Model has, as yet, had a limited impact on Anglo-Saxon business practices (Hutton 2002), where a voluntarist view is taken to regulation in general, and to EU Directives in particular.

Good practice case studies of success have been collected; often these have little to say regarding obstacles to the diffusion of new forms of work organisation (Business Decisions Ltd. 2001), and how they are to be overcome. We do not know how to move from the growing collection of databases of good practice case (see www.ukwon.net and the products of the European Commission INNOFLEX and Hi-Res projects), to generate improvement in workplace practice. This can be due to a division of labour, and a cultural separation, between researchers and those concerned with implementation.

An alternative, as set out by Ennals and Gustavsen (1999), and illustrated in the programmes of the UK Work Organisation Network since 1998, is to note the limits of what can be achieved, either by national level policy or by working with individual enterprises, especially when they are small, and to emphasise relations between enterprises and other organisations, in the form of supply chains, networks and development coalitions, operating at the intermediate, meso or regional level. This builds on research on small enterprises at local level (Curran & Blackburn 1994). Processes of learning are then encouraged within networks and coalitions, based on learning from differences (Asheim & Pedersen 1999).

From this work emerges the concept of development organisations, which are able to assist in the process of modernising work organisation at the local and

regional level. This provides a context for *entrepreneurship*, one of the four pillars of the European Employment Strategy, the focus of policy development since 1997, expressed in annual national employment action plans, and reflected in projects supported under the European Social Fund.

Gustavsen has argued that the importance of development organisations goes further. Evaluation of the Swedish Working Life Fund (Gustavsen et al. 1996) demonstrated that investments in training which are not linked to organisational development tend to give poor returns: work organisation is the missing link, vital for *employability* and *adaptability*.

Similar arguments can be presented in occupational health or workplace health: without an understanding of the context of the workplace, well-intentioned measures achieve little. Many occupational illnesses can be linked to deficiencies in work organisation (Karasek & Theorell 1990; Cox et al. 2000). Changes in the world of work, such as globalisation, increased pace, and the spread of precarious working, have exacerbated the problem, with impacts on occupational health and safety (Paoli 1992, 1997; Merllié & Paoli 2001; Quinlan & Mayhew 2000; Dhondt et al. 2000; Levy 2000; Ennals & Knave 2001; Rantanen 2002). If we do not understand and address issues of work organisation, problems of sickness absence will continue to mount. This is recognised in the 2002 European Commission Communication *Adapting to Change in Work and Society*, in which the social partners are invited to consider the issue of stress at work in the social dialogue.

In the field of diversity and discrimination, delivering on the *equal opportunities* pillar, work organisation provides the context in which opportunities arise, and is important in the Community Action Programme to Combat Discrimination (Wynne 2002). Studies have shown particular problems faced by groups such as women (Menckel & Österblom 2001), older workers (Kilböm 1999), and ethnic minority groups (Blomberg & Widell 2002); often these can be addressed through changes in work organisation. New Directives which harmonise the treatment of different forms of discrimination, bringing together previously separate legal arguments and institutional arrangements, will have impacts on work organisation (Bruun & Bercusson 2001).

Identifying gaps

There are gaps in the existing policy framework within the EU to support workplace innovation and the modernisation of work. Our focus has been on capacity building and on the transfer of knowledge through innovation systems.

a. The UK

We start with the UK, not as typical of the EU as a whole but to commence a process of learning from differences, in a virtual encounter between countries. In the UK there are no national research institutes or national programmes concerned with work organisation or working life; this was the context for the foundation of the UK Work Organisation Network (UKWON) as a bottom-up networking structure, bringing together the main actors. There has been a Partnership Fund, funded by the Department of Trade and Industry, covering diverse activities in a large number of companies, but without co-ordination, supporting small-scale short-term initiatives, and without a core emphasis on work organisation. Partnership has been favoured, but through voluntary means, and there has been little mention of the European policy context or of the terms of particular Directives which have been transposed into national legislation.

The message regarding the central importance of work organisation has not been understood, despite five years of efforts since the publication of the European Commission Green Paper Partnership for a New Organisation of Work. This contradicts a DTI publication in 1998, *Working Together for the Future* following the Glasgow UK EU Presidency Conference, which emphasised work organisation and identified UKWON as the lead organisation in the field. Ministers and civil servants have changed many times in the interim.

Dialogue seminars organised by UKWON 1998–2002, supported by the European Social Fund, have revealed that the general level of knowledge and awareness in the UK regarding work organisation and the European Employment Strategy is limited. Key phrases such as social partners, social dialogue, open co-ordination, soft law and social benchmarking are not recognised. An encouraging development has been the quality of attendance at seminars led by European speakers (Bodin 2002; Rouilleault 2002), who have served to highlight the issues for opinion-formers.

In the case of the UK, a partial explanation may be that the UK had opted out of the Social Chapter in the Treaty of Maastricht, and only signed in 1997, under an incoming government who lacked access to papers of the previous government. Implementation of some of the measures concerned is now being phased in over time, and public discussion and debate has been limited, partly due to current uncertainties regarding UK joining the single European currency and partly due to the lack of budget allocated to such matters. EU Directives are seen by many in the UK as issued from Brussels, and there is little understanding of the policies, institutions or processes concerned. Europe tends to be seen as part of foreign policy, rather than it being recognised that, as a member state of the EU since 1973, the UK is involved in the development of policies, and is then committed to implementation and compliance.

There is no shortage of accessible information material in the English language, setting out issues regarding working life, work organisation, and quality of work, but it is not being read by decision-makers. To date this has not been regarded by government or employers as a priority. UK trade unions are aware of the benefits to be derived from pursuing these issues, but have limited resources. Through the work of the TUC Partnership Institute, the UK Work Organisation Network and the Involvement and Participation Association, this situation is changing.

b. France

It is particularly instructive to compare the UK and France, with respect to Working Time and work organisation. In France, the 35 hour working week was introduced by law, and assistance in implementation was provided to enterprises by ANACT, the national agency concerned with working life. The key to successful implementation of reform in working time was seen as work organisation (Rouilleault 2002).

By contrast, despite being covered by the same set of EU Directives, the UK negotiated individual opt-outs concerning the Directive on Working Time. As a result, the UK continues to have the longest working hours in the EU (Merllié & Paoli 2001), accompanied by low productivity compared with both the USA and EU partners. As the UK opt-out is reviewed by the European Commission, and as working time is consequently reduced, work organisation is likely to prove pivotal to success in productivity and innovation (Cressey 2002). This issue was addressed at a UKWON dialogue seminar in London, with speakers from France and from the UK social partners. It was evident that there is much to be learned from different experience, and that an environment in which such dialogue can be conducted is valuable.

c. Other member states

We can continue to make individual national comparisons, developing case study accounts from which we can learn (as in Ennals & Gustavsen 1999).

- We might take the German situation, noting comparisons and contrasts with both France and Sweden, with respect to the structures of, for example, trade unions and regional government.
- We might highlight regional diversity in Italy, including distinctive patterns of networks and regional development coalitions as between Emilia-Romagna and Veneto, and compare the situation in Spain and Greece.

- As we are dealing with 15 member states of the European Union, soon to be 25 member states, it may be more effective to use the European Employment Strategy as a tool. This approach has begun with the Swedish Work Life and EU Enlargement programme, with the applicant countries.

Every government of an EU member state expresses commitment to innovation and modernisation, even if they do not share definitions of what the terms mean in practice. When they refer to the four pillars of the European Employment Strategy, scope for different emphases remains. The meaning of the European Employment Strategy, and the words within it, will be seen in practice. The challenge is to present the arguments so that decision-makers recognise the central importance of work organisation in their policies for productivity and innovation. There was widespread consultation on the 1997 Green Paper Partnership for a New Organisation of Work, reported at the UK EU Presidency Conference in Glasgow in April 1998, which meant that the terms were widely used. There was a subsequent 1998 Communication, but no specific Directives are envisaged, and there has been no specific major programme led from the European Commission.

Diverse initiatives are led from departments and Directorates-General, who are always careful with regard to demarcation. In addition to research programmes supported by DG Research, and development work under the European Social Fund, both DG Employment and Social Affairs, and DG Health and Consumer Protection, have responsibilities in the area of health promotion and workplace health (ENWHP 1997, 1999). DG Information Society supports research in knowledge management in organisations, including communities of practice, based on new forms of work organisation (Hearn & Joubert 2002; McDermott 2002). Such demarcation issues are not peculiar to the European Commission but are reflected in member states, and in UN agencies.

The debate in each country is typically expressed in national terms, rather than in terms of the European Employment Strategy (Walters 2001, 2002). Protagonists in national debates are often unfamiliar with the European context. This is changing, as European experience becomes essential for officials responsible. There are current debates regarding security and flexibility, and the consequences of externalising many aspects of employment relations. Some of these issues as addressed in the Directive on Information and Consultation, and the Communication on Corporate Social Responsibility, which deals with responsibilities of employers in the context of restructuring.

Recommendations

We recommend future initiatives to overcome the identified gaps, setting out the responsibility the involved actors are to carry.

a. Raising the profile of the European Employment Strategy

The European Employment Strategy provides an appropriate policy framework and mechanisms for the diffusion of new forms of work organisation, complemented by the European Social Fund and research and development through Framework Programmes. We need to use the framework as it matures, and draw on research experience with new forms of work organisation. The central importance of work organisation needs to be emphasised, using arguments addressing the concerns of both member states and Community institutions. Given that the European Employment Strategy is multi-faceted, and has developed incrementally over a period of five years, this report takes the opportunity to develop an integrated view, reflecting the state of the art, from the perspective of work organisation. This should not detract from an emphasis on workplace practice.

Ennals and Gustavsen (1999) argue that work organisation should be seen as a reflexive characteristic of societies and economies undergoing change, rather than a separate specialist field of study and implementation at the level of single enterprises. This enables us to use work organisation as a means of exploring the set of principles and pillars of the European Employment Strategy. This opens the way to a new policy debate, anchored in practical examples. Confirming the importance of the European Employment Strategy does not imply that everything should continue as at present. To date the strategy has had a largely superficial impact, providing an envelope in which previously separate policies and initiatives have been brought into closer alignment. More needs to be done to complete the processes of embedding and mainstreaming, with the added pressures of the enlargement process to be taken into account.

National policies have traditionally been based on the experience of large enterprises, while the dominant form of employment in each EU member state is small and medium sized enterprises (SMEs) (Oliveira 2001). The nature and needs of SMEs are different from those of large enterprises, but cannot sensibly be considered as uniform. Often these issues are handled more effectively at regional level, and by making use of intermediaries who have the confidence of both the enterprises and the authorities (Walters 2001). Policies, including for SMEs, tend to have been framed in terms of individual companies, and the way that their work is organised internally. If we are considering diffusion, it is vital to take account of the

organisation of relations between enterprises, and their location within innovation systems (Gustavsen 2002).

European dialogues in the field of employment and social policy involve representatives of member states, who have been mandated to maximise the benefits to their own country, rather than necessarily acknowledging a common European identity. The EU is itself a development coalition (Ennals & Gustavsen 1999), in which the individual member states can preserve their distinctive identities but further their own objectives by working together. There is still limited awareness in individual member states as to how similar problems are addressed in other member states.

This highlights the need for an integrated understanding of the European Employment Strategy. The need is all the greater because of the impending process of enlargement. Applicant countries are aware of what is required of them, after prolonged negotiations regarding the *acquis communautaire*, but some current member states may be less aware of what it means for them.

b. New forms of work organisation

The 1997 Green Paper Partnership for a New Organisation of Work could be simplified as stating that “Taylorism is dead, and Europe needs to develop new forms of work organisation appropriate to the challenges faced in the new century”. In practice, Taylorism continues, at times in reinvigorated form, such as through National Vocational Qualifications in the UK, in which there is little understanding of the nature of skill (Göranzon & Josefson 1988; Göranzon 1995).

Europe’s next step, or Europe’s competitive advantage (Andreasen et al. 1995), must derive from regarding our diversity as a source of collaborative competitive advantage (Wynne et al. 2002). This is a radical change of perspective. Continuous improvement depends on a preparedness to make step changes. As a pre-condition for moving forward, we need to identify examples of new forms of work organisation, both successful cases and those encountering different types of difficulty, and locate them with respect to innovation systems. There is considerable experience from which we can learn, with interesting cases across the European Union.

c. Diffusion mechanisms

The traditional approach is to identify key objectives, find star cases which demonstrate the desired characteristics, then roll out the necessary approaches across a region, sector or country. There is little or no evidence that this works in practice. It is far from easy to transfer lessons learned in star cases (Gustavsen et al. 2001), however many we accumulate in databases and on websites. It is not difficult to

produce handbooks, toolkits and other dissemination material, but it is hard to point to resulting processes of sustained learning. It is easy to announce the formation of new learning networks, but more effective, where it can be done, to add learning dimensions to existing groupings such as supply chains and networks, which have their own organic means of sustainability.

The European approach, as spelt out in the European Employment Strategy, is social benchmarking, otherwise understood as learning from differences (Toulmin & Gustavsen 1996; van Beinum 1998). One way of progressing in the solution of a particular problem is to consider how similar problems are addressed by others, considering one's own experience against the background of the experience of others (Gustavsen 1992). This was the basis of the New Innovative Coalitions in Europe (NICE) project, which was supported by the Swedish SALTSA programme (Totterdill & Fricke, this volume). The vital mechanisms for diffusion are those which enable learning from differences: search conferences (Emery 2000), dialogue conferences (Shotter & Gustavsen 1999), regional networks (Totterdill 2000; Brulin 1998; Fricke 2000) and development coalitions (Gustavsen et al. 1997, 2001).

The new structures need access to new tools which reflect their needs and priorities, both physical and virtual. There is a mass of material available on websites, but thought needs to be given to the case for developing a portal on the European Employment Strategy, opening access to the existing diversity of issues, debates and cases. This can then support a programme of dialogue workshops at regional level, enabled by regional workplace forums. One approach, using the recently launched www.1do3.com as a model, and the European Employment Strategy as a framework, would be to identify what users may want to do in the field of work organisation, and to point them to websites which may meet some of their needs. Such a facility could operate in support of regional workplace forums. In principle, given that the 15 EU member states are covered by the same Directives, there should be comparable approaches to common tasks.

d. Regional workplace forums

It could be argued that this chapter has to date rehearsed conclusions from previous work in a particular tradition, identifying weaknesses of previous approaches rather than proposing anything new. The SALTSA NICE project New Innovative Coalitions in Europe, which was part of the environment in which different experience has been shared, has cast new light on the importance of the regional dimension. Here we set out a new proposed framework to facilitate the modernisation of work, which has broader implications for European employment and social policy, going beyond the pivotal field of work organisation.

The European Commission should now support the development of a new network of regional workplace forums, within the context of the European Employment Strategy, bringing together the workplace actors with the social partners, to engage in dialogue and practical activity, including social benchmarking. These European arenas for discourse are intended to provide supportive contexts for the development of new forms of work organisation, within and between enterprises (Gustavsen et al. 2001). There has been preparatory experience with practitioners from regions in Italy, Germany, Sweden, and in the NICE project, supported by SALTSA, which also involved the UK, France, Denmark, Norway and Belarus (Ennals & Gustavsen 1999).

In some cases there are existing bodies to take on the role of regional network forum (Savage 2000; Alasoini et al. 1997, 1998; Prätorius 1999; Ennals et al. 2001). In other cases new networks and coalitions will need to be formed, bringing together the necessary actors (Brulin 2002; Levin 2002). The contexts will vary: regional workplace forums may have been developed to address workplace health (ENWHP 2002; Vallée 2002; Dhondt 2000) as dissemination mechanisms for new universities engaging in the third task of working as partners in regional economic development (Brulin 2002; Fricke 2000; Baburoglu & Emery 2000), or as ancillary to structures of support for local networks of enterprises (Mazzonis & Ennals 1999; Asheim & Pedersen 2001).

With the acknowledged limitations of national policies and the dilemmas facing policy makers at a distance from the workplace, it is not enough to work at national level. We can pilot and develop a new structure which can link across national and departmental boundaries, supporting communities of practice (Hearn & Joubert 2002; Hopson 2002), and enabling new patterns of development of knowledge (Brulin 2002). This gives work organisation a role in Europe as a missing link between the concerns of DG Employment and Social Affairs, DG Health and Consumer Protection, DG Information Society, DG Research and the European Social Fund. It offers an opportunity to lend new overall coherence to policies which have faced problems of conflicting terminology and institutional structures.

The intermediate meso level (Totterdill 1999) needs to be given visible reality, with structures to foster dialogue, building on research experience in recent years (Castells 1997; Whyatt 2001). These structures need to be explored through the informal means of workplace forums. Region is to be defined flexibly, taking account of different contexts. There should be no attempt to start with complete coverage, but European infrastructure support for regions which seek to develop a workplace forum, building a constellation of different examples from which to learn. In some EU member states, such as Germany and Italy, regional government is well established (Mazzonis & Ennals 1999; Prätorius 1999) and the natural re-

gional boundaries are recognised. Elsewhere, such as in the UK, the structures and boundaries are still under debate (Totterdill 2000; Ennals et al. 2001).

Regional workplace forums fit into the development of social dialogue, as the social partners seek to address a new range of issues such as stress at work. Research (Karasek & Theorell 1990; Cox et al. 2000; Paoli 1997, 1999; Levy 2001; Härenstam et al. 2000, 2001; Rantanen 2002) has shown evidence for links between psychosocial factors arising from work organisation and the full range of occupational illnesses, including musculoskeletal and coronary heart disease. Such problems are not addressed adequately by conventional occupational health services and workplace health promotion. Regional workplace forums should be developed in association with networks of small enterprises, with an additional set of intermediary actors.

The workplace is now recognised as an arena for public health and lifelong learning, but issues of dissemination and development have received limited attention. The new regional workplace forums, by bringing democracy and participation into working life at regional level (Reason & Torbert 2001; Pålshaugen 2002), offer an opportunity for innovation, learning, and increased sustainability, within the broader context of the European Employment Strategy. They offer a practical focus for lifelong learning and the third task at regional level, and a valuable counter-balance to fears of the development of a European super-state. As Europe comes to recognise that diversity is a key resource for collaborative competitive advantage, the regional workplace forum offers a flexible and informal means of tapping some of that latent energy.

Appendices

Annotated bibliography

The argument above may be regarded as an updating of "Work Organisation and Europe as a Development Coalition" (Ennals, R. & Gustavsen, B. John Benjamins, Amsterdam, 1999.) Chapter 6 provides extensive case studies from a number of European countries.

Useful comparisons with Norway can be made as a result of "Creating Connectedness: the role of social research in innovation policy" (Gustavsen, B., Finne, H., & Oscarsson, B. (Eds.) John Benjamins, Amsterdam, 2001.) This builds on "Development Coalitions in Working Life: The Enterprise Development 2000 Program in Norway" (Gustavsen, B., Colbjørnsen, T., & Pålshaugen, Ö. (Eds.) John Benjamins, Amsterdam, 1997). Reflections on the learning processes concerned are found in "Researching Enterprise Development" (Levin, M. (Ed.) John Benjamins, Amsterdam, 2002).

The Swedish "Work Life 2000: Quality in Work" project 1997–2001 was an experimental international development organisation, operating within the context of the European Employment Strategy, and involving a network of 1000 researchers. It is documented in "Work Life 2000: Yearbook 1: 1999", "Work Life 2000: Yearbook 2: 2000" and "Work Life 2000: Yearbook 3: 2001" (Ennals, R., Springer Verlag, London, 1999, 2000, 2001).

For case studies of work organisation considered by the UK Work Organisation Network, see www.ukwon.net. The website proposal above is the basis of a feasibility study being undertaken by Kingston Business School and the Royal Institute of Technology in Stockholm, in association with Duckdriver Software, hosts of www.1do3.com.

Evidence that the agendas in Europe and the USA with regard to work organisation are related, but often expressed in different terms, comes from the report of the EU-US workshop in 1998 (Ennals & Christopherson 1999).

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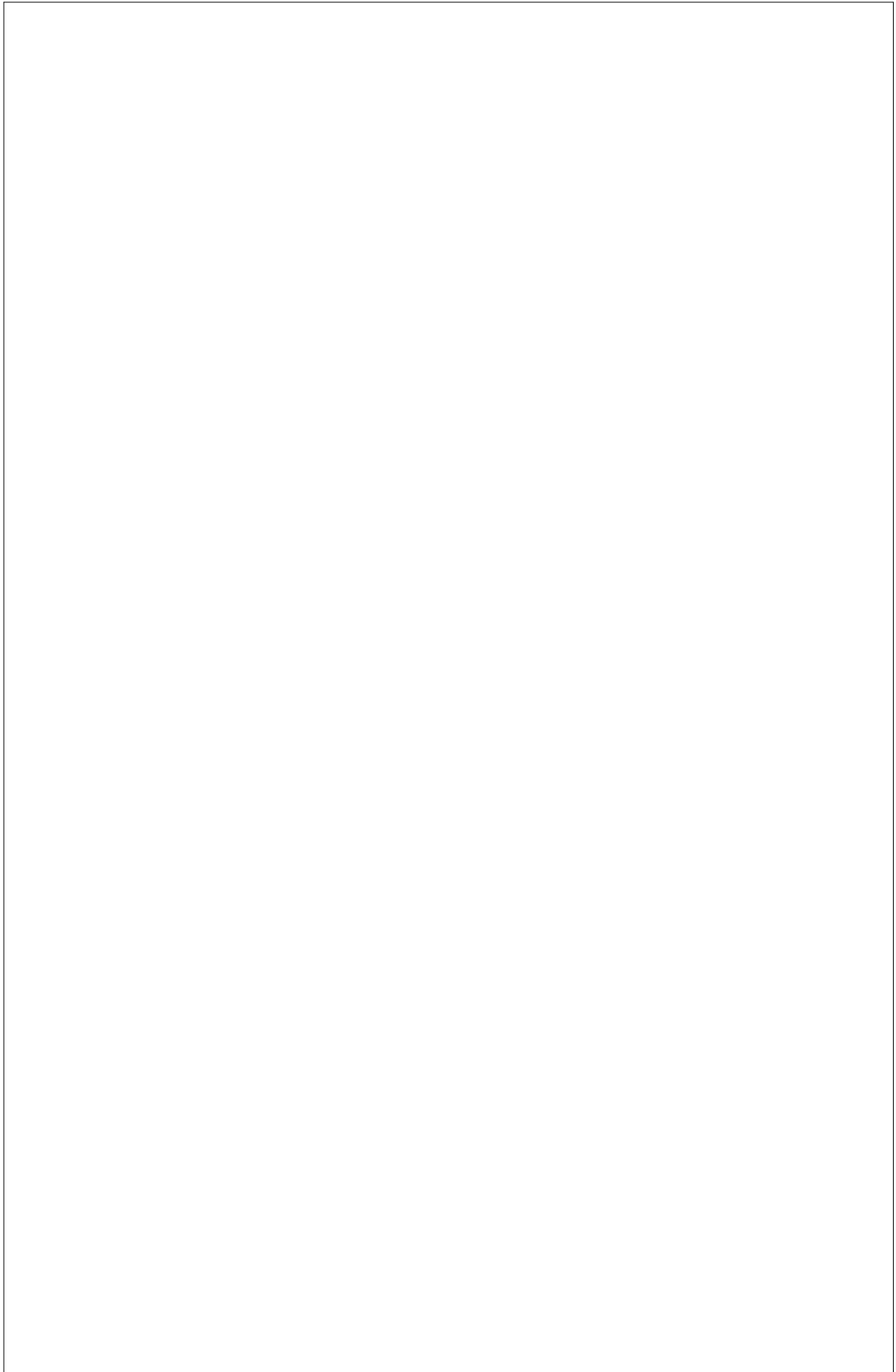
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Integrating workplace development policy and innovation policy: A challenging task

Experiences from and reflections on the Finnish Workplace Development Programme

Tatu Piirainen and Pasi Koski

1. Introduction

In 1996 the Finnish National Workplace Development Programme (FWDP) was launched in Finland. The first programming period terminated at the end of 1999 and the program was continued for the second period of 2000–2003. A striking and rather exceptional characteristic of the FWDP is that from the very beginning it has attempted to be associated with national innovation policy by claiming that workplace or organisational innovation should be considered as an essential part of the national innovation system. The program rests on an assumption that in order to solve the productivity problems of Finnish workplaces it is not sufficient only to invest in the introduction of new information and communication technology and in training the workforce, but investment should also be made in the development of work organisation (Alasoini 1997). Of course this integration of workplace development and innovation policy (including technology and education policy) does represent something of a breakthrough only in public policy terms. The need to combine these traditionally separate policy areas has been well understood by researchers for some time (see Naschold 1991; Badham & Naschold 1994; Gustavsen et al. 1996; Edquist 1997).

This article is based on the recent evaluation of the Finnish Workplace Development Programme. In the evaluation consortium the authors' task was to study the FWDP and its premises and goals from the innovation policy perspective and to find out how the program has positioned itself within the totality of innovation policy in Finland.¹ Drawing from the evaluation, this paper concentrates on one of the main findings – arguing that the FWPD has not been very successful in its attempts to integrate workplace development into 'mainstream' innovation

policy. This result is further elaborated by comparing the central characteristics of the FWDP with the predominant concepts of innovation and innovation policy. Finally we would like to point out that this article is a program- and policy-level review of the FWDP and that we considered it from an innovation and innovation policy perspective. The emphasis of our examination is more on the explicit premises and goals of the program than on the actual results of it.

The article is organised as follows. In Section 2 we put forward the most important findings of our evaluation research suggesting that the FWDP and workplace development, in general, are not recognised as being a part of Finnish innovation policy. We focus on attempting to give the major reasons for this. In Section 3 we try to assess to what extent the program has been able to support the move from project-level learning to network-level or regional level learning; in other words, to a process of collective and cumulative learning involving coalitions of diverse actors. Finally, in Section 4 we discuss what kind of future prospects there may be for workplace development to be included in Finnish innovation policy.

2. Comparison of the FWDP and Finnish innovation policy

An essential finding of our assessment of the FWDP was that workplace development activities generally – and organisational innovation especially – were poorly known among the key actors of Finnish innovation policy and that they had clear difficulties in identifying a connection between workplace development activities and innovation policy. A preliminary analysis of the expert interviews pointed to the possibility of some fundamental differences between innovation policy practised by the key actors and the policy pursued by the FWDP. In order to confirm this, we examined the mainstream innovation policy in Finland since 1990, analysed the central aims and premises of the FWDP from the innovation policy perspective, and finally compared the results of the analysis with the predominant innovation policy. In the following we outline the FWDP against the mainstream policy in terms of emphasised innovation types, innovation policy approach, and innovation strategy. First of all, however, it is necessary to briefly describe both the main characteristics of the FWDP and the development of Finnish innovation policy in the 1990s.

2.1 Finnish Workplace Development Programme (FWDP)

On the general policy level the FWDP has aimed at contributing to the development of Finnish enterprises and working life organisations in such a way that the competitiveness of the Finnish economy in the global markets is maintained.

The core of the program mission can be summarised as follows: the FWDP is a research-assisted development program striving at improving productivity and quality of working life by promoting the development of human resources, innovation and the active initiative of personnel at Finnish workplaces, and strengthening the use of research in working life development. The program has three focus areas:

1. the FWDP renders support/funding to cover the costs of using external experts in such development projects at workplaces which aim at changing the mode of operation or organisation of work in a sustainable way, i.e. in such a way that both productivity and quality of working life are developed simultaneously,
2. the FWDP promotes the dissemination of knowledge and expertise about workplace development, and
3. the program contributes to the strengthening of the structures of workplace development in Finland.

The program provides expert support and funding for development projects in both private companies and public bodies. The primary purpose of the expert support is to lower the threshold for launching development activities at the workplace and/or help the workplace make wider use in its development work of the know-how provided by experts (namely, outside researchers and consultants or internal coaches). Expert support has been available for three kinds of project: basic analyses, development projects and network projects (see Table 1). The main development tools of the program are listed in Table 1 (Arnkil et al. 2003; Piirainen & Koski 2003).

The FWDP is funded by the Finnish Government. The total budget of the program from 1996 to 1999 was 16 million euros, and for the second program phase from 2000 to 2003 it is approximately 28 million euros. More than 1000 workplaces and 100,000 employees in 520 projects have so far taken part in the program (the monitoring data covers the period January 1996 to August 2002). During the first period, the average duration of the development projects was 16 months and the average FWDP funding per project was 40,000 euros. In the second period the average length has been 21 months and average funding 53,200 euros. In terms of funding allocations, the largest sectoral groupings have been industry and construction followed by local authorities, which carry the main responsibility for basic education and healthcare services in Finland. The leading individual sectors have been metal and engineering, and municipal social welfare and healthcare (Arnkil et al. 2003).

According to recent evaluation, the projects of the FWDP have concentrated largely on certain development areas. The most common objectives have concerned learning at work and the organisation of working processes and working

Table 1. Main development tools of the Finnish Workplace Development Programme (in 1996–1999 and in 2000–2003) (Piirainen & Koski 2003)

Expert support

- subsidising the cost of enlisting the services of researchers or expert consultants used in the workplace development projects
- in ordinary cases, subsidies by the program cover no more than 50% of the project's costs
- in the case of SMEs and small public-sector organisations, the subsidy may be as high as 70%
- if the project is deemed to have special innovation value, or if it holds particular significance at a sectoral or national level, the subsidy may be even higher
- expert support could be granted for three kinds of project (basic analysis, development project and network project)

Basic analyses

- feasibility, or need studies; basic analyses are brief analyses lasting for a few months which work organisations can use in specifying their development needs with an eye to a larger project
- maximum level of expert support 5000 euros (for single workplace) or 8400 euros (for a network of workplaces)

Development projects

- intended to promote change in modes of operation at one or more workplaces
- concentrate on some of the following focus areas: promotion of new forms of work or work organisation, development of management and co-operation skills, development of human resources, promotion of the status of ageing and gender equality
- maximum level of expert support in first period was 67,300 euros and in second period 101,000 euros

Network projects (1997–2003)

- joint undertakings by several workplaces committed to mutual development co-operation in production or other areas
- the purpose is to create and test organisational innovation which could contribute to new modes of operation and enhance or secure employment in the businesses concerned
- differ qualitatively from other development projects in that they should have real novelty value, involve several businesses and have a stronger impact on employment
- no formal upper limit to expert support

Grants for theses (2000–2003)

- support for doctoral dissertations or licentiate theses written in connection with development projects accepted into the program
- maximum level of support is 8400 euros

Thematic seminars, web pages and publications

- for disseminating experiences and knowledge from experts to projects and vice versa
-

methods. Social relations at the workplace, internal networking (e.g. co-operation and communication of information between teams, units and departments) and personnel management have also been common goals. External networking, working capacity and coping at work have been themes in a good third of the projects (Arnkil et al. 2003).

2.2 Finnish innovation policy in the 1990s

The following actors are widely considered as key actors in Finnish innovation policy and science and technology policy.

- Science and Technology Policy Council of Finland
- Ministry of Trade and Industry
- Ministry of Education
- Academy of Finland
- National Technology Agency *Tekes*
- Finnish National Fund for Research and Development *Sitra*

The Science and Technology Policy Council is chaired by the Prime Minister and its membership consists of the Minister of Education, the Minister of Trade and Industry, the Minister of Finance, four other ministers, and ten other members well versed in science and technology (representatives of the Academy of Finland, *Tekes*, industry, universities, and employer and employee organisations). The government appoints the Science and Technology Policy Council for a three-year term. The main tasks of the council include the strategic development and co-ordination of Finnish science and technology policy as well as of the national innovation system as a whole, dealing with the overall development of scientific research and education and issuing statements on the allocation of public science and technology funds to the various ministries and fields (Niskanen & Neuvonen 2001).

The two most important ministries in the Finnish national innovation system are the Ministry of Education and the Ministry of Trade and Industry. The Ministry of Education acts as the general science ministry and it makes performance agreements with all universities every three years and channels other (basic research) funding through the Academy of Finland. The administrative sphere of the Ministry of Education consists of 20 universities, a network of polytechnics and the Academy of Finland with its four national research councils. The Academy is the central financing and planning body in basic and university research. It promotes high-level scientific research through individual projects, research programs, centres of excellence, research posts and research training. It also serves as an expert body on science policy issues (Niskanen & Neuvonen 2001).

The Ministry of Trade and Industry is responsible for industrial and technology policy and for the creation of preconditions for the development of Finnish industry and enterprise. In addition to trade issues, it also contributes to the establishment and growth of small and medium-sized businesses, the safeguarding of profitable business activities and the promotion of competition. The ministry also provides support for industrial research and development. The National Technology Agency *Tekes* belongs to the administrative arm of the Ministry of Trade and Industry and is the central financing and planning body of technical research and development. It is the principal source of public funding for applied technological research and industrial R&D. *Tekes* prepares, funds and co-ordinates national technology programs and provides funds for applied technical research and risk-carrying R&D ventures in industry. It also contributes to the preparation of national technology policy. *Tekes* supports primarily high-technology innovation (Niskanen & Neuvonen 2001).

Sitra is a relatively independent foundation under the supervision of the Finnish parliament. Its operating segments are technology transfer and seed finance, financing of growth companies, investment in venture capital funds, and strengthening the links between research and societal decision making through research and training. The fund was set up in conjunction with the Bank of Finland in 1967 in honour of the 50th anniversary of Finnish independence (Niskanen & Neuvonen 2001).

In Finland there has been a strong tendency – both among policy makers and innovation researchers – to examine innovation policy from the technology policy point of view. One central focus area of Finnish innovation policy, especially in the 1990s, has been the promotion of high-tech innovation and certain key technologies – ICT and biotechnology, for example. High-tech innovation, the national R&D system and the education system – especially the university and the polytechnic systems – have been seen to constitute the base of national and company competitiveness. The promotion of R&D expert networks consisting of top firms and top R&D organisations may be considered as a typical reflection of the predominant innovation policy. Within the last seven or eight years, technology transfer – within science and technology parks, centres of excellence and technology centres, for example – has also attracted more attention. In the last five years, the role of marketing and commercialisation of technology has been perceived to be of crucial importance as well. In conclusion, it can be said that the main elements of the Finnish innovation policy in the 1990s have been technology, science and (higher) education policies (Lemola 2001; Niskanen & Neuvonen 2001; Piirainen & Koski 2003).

2.3 Pursued innovation

The concept of 'innovation' is open to many interpretations, which makes it an ambiguous and complex concept. Innovations have been viewed from such stand-points as their scientific-technological relevance (radical and incremental innovations); the knowledge and skills exploited; the economic significance; the object of the innovation (product/process innovation, technological, organisational and market or marketing innovation); and the creation process of innovation. We compared innovation as understood by the FWDP with that perceived by the other key actors in Finnish innovation policy (see 2.2). As a result we identified the following similarities and differences:

Similarities

Both the FWDP and the key actors have focused on 'economically beneficial innovation' and 'network innovation'. However, besides network innovation related to R&D activities, the FWDP has also favoured production and service network innovation.

Differences

1. First of all and contrary to other key actors, the FWDP has not concentrated on technological innovation – instead it has striven for organisational innovation. The development program has focused particularly on internal organisational innovation although it has also promoted external organisational innovation (i.e. network innovation). The former concerns the internal relations of work organisations as well as the activities and practices within work organisations.
2. As the innovations desired by the actors in question have most often been targeted at the industrial sector, innovations pursued by the program have been directed not just at the industrial sector, but at the service sector as well.
3. The FWDP has not concentrated on generic, widely exploitable innovation. The innovations produced in the projects of the program are required to be more or less context-specific: to be solutions tailored to the concrete and therefore often specific problems expressed by the workplaces themselves.
4. As the afore-mentioned actors have focused on innovation made in or for firms, the innovations promoted by the FWDP are targeted at the public sector and at the third sector, besides the private sector.
5. The FWDP has not required that the innovation created in the projects should be able to be commercialised. In addition, because of the context-specificity mentioned earlier, the organisational innovations striven for by the program are often difficult to commercialise.
6. While the mainstream innovation policy has particularly pursued universally radical (technological) innovation, the FWDP has primarily sought (organ-

isational) innovation which is typically experienced as radical only at the workplaces applying this innovation.

7. The FWDP has not sought 'R&D expert innovation'; it has pursued 'user innovation' instead. One central premise in the program is that the organisational innovation created in the projects is not produced solely by some experts. The goal is that all workers are actively involved in these innovation processes.
8. The FWDP does not require that the innovation generated in development projects must be grounded on new scientific knowledge; existing research knowledge can be applied. In addition, the experience-based knowledge of the target organisation's personnel is supposed to have at least as important a role as the research knowledge of R&D experts.

In brief, in the Finnish context, the term innovation has frequently been connected with product development and development of new technology, especially new high technology. Innovation has also often been considered here as research-based, that is, based on new scientific knowledge; technology- and research-based innovation has commonly been regarded as 'real innovation'. This could be one reason why workplace development and organisational innovation – except R&D network innovation – have often not been recognized as crucial elements in Finnish innovation policy. Also, the fact that the FWDP is a development program, not a research program focused on producing new scientific knowledge, seems to make it difficult to some actors to consider it as an innovation policy instrument.

2.4 Innovation policy approach

We also contrasted the innovation policy approaches that the FWDP and Finnish mainstream innovation policy have rested on. In this comparison we used the following typology (see Table 2), which is derived from our innovation research literature review (including, for example, Schumpeter 1934; Kline & Rosenberg 1986; Lundvall 1992; Nelson & Rosenberg 1993; Rothwell 1994; Dogson & Bessant 1996; Edquist 1997; Lundvall & Borrás 1997; Hauknes 1998; Hauknes 1999; Lundvall & Christensen 1999; Schienstock & Härmäläinen 2001; Hauknes & Wicken 2002; Tuomi 2002).

Drawing from our analysis of Finnish innovation policy (Piirainen & Koski 2003), we conclude that the view behind this policy largely reflects the 'narrow systemic innovation policy' approach, which is strongly connected with R&D system and technological innovation (see 2.2). When the Finnish Workplace Development Program is viewed as an instrument of innovation policy, it has characteristics that are compatible with the policy aspects of the 'broad systemic innovation policy' approach (see Table 2). For example, the policy aim of the program is to promote innovativeness of Finnish workplaces and to improve their productivity

Table 2. 'Traditional innovation policy', 'narrow systemic innovation policy' and 'broad systemic innovation policy' (Pirainen & Koski 2003)

<i>Policy aspects</i>	Traditional innovation policy	Narrow systemic innovation policy	Broad systemic innovation policy
<i>Policy aim</i>	to produce economic growth through fostering technological development	to produce economic growth through fostering technological development and diffusion of technology	to promote innovation and growth without undermining social cohesion and well-being of people
<i>Base of national competitiveness</i>	– certain key technologies or branches – certain highly intelligent R&D experts or isolated top R&D units	– certain key technologies or branches – national R&D system – R&D expert networks (including top firms and top R&D organisations)	– the strength and learning ability of the whole economy – the structure of the production system – institutional set-up
<i>Pursued innovations</i>	technological innovation	– technological innovation – network innovation in relation to R&D system	– social innovation (e.g. organisational innovation connected with production, service and R&D system) – technological innovation
<i>Legitimacy of innovation policy</i>	market failures	market failures and system failures in R&D system	system failures in the broad innovation system
<i>Activities associated with innovation</i>	R&D activities	R&D activities	R&D activities and routine activities in production, distribution and consumption

without undermining the well-being of personnel (e.g. Alasoini 1997; Alasoini et al. 2002). In practice it is naturally very difficult to promote these different and also to some extent contradictory goals at the same time. If one focuses too much one or two of these aims, the others will suffer. For example, if the productivity or innovativeness of an organisation is overly emphasized, the stress of the personnel may increase and therefore their well-being will also most likely deteriorate, at least temporarily. It remains to be seen how well the FWDP and its projects have actually succeeded in sustaining a balance between these discussed goals, because there is not enough reliable data available to assess this. However, while analysing the team projects of the first program period (a sample of 59 projects), Vartiainen et al. (2000) came to the conclusion that positive results in the development of quality in work were obtained in 49% of these projects and in productivity devel-

opment in 39%. The results gained from analysis of the self-assessment data from the FWDP development projects were to some extent contradictory in comparison with the previous results. They indicated that the projects have achieved more positive results in the development of productivity than in quality of work (Arnkil et al. 2003).

Next we move on to compare the FWDP with 'broad systemic innovation policy'. In the FWDP, the learning ability of all work organisations and all employees is considered to be important for the nation's competitiveness and innovativeness, not just the learning ability of R&D organisations and R&D experts. Both the FWDP and the broad systemic innovation policy stress the importance of organisational innovations not only in connection with the R&D system, but also with the production and service system. Similar to 'broad systemic innovation policy', the program legitimates its action with systemic failures rather than with market failures. In this context the former set of failures includes the learning difficulties of workplaces, such as their difficulties to absorb new advanced modes of operation. If the FWDP had legitimated its existence with market failures,² it could have resorted, for example, to the following line of argumentation: "The existing 'workplace development markets' are not functioning properly in Finland and there occurs under-investment in workplace development". Finally, a central premise of the FWDP is that R&D activities and routine activities in production should not be regarded as separate. The pursued organisational innovations cannot be produced by some isolated R&D experts; all the employees affected by these innovations have to be involved in the innovation process. Furthermore, the ultimate aim of the program is that workplace development activities will become part of the routine activities of all employees.

2.5 Innovation strategies

The discussion about different innovation policy approaches may be connected with the recent discussions on 'low and high road' strategies of innovation. These discussions deal with the deviating effects of different workplace innovation strategies on employment and quality of working life (see Brödner et al. 1999; Alasoini et al. 2001; Hague et al. 2003). Organisations using the 'low-road' strategy of innovation seek to cut costs in order to become more flexible and efficient. Focusing on cost competition directs management's attention to raising operational effectiveness through continuous process improvement, often accompanied by a streamlined work organisation with no slack resources, numerical flexibility in the use of labour, no organised skills development, and utilisation of ICT mainly as a tool for further automation and centralised control. Hague et al. (2003) argue that a key feature that distinguishes 'high-road' from 'low-road' organisations

is that the former explicitly recognize the need to foster creativity. Thus, the organisations applying 'high-road' innovation strategy primarily aim at expanding business by developing widely and comprehensively using their human resources, learning and innovation capacities. Accordingly, the focus of 'high-road' organisations is on new business opportunities, on exploring demands for new products and services, on developing individual and collective competences, and therefore on high autonomy and ample learning opportunities in work processes for knowledge creation and appropriation, thus creating improved basic conditions of operation. High-road workplaces seek competitive advantage primarily from quality, customisation and balanced process and product innovation, supporting this by structural redundancy of resources, functional flexibility in the use of labour, broad participation of employees and genuinely team-based forms of work organisation (Brödner et al. 1999; Alasoini et al. 2001; Brödner & Latniak 2002; Hague et al. 2003).

A review was carried out of innovations applied and created at workplaces in connection with the workplace business strategies and their ways of using and managing human resources. As mentioned earlier, the mainstream innovation policy pursued in Finland in the 1990s closely resembles the 'narrow systemic innovation policy' (see Table 2). This policy approach does not concern itself with workplace level innovation strategies. Like the 'traditional innovation policy', the 'narrow systemic innovation policy' approach is also research- and technology-oriented and focused on supporting the generation and diffusion of new technologies. In general, these approaches are not interested in how the new technologies are utilised in businesses nor what kind of personnel strategies those workplaces creating or applying such innovations/new technologies have.

The 'broad systemic innovation policy' could easily be interpreted as promoting high-road workplaces. For example, this policy recognizes the importance of organisational innovations; it promotes innovations introduced in connection with the routine activities in production, distribution and consumption; and it pursues the development of learning ability of all personnel, not just R&D experts. In our evaluation the FWDP was assessed as having the characteristics of a 'broad systemic innovation policy' instrument (see 2.4). In the documentation of the FWDP it is also explicitly stated that the program promotes the development of high-road workplaces and that it does not support innovation strategies focused on cutting costs (Alasoini 1997; Alasoini 2000). The development and diffusion of high-road organisations have proved to be very challenging tasks. Hague et al. (2003) argue that 'low road' concerns currently dominate the thinking of many, if not most, managers and policy makers. In addition, research evidence has shown that the diffusion of high-road practices remains very limited (Benders et al. 1999). Again evidence is lacking of how well the FWDP and its projects have

succeeded in promoting them. However, in spite of this, we can conclude that, contrary to Finnish mainstream innovation policy, the FWDP has explicitly favoured 'high-road' innovation strategies in workplaces, at least at the program level.

3. From project-level learning to learning networks

The new systemic innovation policy approaches promote networking between and among different levels (e.g. international, national and regional) and actors of innovation systems. Networks and network-building are also considered to be an essential part of the diffusion of workplace innovations.

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. (Totterdill 2000)

Totterdill argues that public policy has a key role to play in changing this environment and that public policy must promote a wide range of opportunities for collective learning about the design and implementation of new approaches to work organisation, building broad communities of expertise at local and sectoral levels and creating new technical resources to support change (Totterdill 2000). Evaluations of the major national workplace development programs (Gustavsen et al. 1996; Gustavsen et al. 1997) support the argument that innovation is not an isolated phenomenon, nor peculiar to single enterprises, but arises from 'innovation systems', typically operating at a regional level.

The FWDP has organised three main processes, i.e. public relations, publications and mutual learning arrangements, for the purpose of disseminating knowledge and expertise. According to the outcomes of the stakeholder survey made in the FWDP total evaluation, the FWDP's brochures and other such materials together with its web-pages and research reports have been the most essential sources of information (Arnkil et al. 2003). The FWDP has also been active in organising different types of mutual learning forums. The participants in these forums have assessed them as being rewarding and productive both to themselves and to the workplaces they represent by strengthening their knowledge base. There is, however, no reliable way of determining to what extent the impact of these forums has exceeded the limits of participants and generated further exchange of experiences and development action.

The results of the FWDP total evaluation suggest that the FWDP has essentially been a workplace and enterprise development program. While individual projects were studied in the FWDP total assessment, it appeared that there had

been only very little action around exchanging experiences between enterprises and workplaces at the local level, organised independently by FWDP-supported projects (Arnkil et al. 2003). In addition, a typical project of the program takes place in one workplace or enterprise. In this respect the network projects – altogether 33 out of over 500 FWDP projects – have differed positively from the general development projects. In general, networks have been perceived as 'learning coalitions' and mutual learning arrangements between network partners have been the core element of these projects (Koivisto & Ahmaniemi 2001; Arnkil et al. 2003). Also research and educational institutes or private consultants and consultancy firms at regional level have not been showing much interest in initiating or carrying out network-building going beyond the limits of their own projects and organisation. This could be explained by the fact that there are no particular resources directed to this kind of activity nor other incentives and rewards available if contemplating getting engaged in such work (Arnkil et al. 2003).

Regional networks as such have not been a major target of the program. According to Alasoini (2001), this may be seen partly as a weakness of the program concept itself, partly as a weakness of the Finnish workplace development infrastructure in general. For example, working-life R&D units are very unevenly spread in Finland. An additional problem is that workplace development activities are situated in a 'grey' area between the spheres of action of different regional institutions, such as business support, technology development, labour market policy, education, research and general regional development agencies (Alasoini 2001).

In this respect an indicator of the FWDP learning policy is its strong emphasis on creating learning networks during a possible third phase of the program. According to the program manager, the next challenge for programmatic workplace development in Finland is, in fact, how to shift the emphasis away from the workplace level and more towards learning networks and gradually to the entire innovation system (Alasoini 2003). With the term 'learning network' Alasoini (2003) refers to a co-operative forum between companies and expert organisations, based on equal participation and confidential exchange of information and experiences, which is intended to help companies define their development needs and find solutions to their problems. Such networks may take many forms and may also include other participants, such as customers, labour market organisations, intermediate-level organisations or third-sector organisations. The expert organisations involved in these networks could typically be research and education institutions, consultancy companies and development agencies.

The real challenge facing this kind of 'learning network' is the great risk involved in the network building effort, necessitating the crossing of several boundaries within and among the participating organisations and the transformation, for example, of existing structures of power, with the attendant division of labour

between different occupational groups, and routines and practices of workforce and management. Bearing this in mind, one may expect time-consuming, multi-phased and even contradictory development paths in connection with these 'learning network' efforts.

4. Discussion

The FWDP has differed considerably from the Finnish mainstream innovation policy in the 1990s. For example, as the predominant policy has stressed technological, private sector and R&D expert innovations, the FWDP for its part has favoured organisational, private and public sector and user innovations. In addition, the vision behind the mainstream policy reflects a 'narrow systemic innovation policy' approach, which is strongly connected with R&D systems and technological innovations. However, the development program has characteristics that are compatible with a 'broad systemic innovation policy' approach: it has emphasized, for instance, the need to develop the learning ability of all work organisations and all employees, not just the learning ability of R&D organisations and R&D experts.

These differences between the mainstream innovation policy and the FWDP have most likely impeded the program's efforts to integrate workplace development with technology-oriented improvements and training of the workforce, and to become considered as an essential and widely-recognized part of the national innovation policy. Also, these obvious differences have most definitely made it difficult for the representatives of the mainstream policy to be able to detach themselves from their traditional policy views and consider the FWDP as an innovation policy instrument. The idea of workplace development as a separate field of policy may be seen partly as a result of the program's own activity. For example, the co-operation between the FWDP and other innovation policy actors and tools has appeared to be sporadic at policy-maker level as well as at project level. Besides this, the program's projects have strongly focused on improving the 'non-technological' aspects of the workplaces involved and so technology development and other work organisation development have most often not been combined in FWDP projects.

However, there seems to be some kind of paradigm shift going on in Finnish innovation policy which could bring the perspectives of the key actors closer to those of the FWDP. In its recent review, the Science and Technology Policy Council of Finland (2003) draws a great deal of attention to the relative weakness of social innovation in the totality of Finnish innovation activity. The Council regards the strengthening of this area together with the technological innovation activity to

be a major development challenge for society and the economy. The Council also argues that social innovation (including development of working life) in particular should be at the core of the national innovation system's development strategy.

The inclusion of social innovation into the Finnish policy debate and target-setting means a significant expansion of the innovation policy perspective. Until now, the technology-oriented innovation policy has largely defined the actors that are close to the science and technology policy as the key actors in Finnish innovation policy. The concept of social innovation offers an opportunity for the representatives of other policy areas to be recognized as significant actors as well. This shift of position may offer some opportunities for strengthening the views on the importance of organisational innovation as well as the FWDP itself. However, the need for social innovation will not automatically consolidate the position of organisational innovation. The recent expert interviews conducted by us in connection with the FWDP assessment demonstrated clearly that different actors have different conceptions about the content and goals of social innovation. This could be regarded largely as the result of differing viewpoints:

- *Free market point of view.* Approaching from the neo-liberalist or neo-classical economics point of view, social innovation can mean the deregulation of labour markets (e.g. the general validity of collective agreements made by employer and employee associations and minimum wages) or the streamlining and privatisation of the public sector etc.
- *Technology point of view.* Seen from the traditional technology-oriented innovation policy point of view, which is focused on promoting the creation and diffusion of high-technology, social innovation can refer to the creation of attractive and innovative environments for top high-tech firms and top high-tech experts; new and effective ways of using high technology (e.g. at company and at public sector level), which improve the economic efficiency of the organisations using this technology and which support the diffusion of new high technology.
- *Broad system point of view.* This approach is based on the broad system perspective, interested in balancing the negative developments caused by too much emphasis on free markets and new technology. This point of view could mean, for instance, (a) innovations to correct systemic failures of a broad innovation system, (b) innovations to reduce the negative effects of suboptimal use of innovation policy and other policies (e.g. social exclusion at regional and individual level, pollution of environment), (c) innovations to improve the sustainability of human organisation and activities (quality of human life and working life, quality of environment), and (d) innovations to support the sustainable adaptation of other parts of society (e.g. political and administra-

tive structures, laws, cultures and norms) to the transformation of economy and technology.

Finally we conclude that the lessons learnt from our FWDP evaluation can have a wider significance in terms of recent efforts to combine social innovation and national innovation policies in the EU region. In our opinion the FWDP can justifiably be considered to be a very interesting experiment to integrate social innovation into national technology-oriented innovation policy. However, it could be argued that the challenges associated with the merger of workplace development policy (including organisational innovation) into innovation policy are in general the same as the ones facing the integration of social innovation (e.g. political, institutional and organisational innovation) into existing national and regional innovation policies. Our analysis suggests that there may be a complex set of factors (e.g. historical, ideological, political and administrative) which could hinder the merger. If this is the case, we can assume that we will have a long and difficult road ahead of us before this goal is to be achieved.

Notes

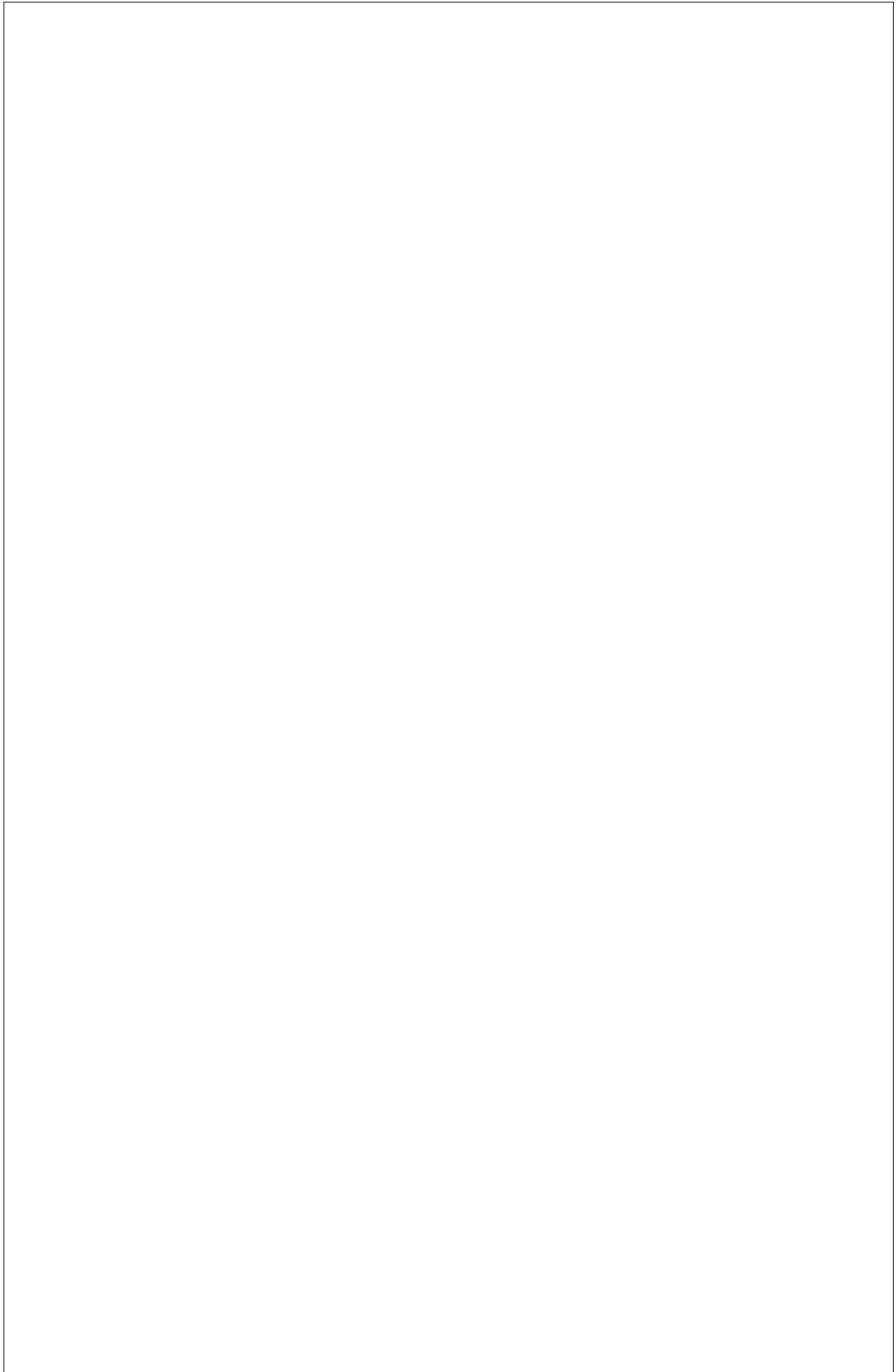
1. An important part of our FWDP evaluation was the interviews with the Finnish innovation policy key actors (see 2.2). Besides these actors, we also interviewed some other representatives involved in the operative management of FWDP and in financing working life research in Finland. All in all we conducted twelve expert interviews. The other data used in our study consists of literature review on innovations and innovation policy, the documents of the key actors in Finnish innovation policy concerning their own activities (e.g. annual reports, strategy papers, web sites), research documents on the above-mentioned key actors and Finnish innovation policy, and the documents produced by the FWDP.
2. The concept of market failure belongs to the sphere of neo-classical economics, which focuses on the problems of allocation in a general market equilibrium context. The market arrives at an optimum allocation of resources, as the individual players (firms, customers) respond to price signals in seeking to maximize their own satisfaction (i.e. to arrive at an optimal allocation of their own private resources). The basic perspective is one in which agents with given preferences and amounts of information engage in making rational choices in free markets. From a neo-classical economics point of view, the only legitimate justification for government intervention (including innovation policy) is the correction of market failures. Market failure occurs if prices are not determined by the forces of supply and demand and the two remain at disequilibrium.

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The UK Work Organisation Network

A national coalition for working life
and organisational competence*

Richard Ennals, Peter Totterdill and Campbell Ford

Introduction: The legacy

This paper describes the emergence of the UK Work Organisation Network (UK WON), a new development organisation which is the driving force behind an increasingly broad network of actors concerned with the relationship between working life, productivity and work organisation. Its history may be of benefit to EU applicant countries whose accession depends on their ability to meet European policy standards in employment, working life and social inclusion, as well as to existing Member States struggling to build a policy framework capable of achieving the principal pillars of European strategy.

The literature on action research and organisational renewal shows a significant contribution from the UK in previous decades, helping to lay the foundations for programmes across the world and in particular Scandinavia. However the period of Conservative government in the UK from 1979 to 1997, with its emphasis on market forces and a disapproval of state intervention, meant the abolition of tripartite structures such as the Manpower Services Commission and National Economic Development Council. It also meant the removal of research funding from the Work Research Unit, which had led a portfolio of initiatives to develop workplace partnership and teamworking.

Loss of the Work Research Unit left a particularly significant gap in the UK's capacity to promote change in work organisation and working life. The Unit had its origins in a 1971 Government Inquiry into problems of employee motivation, job satisfaction and the wider impact on employment and competitiveness. This reflected international concerns about the damaging effects of automation, the dehumanisation of work, employee alienation and a growing awareness of the need for industrial democracy.

As a result of the Inquiry the Work Research Unit was established in 1974 within the government's Department of Employment. It received guidance from the "Tripartite Steering Group on Job Satisfaction" which drew membership from the social partner organisations as well as the Department. The Steering Group was chaired by an Employment Minister.

The role of the Unit was modified over the years as the needs of business changed. Knowledge and awareness of quality of working life (QWL) also grew, emphasising job design, work structure, organisational development and the management of change. In particular the Unit's approach changed from traditional investigation and research to action research relating to QWL. In 1995 the Work Research Unit was transferred to the Advisory Conciliation and Arbitration Service (ACAS), an independent body charged with promoting the improvement of industrial relations, but this was subsequently closed as an economy measure.

To the extent that government retained any concern to promote good practice in micro-management amongst the country's employers, the major emphasis was on quality. However 'quality' in this context had a rather narrow meaning. Rather than an inclusive approach in which the quality of the final product or service was seen as intricately related to the quality of working life, the emphasis was on management use of statistical processes to exert more control in the workplace.

The Thatcher and Major governments had opted out of several European measures relating to employment and social policy, pursuing a model of UK competitive advantage based on undercutting continental rivals through the reduction of social costs. In essence this reflected a 'low road' approach to productivity and competitiveness, grounded in a belief that British firms could compete in price sensitive markets albeit at the expense of jobs and welfare. As a strategy for competing in global markets it was doomed to failure. Not only were wage and production costs far lower in the developing economies but intense price competition reduced the margins available for reinvestment. Likewise there was a far-reaching failure to build a highly qualified workforce whose knowledge and creative potential could be used to promote innovation and value-added products and services.

In short, lack of an effective policy framework for working life placed the 1997 Labour government in a poor position to address EU priorities based on the Luxembourg Summit's four pillars of employability, entrepreneurship, adaptability and equal opportunities.

New beginnings

On election, the new government immediately made some highly symbolic decisions. It agreed to sign and implement the Social Chapter of the Maastricht Treaty and the UK rejoined UNESCO, having withdrawn at American insistence in 1985. Whereas the Thatcher and Major governments had systematically dismantled the apparatus of tripartite dialogue and had been actively hostile to trade union interests, the new administration began to re-open some of these channels. Early implementation of the Labour Party's commitments to a minimum wage and improved trade union rights seemed to presage a more discursive and inclusive style of government. However it became equally clear that the full machinery of pre-Thatcher tripartism would not be rebuilt.

Overall the direction of the new government appeared encouraging. It was also in line with the European Commission's 1997 Green Paper *Partnership for a New Organisation of Work*, which challenged the persistence of Taylorism in the workplace and saw emerging approaches to work organisation as critical for future innovation, productivity, competitiveness and employment in Europe.

There was a problem. Ministers declared that for the first two years there would be no change from the spending plans of the outgoing government, so little money was allocated to meet new policy commitments.

This was the situation facing those in the UK who wanted to develop an approach to productivity and innovation in line with the general direction of European policy, but which also reflected the distinctive features of the UK. UK WON represents an attempt to pursue this objective.

Even the UK's absence from active participation in Europe at a governmental level did not prevent involvement by individuals, organisations, sectors and regions. Europe was an arena for discourse if not necessarily for national consensus.

The origins of UK WON can be traced to a growing realisation that the EU itself lacked a coherent response to the emergence of new forms of work organisation. According to the EU's Expert Group on Flexibility and Work Organisation: "Models for the future shaping of company structures and organisational competence have become one of the determining factors for the future competitive strength of European enterprises" (Commission of the European Communities 1995). Yet major EU policy instruments such as the European Social Fund paid little attention to the problematic nature of new forms of work organisation, ignoring the twin threats to employment and innovation posed by the 'low road' of cost-driven change on the one hand, and the 'no road' of inertia characteristic of many companies on the other. At best, EU policy measures supported individuals in developing new competencies relevant to the emergence of new forms of work organisation but neglected the development of the *organisational* competen-

cies which could make full use of the employee's talent and creative potential in the workplace.

DG V (now Employment and Social Affairs) of the European Commission agreed in 1995 to support the development of a *Medium Term Plan for Collaborative Action* which would identify:

- the principal characteristics of the new forms of work organisation emerging in Europe;
- reasons for the major gap between leading-edge practice and common practice in European workplaces;
- strategic choices and prospective interventions by policy makers at EU, national and regional levels.

These tasks were undertaken through the creation of the European Work and Technology Consortium (EWTC) chaired by Peter Totterdill of Nottingham Trent University, who brought together 13 partners from 10 Member States including universities, research & development organisations, national ministries and regional development agencies. The Consortium took a wide range of actions including the collection of case study material,¹ the appraisal of several national and regional policy initiatives, an assessment of methods to support workplace change and the development of specific policy recommendations.

Underpinning the Consortium's approach was an analysis which argued that the real source of Europe's competitive advantage lay in the capacity to continually reinvent products and services in ways which cannot easily be imitated by competitors. Successful organisations in the near future will be those most effective in turning the tacit knowledge and creative potential of all employees into a resource for product and process innovation on a continuous basis. Not only can traditional approaches to management and work organisation not achieve this but some newer, cost-driven models of change ('the low road') actively undermine it (European Work & Technology Consortium 1998). For many Consortium partners the priority was seen to lie in articulating a rejection of the 'lean production' concepts then characteristic of much US thinking (Womack, Jones, & Roos 1990), developing in its place an approach grounded in European traditions of social partnership yet updated to reflect the need for adaptation to an innovation-based economy.

The Consortium argued that evidence from innovation-based models of change grounded in workplace partnership ('the high road') demonstrated clear benefits in terms of competitiveness, employment and quality of working life. This approach has recently been revalidated by other key organisations (OECD 2001). However many obstacles prevent wider dissemination across Europe. The Consor-

tium proposed (European Work & Technology Consortium, op. cit.) that priorities for action by public policy makers and social partners should include:

- a clear commitment to ‘taking sides’ in favour of the high road and against short-term low road approaches;
- the creation of a European public sphere of knowledge, capturing and distributing experiences from workplaces within an integrated process of collective and cumulative learning;
- strengthening ‘the third task’ of universities, enabling them to provide managers and employees with knowledge of evidence-based practice in more effective and relevant ways;
- building centres of excellence at regional level to promote the development and dissemination of new forms of work organisation;
- encouraging more proactive roles for trades unions and employers’ organisations;
- creating more opportunities for inter-company exchanges of experience through the establishment of learning networks.

EWTC organised a conference in Bologna in May 1997, opened by the Italian Prime Minister Romano Prodi. Four volumes of detailed reports were delivered later that same year providing much background evidence to the *Partnership for a New Organisation of Work* Green Paper consultation process. Richard Ennals was a member of the Quality Review Panel which undertook an independent assessment of the Consortium’s outputs and actions.

Analysis of the broad European context drew particular attention to the policy and capacity deficit in the UK. At The Nottingham Trent University Peter Totterdill, Jeremy Hague, Jessica Sherrin and other colleagues had worked since 1993 on a portfolio of initiatives designed to bridge academic knowledge and the needs of practitioners including practically-focused research, the development of new change tools and materials, the creation of inter-company learning networks and the provision of hands-on support for workplace change. Experience gained during their involvement with the European Work & Technology Consortium demonstrated a serious comparative disadvantage with colleagues in countries which enjoyed a more coherent policy and institutional framework.

This disadvantage is not simply related to the ability to access financial support (though finance continues to be a major source of concern) but to the fragmentation of effort between organisations active in the promotion of new forms of work organisation. Organisations as diverse as local authority economic development departments, trades unions, employers’ organisations and universities were involved in small scale initiatives to develop, disseminate or research new approaches to work organisation with little awareness of each other, little op-

portunity to achieve synergy or critical mass, and no mechanism to capture and distribute the resulting knowledge. At the same time these small-scale activities were an invaluable source of innovation and pluralism.

Given the long-term absence of national institutes or policy units concerned with working life, and the absence of public funding to establish new structures under either Conservative or Labour governments, a strategy for the UK needs to reflect this pluralism. It has been observed² that networks will become the prime organisational form in the 21st Century. Some 93% of enterprises are medium sized or small and many are microscopic. Increasingly their ability to compete depends on the strength of their inter-relationships with each other: their capacity to form and reform clusters in ways which are both agile and proactive. In this highly dynamic context the traditional policy paradigms characteristic of the nation state must be seen as increasingly archaic. At the global level national boundaries are simply too small to define or contain the knowledge, expertise and mechanisms needed in a complex economy. At the level of action, national state bureaucracies are beginning to look far too lumbering and out of touch to intervene in ways which are relevant or effective. Successful change in a complex economy is more likely to be fostered by networked reciprocity (Knell & Harding 2001) between diverse actors than by centralised state programmes. In the case of UK WON this perspective has been fundamental to its emergent strategy.

In 1996 a network of organisations concerned with work organisation and workplace partnership began to emerge, based on informal round table meetings in Nottingham of researchers and practitioners from several organisations. At first UK WON was little more than a loose coalition but in that capacity it provided valuable, if unpaid, consultancy to government departments responsible for the 1998 UK European Presidency Conference on the Green Paper *Working Together*, held in Glasgow. UK WON was cited as a leading body in the field by the subsequent government report on the event.

Throughout the Green Paper consultations many EU governments and employers' bodies argued that regulation to promote the modernisation of work organisation was unnecessary and would be counterproductive. This was reiterated by Ian McCartney, the UK government's Minister for Competitiveness who chaired the Glasgow conference. Without examining the validity of the argument here, it nonetheless imposes an expectation that Member States will demonstrate the effectiveness of measures to encourage change through *animation* rather than regulation. To date this expectation has not been fulfilled by the UK government nor by measures introduced by the EU.

In 1998 UK WON strengthened its organisational structure through the creation of a National Strategy Board representing the social partners, universities, national business support organisations and policy makers. The Board was chaired

by Lord Terry Thomas (former Chief Executive of the Co-operative Bank) and Campbell Ford (then Assistant Director of Strategy at ACAS). From late 1998 UK WON began to secure successive (if discontinuous) grants from the European Social Fund and Department of Trade & Industry. The three major projects (each of £0.25–£0.5 million grant) secured between 1998 and 2001 have typically involved upwards of 12 research, social partner and business support organisations in collaborative actions. Each project has been broadly based on the following objectives:

1. **Core Capacity.** To build UK WON's central capacity to support workplace innovation. Actions include the strengthening of relationships with partners including trade unions, employers' organisations and other coalitions such as the National Occupational Health Forum.
2. **Research and Knowledge.** To develop a national programme of research and knowledge creation in order to establish a learning resource for employers, trade unions, business support organisations and policy makers. Research is focusing on:
 - drivers for change
 - the characteristics of change
 - benefits of change
 - obstacles to change
 - how organisations learn to change
 - lessons for stakeholders
 - the successful, long-term implementation of sustainable change
 - the employment and organisational aspects of 'the new economy'.³
3. **Evidence-based approaches to change.** To create tools and materials designed to support evidence-based approaches to the implementation of team-based practices, workplace partnership, creativity, knowledge and virtual organisations. Actions include:
 - the development of a UK WON website as a learning resource, capturing an extensive body of research and experience for the benefit of employers, trade unions and business support organisations;
 - the creation of innovative tools to support the implementation of team-based practices, workplace partnership, creativity, knowledge and virtual organisations.
4. **Regional Learning Networks.** To create a growing number of regional partnerships across the UK committed to the development and dissemination of new forms of work organisation (a) by providing spaces for leading business actors to think creatively and strategically about organisational challenges within

a 5–10 year timeframe; (b) to provide systematic opportunities for peer exchange and collaborative learning about evidence-based approaches to change in work organisation. At the time of writing (mid-2003) the focus of effort has been on activities in the East Midlands and South West of England. In each region a number of interconnected activities are being established including:

- a high-level ‘thinktank’ group of senior managers from up to ten organisations in the region, each with a common interest in exploring issues associated with the future of work;
- a regular programme of activities open to all firms and employees, focusing on sharing experiences of innovative practice and disseminating research outcomes;
- dialogue involving local trade union representatives, employers’ organisations and public policy makers.

In the East Midlands, a further programme has been developed to provide opportunities for learning and innovation in work organisation for small and medium enterprises.⁴ Regional activities will also spread to other parts of Britain during 2004.

5. **National Dissemination Activities.** To build an interrelated series of activities and resources designed to raise awareness of the importance of new forms of work organisation for competitiveness and employment, and to disseminate evidence of leading edge practice to the widest possible audience. Activities include:
 - publication of the *UK WON Journal*⁵ a quarterly magazine highlighting key experiences, issues and solutions, to be widely distributed to enterprises, trade unions, public policy makers and business support organisations;
 - publication of a research paper series;
 - a high profile annual conference bringing together enterprises, trade unions, business support organisations and the public policy community;
 - establishing the feasibility of a forum for national trade union officials to identify and analyse emerging approaches to work organisation, initially comprising 8–10 senior representatives acting as an informal ‘commission of enquiry’;
 - publication of articles in newspapers and business journals;
 - creation of a consultants’ forum, enabling participants to exchange experiences and to learn from evidence-based approaches identified in other Workpackages.
6. **Public Policy.** To build sustained dialogue with public policy makers at European, national, regional and subregional levels concerning the significance of

work organisation for economic development and employment, to evaluate existing policy structures and to identify policy development opportunities. Actions include:

- raising the UK's contribution to the EU debate on work organisation through participation in the European Work Organisation Network (EWON, a consultative group on policy development) and through other contacts with the Commission;
- group discussions on support for overcoming obstacles to new forms of work organisation, involving participants from enterprises, trade unions and business support organisations;
- development of a national work organisation policy forum with participation from leading government departments, leading to the preparation of policy papers evaluating existing initiatives and identifying opportunities for further action;
- dialogue with regional development agencies and policy makers.

At the end of 2000, following extensive discussion within the Network about the type of organisation it wanted to be, a company limited by guarantee was created by key partners to manage core UK WON functions on behalf of the wider Network. Known as the Work Research Foundation (WRF) the company now has a Board of nine:

Professor John Bessant (Cranfield University)
 Peter Cressey (University of Bath)
 Willy Coupar (Involvement & Participation Association)
 Michael Davis (Centre for Enterprise)
 Professor Richard Ennals (Kingston University)
 Dr. Dave Francis (CENTRIM, University of Brighton)
 Campbell Ford (WRF Company Secretary and Joint Chief Executive)
 Professor Peter Totterdill (Nottingham Trent University/WRF Joint Chief Executive)
 Juliet Webster (independent researcher).

The Work Research Foundation's relationship with the wider UK WON Network is complex. In essence the WRF team drives UK WON by defining its objectives, securing funding and managing projects. However members of the wider Network play key roles as participants in expert seminars and as invited partners in specific projects. Increasingly they will also share knowledge and experience through the UK WON website which will eventually become a national clearing house for data on work organisation.

However the WRF Board is keen to ensure that social partners and public policy makers are visible stakeholders in UK WON. A UK WON Advisory Board,

chaired initially by the late Lord Derek Gladwin, was launched in September 2001 to represent wider interests including national employers' organisations, trade unions, professional bodies and public policy makers. The Advisory Board is an important forum for dialogue and creative thinking about work organisation, and members will build connections and synergies between the work of UK WON and their own constituencies. A Project Development Group was created with active social partner involvement to broaden UK WON's capacity, building a portfolio of projects around key objectives.

However, resourcing is a continuous problem. UK WON is preparing a range of funding bids which could secure its medium-term growth but it must also be prepared for a retreat into 'powersave' mode. Most funding regimes allow no more than a one or two year horizon. UK WON's impact is undeniably limited by a lack of core funding as well as by the intermittent and highly bureaucratic nature of project-based support in the UK. In turn this reflects the low profile which work organisation continues to have within the national policy framework compared with many other Northern European countries.

Building and sustaining UK WON has been an action research process, testing and evaluating new structures in places where they have not existed before. Each partner has needed to see benefits from involvement at every stage and the network needs to be strengthened and renewed on a continuous basis. This takes commitment and resources qualitatively and quantitatively different from the administration of traditional central government programmes.

Towards an eventual national policy framework?

The annual *UK Employment Action Plan* regularly emphasises the need to spread leading-edge practice in workplace partnership and work organisation, citing emerging activities led by the social partners and UK WON. As the government's 1998 Competitiveness White Paper correctly argues, new knowledge-based resources are needed to support change at enterprise level. Yet as we have argued there is a high level of fragmentation in public policy, business support and the distribution of knowledge and expertise. UK WON's experience also demonstrates the scope for new forms of active brokerage, animation and exchange between key actors. However UK WON and other network organisations function most effectively within a coherent national policy framework.

The current framework led by the government's Department of Trade & Industry (DTI) includes a wide range of individual initiatives including dissemination of 'best practice' through websites and publications, grant schemes and the direct delivery of business services to companies. Many of the components for an

effective strategy to promote workplace innovation have been correctly identified and some very successful individual initiatives are in place. A prime example is the *Partnership Fund* which supports small-scale projects to change work practices based on collaborative action between management and employees. To date a diverse range of projects has been funded, addressing changes such as teamworking, continuous improvement, working time, family-friendly practices and telework. Most projects focus on change in individual workplaces though in some cases they involve the wider dissemination of good practice. While a formal evaluation has yet to be published there are encouraging signs that the *Fund* is producing positive results and that the initiative will be refined and expanded. Moreover it is stimulating a process of learning and reflection inside the DTI which should benefit the long-term renewal of industrial policy.

Yet overall, DTI policy demonstrates a marked lack of coherence with little sense of how different actions might work together to achieve a cumulative impact. The DTI is characteristically project-driven rather than strategy-driven: Competitiveness White Papers typically read like a shopping list of quite separate initiatives, each with a different internal logic and no explicit decision rules about how to select appropriate types of intervention for particular problems. The efficacy of different types of intervention and their applicability to different problems need to be explored in a more rigorous way. This includes decisions about when it is appropriate to deliver a service directly, when it should be contracted out to another organisation or when a network of external actors should be resourced to achieve the same result in different ways. Moreover indicators for measuring the impact of DTI policy on business performance remain seriously underdeveloped.

Mainstreaming of key policy agendas in the work of other agencies is also a problem. The English Regional Development Agencies (RDAs) and the comprehensive Small Business Service (which provides business development support to SMEs at local level) rarely provide active support for workplace innovation.

In summary there is an overall failure to build an effective knowledge landscape for enterprises seeking evidence-based approaches to change. Yet in the UK context an effective approach to the enhancement of competitiveness and employment, including new forms of work organisation, inevitably involves strengthening the position of the DTI and its leadership role within government. The aspiration must be for the DTI to become a focal point for new thinking, reflection, shared learning and collaboration notwithstanding that this will require profound changes in its culture, organisation and mission.

At the same time UK WON embodies a rich and diverse community of public and private organisations working to achieve comparable goals to those of the DTI. Critically the DTI needs to recognise that there are many things which other types of organisation can do – are doing – more effectively than it can. It needs

to facilitate inclusive networks of expert, service and social partner organisations. It needs to create more spaces for independent capacity and intervention – ‘policy entrepreneurship’. UK WON and other coalitions can be a powerful resource for dialogue between multiple partners, for knowledge capture and distribution, for network and capacity building, and for disseminating leading-edge practice by using its diverse constituencies to drill deep into the business community. DTI strategy needs to become a collective, networked strategy if its interventions are to harness the full potential range of knowledge and creativity and to add real value to the economy.

The ability of network organisations such as UK WON to work in synergy with DTI goals needs, however, to be built and nurtured. Their effectiveness is severely constrained by the short-term nature of public project funding and a preoccupation with quantifiable targets (it is easier for auditors to measure, for example, the numbers of companies involved in a programme than the quality of relationships in a network). Capacity building of the sort under discussion here requires a real commitment of resources by the DTI. While some types of network (such as those for inter-company learning) can become sustainable, the ability to build, reinvent and deepen coalitions should be regarded as part of the core function of industrial policy in a knowledge-driven economy.

Conclusion

This paper, prepared by authors closely engaged with the establishment of UK WON, was written from inside the process with the clarity that comes from hindsight. It seeks to be reflexive and invites responses from other ‘policy entrepreneurs’ operating beyond the limits of formal state policy.

The paper is written against a background of growing unease about the seeming failure of the European Commission to define a coherent strategy in response to the challenges identified in *Partnership for a New Organisation of Work*. In the years since the first publication of the Green Paper there have been no new measures designed to build capacity or to animate workplace change. No significant agreements have been reached with social partners. Even the European Social Fund, a major resource already available to the Commission, pays only lip service to the modernisation of work organisation.

The preparation of this article also takes place against the background of a fundamental appraisal of the role of the Department of Trade & Industry, instigated by the new Secretary of State after the June 2001 General Election. In particular the effectiveness of the DTI’s role in the delivery of business support is being subjected to detailed scrutiny.

The 2001 UK *Employment Action Plan*'s commitment to the modernisation of work organisation and the successful development of the DTI *Partnership Fund* can be seen as encouraging signs. However the ability of the DTI to learn appropriate lessons from the European experience of policy and to respond to the issues raised by UK WON may depend in large measure on the outcome of the Secretary of State's current review.

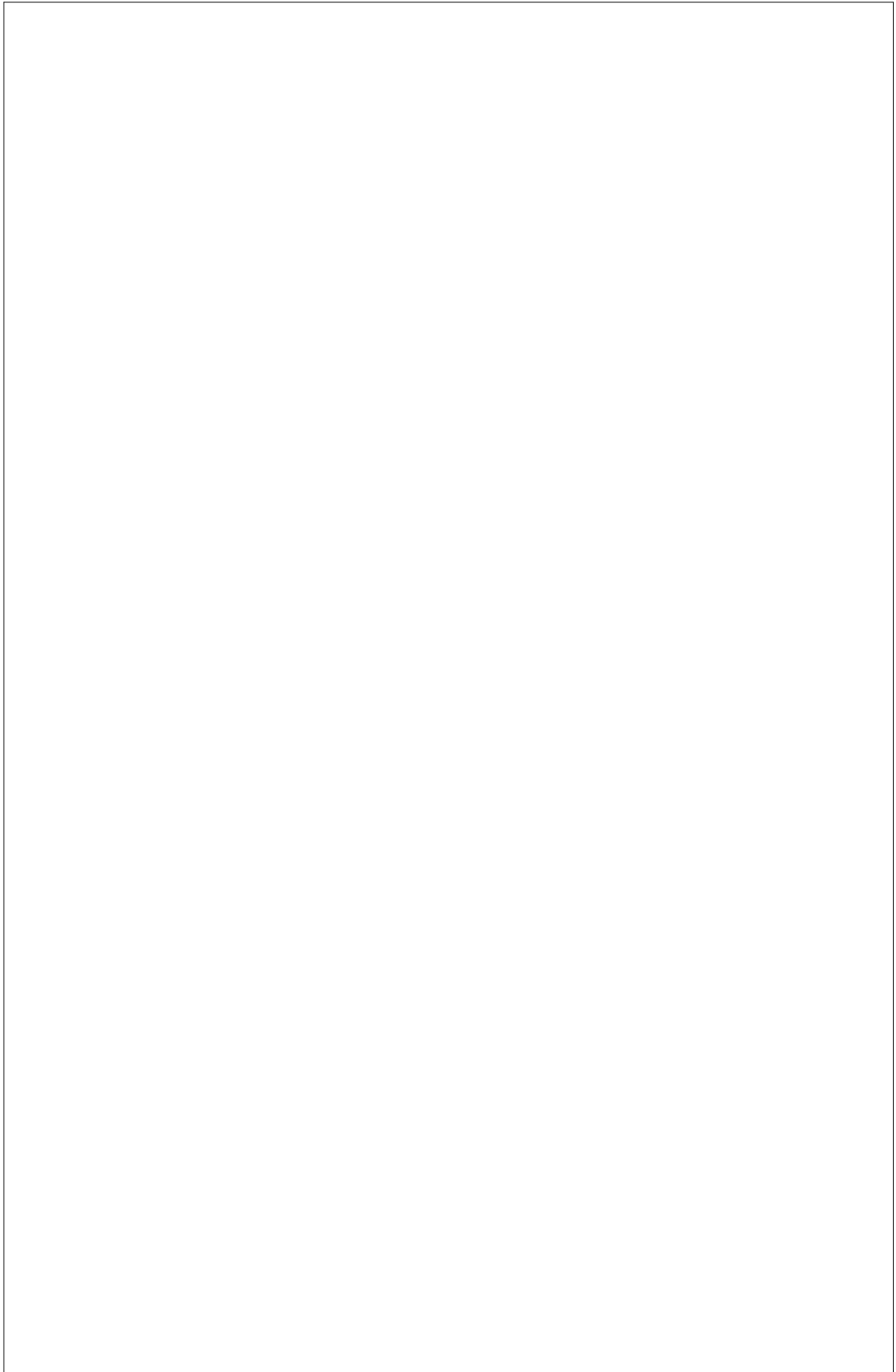
Notes

* This is an extended and updated version of an article which appeared in *Concepts and Transformation* Vol. 6, No. 2, 2001.

1. Unpublished, but a selection of the case studies can be found at www.UK.WON.net
2. By Will Hutton, Chief Executive of the then Industrial Society – a UK thinktank and training organisation concerned with work, and a key stakeholder in UK WON.
3. See www.UK.WON.net
4. See www.oilslick.org
5. Published through www.UK.WON.net

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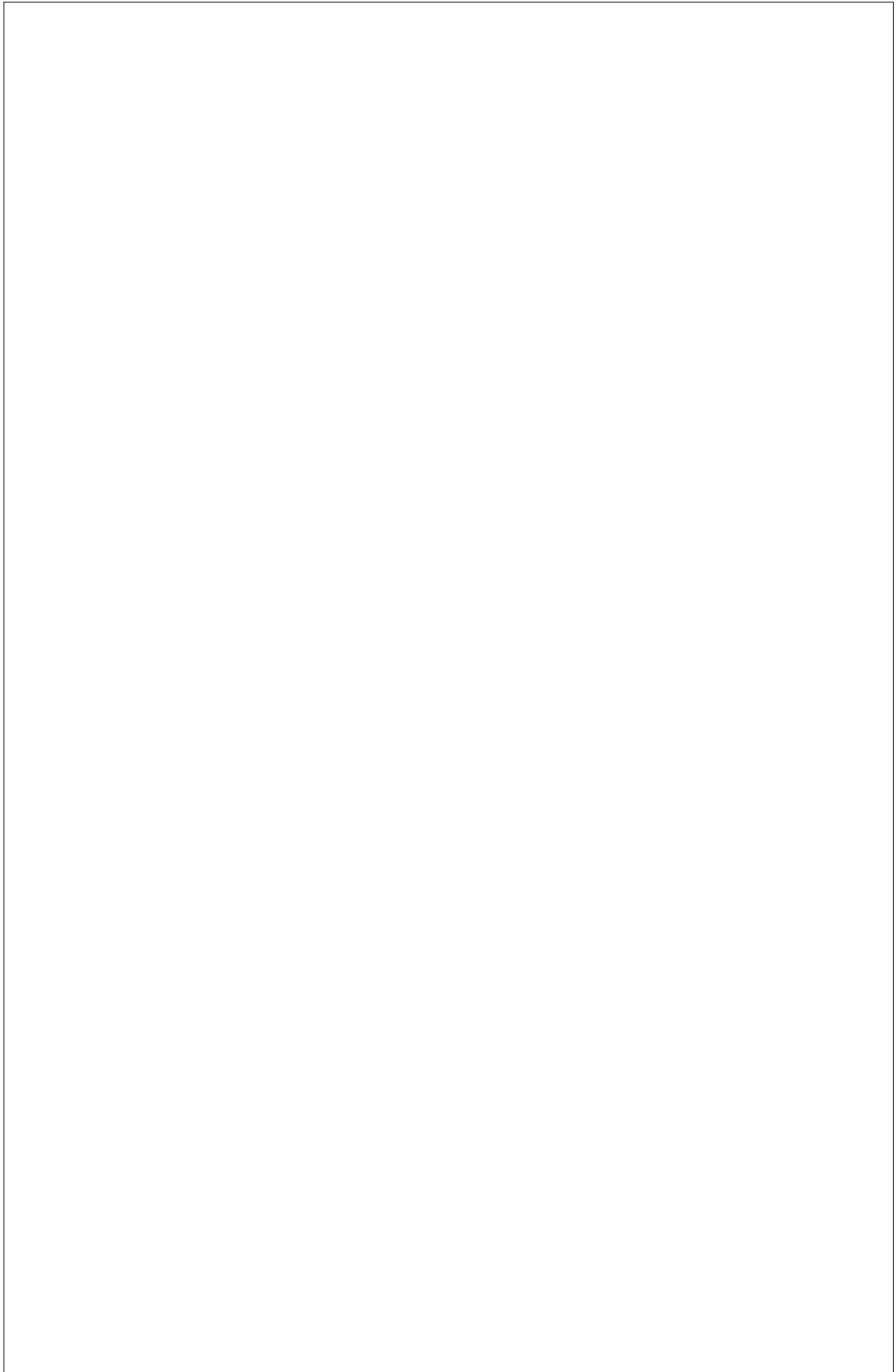
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