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A NEW DIVISION OF LABOUR

The “projectification” of working and industrial life

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Introduction

A New Division of Labour is appearing in many parts of the working- and business life. The localisation, the endurance and the borders of organisations are changing. Organisations with new forms and activity are often replacing the old ones. But also many old organisations are transforming into new forms and new activity. The work situation of individuals is closely linked to the form of organisation where they work. In other words, the organisation is part of the working life as well as the industrial life. Changes in the organisation of the industry will consequently affect conditions in the working life. The overall argument of this paper is that *long run changes of the use of time and space in organisations will affect working conditions* like contracts (formal and informal), health, knowledge formation and responsibility. General trends like automation and international division of labour (outsourcing, off shoring) will most likely lead to a “servicefication” of the industry and the industry related parts of the European economy. *The increase of service activity leads in turn to the use of more and more temporary solutions in organisations.* The transformation to temporary organisations (project organisation) and the relation between permanent and temporary organisations must therefore be considered when trying to understand the future of European Working Life.

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It is well known that during the last few centuries, there have been great changes in terms of what kind of products the majority of people are engaged in producing. The shift from producing agricultural products, via industrial products, to producing services has been very dramatic. For more recent years, Giertz and Larsson (2000) have made an alternative division of the Swedish labour force based on organisational, competence and market similarities between industries. According to this division, during the 1990s, there was a dramatic reduction in job opportunities in large workplaces engaged in product manufacturing, retailing and stationary health care, at the same time as, mainly in smaller workplaces, there was an increase in local manual service production, knowledge-intensive activities, stationary care, distance support and education. These tendencies can also be traced in most European economies, even if the transformation comes earlier in Sweden than in almost any other country. The traditional car factory is evidently becoming obsolete as a role model for the way organisations are formed. However, it is still part of our way of thinking and of many European institutions.

There is a connection between the content and direction of economic activity and the organisation form, including the way work is organised. This can be illustrated for example by the decentralisation in agriculture, the far-reaching division of labour in traditional manufacturing, and the predomination of project organisation in the construction sector. Naturally, there are exceptions, but they rather confirm the rule. The organisational form is in turn the foundation for industrial relations in a broad sense. In modern agriculture, individuals are often working independently and alone on an irregular time basis, while in the manufacturing sector, individuals are often involved in only one part of a given production process. In the construction sector, one finds a totally different form of organisation; individuals work in teams with different members and at different locations over time. When comparing “industrial relations” in IT and construction companies in England and Sweden, it was found that the organisation forms were evidently influenced by the activities and the branch (Elvander & Elvander-Seim 1995). Actually, there was a much stronger relation between workplace relations and branch characteristics, than between specific characteristics of Swedish and English national systems of industrial relations.

The question is to determine what shifts of directions that are going to have a profound effect on working life. In the general debate, there is a tendency *to overvalue certain short-term*

signs, at the same time as other long-term tendencies are being undervalued. At the end of the 1990s, the attention the so-called New Economy received was almost hysterical, at the same time as the long-term automation of the industry seldom made headlines. However, the latter has had profound consequences both regarding number of employees and regarding the performance of the work, i.e. from physical to supervisory work.

To understand what is taking place we have to look for new models. An important book that describes the development of the late 20th century is “The second industrial divide” by Piore & Sabel (1984). The book describes the first divide as the transfer from manual production to mass production, which took place around the previous turn of century in the United States and somewhat later in Europe. Persons like Taylor, Ford and Fayol have come to be associated with this dramatic transformation. Now a second “divide” seems to be at hand. The indifference of mass production to the increasingly more complicated variations of what people and other companies demand becomes apparent. Piore & Sabel see “the Third Italy’s” model for “flexible specialisation” as a system for dealing with this. The well-organised co-operation (the Italian industrial districts are formally sanctioned by the State) allows small companies to keep up with the competition in important and demanding market segments. In many cases, advanced design and rapid adaptation to customer demands can beat high-tech mass production. When Castells (1996) approximately a decade later tried to describe the organisation of the production system in what he calls the network society, it is still Piore & Sabel who are the main source (whose research in turn is based on Italian researchers such as Brusco and Lorenzoni). The organisational transformation has also been related to a general idea of that we are in the middle of a “Third Industrial Revolution” (Magnusson, 1999) or at a beginning of a “Neo-Industrial order (Ekstedt et al, 1999). The concept “the third industrial revolution” has by the way lately been repeated by the well-known author Jeremy Rifkin (2007).

The importance of the institutional environment for the development of the Third Italy has gained a lot of attention. Djelic (1998) has shown that the American management ideals, of among others divisionalised large companies, did not get a foothold in Italy in the same way as for example in Germany and France. Porter (1990) is one of several who have had the Italian districts in mind when arguing for the importance of cluster formations for economic development. Also Putnam (1992) started from this point when discussing trust and the importance of social capital for, among others, economic development. He contrasts this with

the development in the United States, where he in a later book (2000) believes he is seeing a shrinking social capital in a society full of lonely people. However, it should be mentioned that the focus of these authors is not directed directly towards working conditions.

With a starting point from a number of international sources, Zuboff (the author of *In the Age of the Smart Machine*) and Maxmin (2002) mean that there is a decline in trust among consumers and employees for large companies and other large organisations, such as hospitals and schools. The organisational and managerial form called "managerial capitalism", which once was developed to provide mass production, is no longer able to meet and satisfy the demands of well-informed and demanding customers/clients and employees who want to have control over their own situation and be able to make some of the decisions. This is underlined by Beck (1992), who means that the development the last few decades has encouraged people to demand the right to develop their own perspectives and to be able to act accordingly. Having made a broad international comparison, also Ingelhart (1990) made similar findings; individuals perceive that it is increasingly more important to be able to influence their own organisational situation.

Managerial capitalism was developed to meet the demands of mass production. The product's attraction on the consumer was tested by means of "exit" mechanisms (take it or leave it) and closer relationships with the customers were avoided, although some management literature spoke warmly of "customer focus". Surrounding institutions that regulate the companies' transactions and the employees' working conditions are adapted to this main model. Furthermore, in companies and organisations, norms and reward systems are developed for the management that neither employees, nor consumers or owners have insight into (in Europe and the United States often anonymous portfolio agencies). The principal-agent problems are well illustrated by the Enron affair in US.

The broad and classical concept "the division of labour" includes the way organisations are related to each other as well as the internal organising of organisations. The different levels of organising are important as we in the following will argue that the traditional organisations are challenged both from outside (clusters, networks) as well as from the inside (projects). The different levels are also of importance when analysing what has happened to the working conditions in general. Even if the situation for people in many organisations has deteriorated it is still possible that the structural change will help to improve the conditions for a lot of

employees as bad organisations with routine work might be replaced by better and more qualitative ones.

In the following, we will discuss how the *organisations are challenged from outside* as well as from *inside* and also, to some extent, how they meet the challenges. One of the main challenges comes from the systems approach, in which the company, the big one as well as the small one, is seen as part of a larger sphere, e.g. *innovation system, cluster, development block, knowledge block or network*. The other challenge involves the increasing amount of activities that is carried out in *temporary organisations - in projects*. In this context, the underlying question is how these challenges will affect working life. When the predominant organisational model is loosening up, what will happen with for example the sense of belonging, identification, contracts, other types of institutions, management and knowledge formation? There are indicators pointing at that informal and formal contract of work will be affected as well as knowledge formation and the health conditions for the employees. This paper will be concluded by a discussion of how contracts, knowledge formation and health might be affected by the new division of labour. To be able to better understand different outcomes of work organisation change, we must however first take a closer look at how the overall organisation development looks itself.

As seen above there are a lot of tendencies and ideas at different levels at hand. We will try to grasp some of the main features of the development by simply looking at *how time and space are used* in organisations. We will discuss two aspects of time. One is time as a *limited and critical resource*, and a second deals with the endurance of organisations; about the relation between *permanent and temporary organisations (projects)*. Also two perspectives of space will be focused. The first one deals with the *international division of labour (globalisation)*. What is the impact of outsourcing and off- shoring? The other one is the system approach. In what way are for example *clusters and networks* influencing organising?

Time

Controlling time

We start the discussion on time with the idea of time as a limited and critical resource. Of course, the global trends, and to a certain extent their national forms of expression, described in the previous section, have their counterparts on workplace level in the organisations. It is

here that Piore & Sabel's "divide" takes place. Several scholars have described the dominant ways of organising production. The early models for directing and controlling work, the main organisational task, mainly had to do with production. Not until after the war, or perhaps not until the 1960s, was attention paid to the connection between social and technological systems, such as in the socio-technical school. In the 1980s, there was a great breakthrough for Japanese management models that had proved to be globally competitive. Those models that have been developed based on these concepts are built on two basic principles: JIT and TQC, which are read as Just-in-Time respectively Total Quality Control. Both have a long history and both can be traced in most new concepts that have been launched, e.g. TQM that is read as Total Quality Management, Lean Production, Learning Organisations, Business Process Reengineering, etc. Their emphasis is a little different and somewhat adapted to today's situation. Rantakyro (2004) asserts that "What we generally call new management concepts are, in fact, an evolutionary development of organization principles known for more than hundred years". JIT denotes, as the name says, time discipline, and TQC zero-defects on products leaving the organisation. Customer focus should permeate the organisation. Only if the customer is satisfied, continued success is guaranteed. All operations that do not contribute to customer satisfaction can be eliminated. Remaining operations should be carried out with total commitment (Ekstedt & Sundin 2007).

As can be seen from the presented models, these were developed mainly for product manufacturing. However, there is a need for improvement and efficiency measures also in service production organisations. During the last few decades, we have seen many examples of how variants of the presented concepts have been transferred over to service production also in the public sector. Rather often, the organisational reorganisations have been combined with a desire to reduce the size of the sector and make it more "like a company". NPM – New Public Management – has served as a collective concept for a lot of the new. Also this has been described and analysed by many scholars.

The purpose of JIT, TQC and NPM was, among others, to change both the ways of working and the ways of looking at work. Then, how did it turn out? As often, the results appear contradictory. Spokesmen of the models often present very positive pictures of a "win-win" spirit, while others emphasise the strongly negative effects for the employees. Perhaps both views are true – and perhaps both are strongly exaggerated – considering what Rantakyro wrote after having finished his study on small companies: "Small companies studied have not

implemented any of the analyzed concepts and are not extensively influenced by the concepts while organizing their production.” The reason for this is said to be that company leaders do indeed know about the concepts, but they see no reason to apply them. It works fine anyway. In our own studies of service production, we have reached similar conclusions. It can be seen as an example of active “decoupling”, practised at different levels in organisations. Analogous to those implementation studies that show difficulties in bringing about organisational changes, it can be asserted that production organisations, perhaps particularly those in service production, “translate” new rules and concepts so that the activities are not disturbed.

But there are also signs of that the organisational ideal models came to use. During the 1990s, large companies and organisations tried to deal with their failing attraction and falling incomes through substantial cost savings, which among others was manifested in more use of short-term employment contracts, e.g. fixed-time employment and project employment (Wikman 2002). These so-called “*low road*” alternatives, to increase productivity by reducing costs, were often chosen before the more dynamic “*high road*” alternatives to increase income, which means an effort to lure a larger number of, and more demanding, consumers by means of adapted and innovative services and products. To succeed with the latter, Zuboff and Maxmin (2002) mean that also the large organisations must become more relationship oriented in terms of customers and employees and give up their narrow transaction logic.

Some authors have tried to measure the changes of contractual relationships of the time use of individuals on European level. However, the variations in concepts and definitions make such an effort difficult. Yet, by avoiding expressions like “precarious” workers, project work and “contingent” labour, and instead focusing on general concepts like non-permanent work and part-time work, it is possible to come to some conclusions about the development of formal time contracts. In the 1980s and 1990s, there has been an increase in part-time jobs and non-permanent jobs. The number of non-permanent contracts in the EU reached a peak of 15 per cent in the middle of the 1990s. Since then it has stabilised or even decreased (Goudswaard & Andries 2001).

Projectification

The second aspect of time deals with the endurance of organisations, about the relation between permanent and temporary organisations - e. i. about the “projectification” of the economy. *In yesterday’s economy, industrial companies (especially the car factories) were organisational role models.* Today industrial robots and computerised procedures have taken over much of the physical production, which in turn accounts for the trend that direct industrial employment is decreasing in most developed countries, while industrial production is still rising. At the same time as the percentage of the workforce in the manufacturing industry decreases, there has been a long-run increase since the 1920s in so-called production services for example in the USA, the UK, Canada, France, Germany and Sweden (Singelman, 1978, Aoyama & Castells 1994, Castells 1996, Myrholm & Ullström 1997). Consultancy companies in for example IT, management, marketing and finance are providing supporting services directly to industrial companies. The activities of the supporting *service* companies are thus first of all *a complement to industry and consequently not compensating for industrial activities*, contrary to the ideas put forward in the debate on the “service economy” (Gurshuny & Miles 1983).

The shift between different sectors of the economy started earlier in Sweden than in most other countries. In the last decades, this shift has resulted in a new and profound division of work between different kinds of organisations. The fast reduction of the number of employees in traditional industry has been compensated for by a rapid increase in the number of persons employed in independent companies that on assignment basis work with projects for, or together with, the traditional industry. When including the supporting service companies in the industry, the whole sector employed approximately 1.2 million persons both in 1985 and in 1997! In 1985, approximately 25 per cent of those were employed in supporting service companies. This share had risen to almost 40 per cent in 1997. Technology companies, other knowledge-based companies, finance companies as well as education and healthcare companies account for this rapid expansion. It is also within these, usually project-organised, areas that the major part of the new business start-ups is found (Ekstedt 2002, Ullström 2002). The following table indicates first of all that an increasing share of employees in the industrial sector works in project-organised companies. But it also indicates that the industrial activity takes place in a system of different actors and not only in separate companies.

Table 1. Number of persons in the Swedish manufacturing sector 1985 and 1997

	1985	1997
Manufacturing (core activity)	921 130 (76 %)	749 504 (61 %)
Professional services	286 425 (24 %)	480 581 (39 %)
Total manufacturing sector	1 207 555 (100 %)	1 230 085 (100 %)

Notice: Professional services = Technological companies, knowledge companies (other), financial companies and education and healthcare companies.

Source: "Swedish start-ups 1985 – 1997. Changes in company structures and employment effects." Jonny Ullström, Vinnova (the Swedish Agency for Innovation Systems) and Statistics Sweden.

Even if these indicators are very rough, they still show an important transformation. It is for example hard to say how much of the activity of the supporting service companies that is directed toward industrial companies. Some of their services no doubt go to the public sector, like health care. But on the other hand, this is nothing new: there has always been a kind of symbiosis between companies like Ericsson or ABB and the public buyers. From the perspective of working conditions, however, the borders between private and public are of limited importance. The use of supporting service companies, dealing with IT, education and management, in the traditional public service areas may be the beginning of "projectification" in this part of the economy too.

Beside the structural change between different organisations, there is an ongoing transformation inside traditional companies. The use of project solutions within industrial companies is becoming more common. In large companies, an increasing part of the activity is transformed into projects with assigned tasks and given means and time- and cost frames. When the workforce in the telecom company Ericsson was reduced by half during the last couple of years, it resulted in a "projectification" of the remaining parts. The manufacturing of components has to a great extent been outsourced to international (American) producers inside as well as outside the country.

Some small companies have also changed their way of organising work. The changes seem to be related to temporary project organisation as well as to cluster systems. This can be illustrated by the case of "Liftbyggaren", a small producer of ski lifts in the industrial park of Odenskog in the northern part of Sweden. Going back 10 years, the personnel of the company produced, installed and sold the products themselves. Today, most of the physical products are delivered by subcontractors in the vicinity. The CEO sometimes visits his nearby

subcontractors to encourage them to deliver in time, at the same time as he is glad not to have the responsibility for organising this part of the process. Instead he and his closest co-workers can concentrate on creating solutions of transporting skiers in dialogue with customers all over the world. The company is also responsible for the project management at the location of the lifts. The company has transformed from a traditional engineering company to one that harbours projects designed in close co-operation with its customers.

The temporary project construction, which involves persons from different permanent organisation, makes it possible to meet unique demands that are difficult for large companies to deal with within the framework of the traditional organisation. The strongly growing "projectification" can thus be interpreted as a way to deal with an increasingly more sophisticated and well-informed demand between companies (business to business), and not really as a way to meet the demand of the end consumer. For some companies and some public organisations, there could also be a more banal explanation; they have simply been lured into a fashionable trend.

Thus, organisation forms characterised by independent members who take responsibility for their activities are growing compared to "routinised" activities. Of course, the time-focus of the project may in itself lead to stress, but in many cases this is compensated for by the stimulating character of the work.

We are not experiencing the end of industry, or of industrial production, but we see that industry is changing and taking on new, alternative forms where production *per se* is less in focus as compared to previously. The demand side, e.g. marketing, customer focus and creation of brand names, occupies the attention of management more and more (Ekstedt et al. 1999). There is, in other words, *a new division of labour between services and commodity production and between permanent flow production and temporary project activity*. It must however, be noted that permanent employment also dominates in the project-organised activity. This discussion of organisational form must not be confused with the one concerning fixed-time employment ("project employment").

To sum up one may say that "projectification" is expressed in three ways. *First*, the expansion of project based organisations (PBO). These are organisations where the revenue from the activity comes directly from projects. The *second* is the increased use of projects in traditional

organisations (PTO). Here the projects are supporting different kind of activity inside the organisation. The *third* is the extended use of inter-organisational projects (IOP) in various contexts. In this case it is common with direct links to the space aspect. Clusters can be seen as arenas for creating inter- organisational projects.

Space

International division of labour (globalisation)

The journal Der Spiegel argues in a recent article that the number of people working in the Chinese manufacturing industry outnumbers industry workers of the whole western world. This strengthens the image of a rapid industrialisation in China and most recently also in India. Actually China is considered to be the shop – floor of the world, while India is becoming its office with the expansion of IT related services in Bangalore and other places. There are also a lot of reports of close-downs in Europe related to outsourcing to countries with low wage levels. With this new international division of labour it is not any longer only the industrialised countries that are the base for industrial production and the rest of the world supplying raw material. A simple exchange between the industrial core areas has transformed to a complex system of production penetrating many countries. Sometimes it seems like that the national borders are replaced by the big Companies brand names. *The interdependency of the global economy is marked by that trade is expanding much faster than production.* Countries like Great Britain and USA are getting more and more dependent on services, while a greater share of the commodity production is taking place in Brazil, South Korea, and China (Dicken, 2003).

Many big companies have reorganised their activity during the last years. A lot of the assembly activity has been outsourced to international specialist companies. In the IT sector these are worldwide cooperation's like Flextronics, Solectron and Emerson. The different factories placed in different countries inside the production-companies compete as suppliers. Marketing organisation and development activity remains – at least to begin with - in the original country. For some companies the outsourcing can be a way to survive in a climate of tough price competition on wages.

There is however a lot of contradictions in the debate on outsourcing. According to media is the phenomenon rather extensive, while it is of limited importance according to most statistics. This can be explained in different ways. National numbers does not illustrate local or branch wise effects. Outsourcing deals mostly with the manufacturing sector - a sector that has diminished to a level of only between 10 – 20 percent of the labour force in the European countries. A close down of a factory may have a big impact on employment figures in a specific place - but a limited impact on the macro figures. Continues and incremental loss of workplaces due to rationalisation is not that visible. It is also difficult to know if the contradiction is due to outsourcing or to rationalisation as these phenomena can be intertwined.

In this paper is the relation between international division of labour (globalisation) and “servicification” of Europe in focus. As mentioned has the decline of employment in traditional manufacturing to great extent been compensated by the expanding number of persons working in supporting services. *A serious problem may however occur if the size of the European manufacturing sector goes down to a level where the demand for supporting services is decreasing.* This may also occur if the transformation in itself slow down as many of the supporting companies (like management and employee consultancies) are occupied with the structural change of manufacturing activity.

Systems and system thinking

In the spirit of Porter’s (1990), several scholars have pointed to the importance of the surrounding system for the development of companies. Specific attention has been paid to the relationship between companies, colleges and local authorities (the so-called Triple Helix). Cluster maps have been drawn and different forms of support to existing clusters (including “wishful thinking” clusters) have been developed. For the sake of simplicity, you may say that two ways of looking at the phenomena of cluster and system thinking can be noted. According to one way of looking at it, a considerable proportion of the industrial companies belong to some kind of cluster; it could be anything from local density of a certain industry to genuine co-operation between companies and other organisations. The political system and the authorities can, according to this view, on the first hand create opportunities for co-operation and dynamic development. According to the second and more active perspective, there are possibilities to directly contribute to the growth of clusters. Consultants, authorities

and researchers seek to build a kind of cluster dynamics. Whether or not this is possible could, however, be discussed. Preliminary research has shown that clusters that have grown organically have been more successful than those that have been initiated by authorities (studies from Sweden and Poland). It has also been pointed out that this policy has a tendency of cementing certain patterns, e.g. by contributing to traditional activities where old gender patterns are locked in.

The network thinking is actually much older. The “Uppsala School” started to publish articles on the subject at least 30 years ago. Their research showed that many actors in a company had much deeper relations to suppliers and customers than to the top management of the company. It is, however, sometimes difficult to know whether there is a tendency of more clusters or networks, or whether it is just another perspective of how to understand economic activity.

Through the system thinking, the border between what an organisation is and what a market is becomes unclear. *The companies become not only competitors, but also intimate collaborators* (Wolvèn & Ekstedt 2004). How this will affect working life and working conditions is largely an open empirical question. Who has the responsibility? It is also difficult to determine whether the systems (e.g. the clusters) are becoming more common, or whether the new is the attention they have attracted.

Driving forces behind the transformation

The described transformation can be interpreted as if the traditional company is challenged from the outside as well as from the inside. On the one hand, the company seems to be part of a wider system, such as networks, clusters, industrial districts, innovation systems, knowledge blocks, etc. On the other hand, it seems to be dissolved into temporary activities. Usually, the transformation of the industrial economy is discussed from a production perspective, in which the connection to the rapid technological development (today mostly about ICT) comes in the foreground. There is a tendency to underestimate the demand side. It is very reasonable to believe that the new organisation of production can be seen as a response to a change in the demand patterns. Higher incomes in some population groups contribute to that the demand side is being specialised. In these respects, the criticism of research neglect does not concern Piore & Sabel and Zuboff & Maxmin, who strongly emphasise the demand side when discussing the driving forces behind the transformation.

The changed demand patterns, with well-informed, demanding customers and individuals with great purchasing power (e.g. more women), drive the development, which is facilitated by the rapid growth of the modern information and communications technology. Thus, it is the interplay between the structure of consumption and the logic of production systems, supported by modern technology (ICT), that lies behind the transformation. Demand is for example influenced by technologies making it possible to buy and sell via the net and supply by IT supervision of production. This is a transformation that among others comprises the growth of global component manufacturing companies (through outsourcing from other large companies), project-organised development units, international call centres and local individual-oriented supporting activities by small service companies. The transformation is also facilitated by the expansion of standardisation and standardisation concepts. These play a normative role in many global intra-organisational relationships (Ahrne & Brunsson 2004, Brunsson & Jacobsson 1998).

It is possible, and probably also likely, that there is a connection between the two trends; on the one side an outer challenge by the systems, and on the other side an inner challenge. *The networks/clusters constitute an arena for potential members of future projects.*

One may wonder what kind of effects these four tendencies might have on work and working conditions. The two time aspects (control of time and endurance of organisations) no doubt have direct effects on work and working conditions. There is however a qualitative difference. The different measures to control time are in most cases executed in the organisations that already are at hand, while a transformation to a *project organisation demands a lot of rethinking both for employees and management.* The effect on work when it comes to the two space tendencies is a bit more difficult to grasp. It is however likely that the *international division of labour will speed up the “servicefication” and the diffusion of the closely related “projectification”.* If we in Europe want to keep the more advanced parts of the economy here, we have to create systems (related to space) including education, research and companies that support knowledge intensive activities. An active system approach (innovation systems or clusters) may be a prerequisite for organisational units to specialize and become more competitive. An arena of specialists and knowledge intensive infrastructure can be seen as potential resource when designing projects needed for knowledge intensive activity. One may notice that most development work is already project based. *When*

reconstructing European industry it is consequently essential to understand the difference between the organisational forms of traditional industry and that of project based activity. Good environment for creating project are essential. Traditional institutions may have a restrictive effect on anticipating those changes.

Comparison between “typical” industrial organisations and project-based organisations

The transformation of the organisational form can in a simplified way be illustrated by comparing stereotypes of industrial organisations with project-based organisations. *Industrial Organisations* are characterised by the production of standardised products or equivalent services in long series, which provides for high returns to scale and stable relations between actors. Permanent employment is the standard form of employment in these organisations and their activity is mainly organised as flow-process operations. Beside traditional industrial companies, among others a large part of public service production and call-centre activity belongs to this category. In heavy industry, the stability is further strengthened by immobile machinery, built to function for many years. Even if permanent organisation is the dominating organisation form in traditional industrial companies, they do run projects themselves. Project organisation is particularly frequent in connection with development work.

The car factory has often been seen as the role model for traditional industrial companies. The discussion about "lean production", which had a great impact on organisational change in many branches in the 1990s, stems from examples of Japanese car manufacturing. Also after reconstruction and a further division of activities in industrial companies, the subcontracting producers of components remained as an important part in this category. Many activities also have a great demand for instant customer support. Different kinds of "call centres" have been established in many places. In most cases, the telephone- or IT-based services that these factory-like companies offer only demand short introductory training. In areas severely hit by the transformation of the traditional industry, such as the mining and forest industry, the reduction of employment opportunities has been compensated by this kind of activity. In some places, like the “Ruhr Gebiet” in Germany you could even find clusters of companies in this branch (Nuur 2004).

The project is the base for revenue in a *Project Based Organisation*. There is a long tradition of project based activity in the construction sector. In one single workplace up to one hundred different organisations could be engaged. Although there are great variations of organisational solutions within the sector, they are always project based. Also, ICT, Media, organisational and technical companies are characterised by project solutions.

Project organisation implies that both spatial and time-based relations between actors are manifested in a number of different arrangements. Work is performed in a great variety of ways, in a great number of different constellations, and at a great number of places. At the very workplace, work and production are to an increasing extent organised around the relations with external actors, such as customers, suppliers, consultants, etc. It is not unusual that sellers and buyers work together on the same project. Also the rate of working can vary quite a lot. In certain periods, project work is characterised by low activity, and in other periods it is marked by working round the clock.

To sum up, one can say that the traditional industrial company participates in all kinds of activity; from production to market relations. It controls internal resources, subcontractors and consultants, and it also hosts development projects. The company is truly the nexus of all contracts. It is also the holder of the brand name – a necessary factor for success in the market. The expansion and spread of project-based organisations challenge these structures of organising. Most project-based organisations work in close contact with their customers. Commissioned companies form projects together with, for example, development, design, planning and personnel units of industrial companies. The economic activity is often closely related to the demands expressed by customers.

Table 2. Characteristics of industrial organisations and project-based organisations

Industrial organisations	Characterised by:
<ul style="list-style-type: none"> - Traditional industrial companies - Call centres - Component producers - Public services 	<ul style="list-style-type: none"> - Assembly-line production - Multi-level managerial decisions - Stationary real capital - Bureaucracy - Strong permanent organisations and weak temporary organisations - Permanent employment
Project-based organisations	Characterised by:
<p><i>Commissioned companies:</i></p> <ul style="list-style-type: none"> - Technical - Organisational - IT, Media - Management consultant firms - Subcontractors 	<ul style="list-style-type: none"> - recurrent project operations - Weak permanent organisations and strong temporary organisations
<p><i>Contractors hosting and creating projects:</i></p> <ul style="list-style-type: none"> - Construction - ICT - Entertainment companies 	<ul style="list-style-type: none"> - Small permanent organisations with strategic functions, harbouring project teams for development and production

Comparison of market relations, transaction costs and forms of contracts between industrial organisations and project-based organisations

The increased use of temporary organisations and projects has no doubt an influence on the contractual relations between companies/organisations and their customers, but also between the company and its employees. The question is how? Are there any general tendencies? Formal contract changes can easily be described as they in most cases are legally regulated and presented in text. However, most informal contracts are hard to describe and investigate. In the following, I will approach the *changes of informal contracts* by first discussing the relations between the company and its customers, and then follow up by discussing the relations inside the organisations and the relations between the members. The idea is that the character of the market relations is reflected in the internal life of the company. The changed demand patterns of the consumers are important, as they can be seen as the central force in the whole transformation process as discussed before.

In the following, market relations and internal relations in “typical” industrial organisations and project-based organisations will be compared. Market relations, i.e. the relations between the company and its customers, will be illustrated by the categories “exit” and “voice” once put forward by Albert Hirshman (1970). Changes in the way a company interacts with actors outside the organisation are likely to affect the allocation of transaction costs, and what kind

of transaction costs that will be dominating, inside the organisation (Coase 1988, North 1990, Sjöstrand 1993). If new patterns emerge, *the preconditions for informal contracts between the actors in the organisations will change*. In turn, this will have an influence on how, when and where economic activity, including work, will take place.

By “exit” is meant, in the words of Hirshman: “Some customers stop buying the firm’s products or some members leave the organization: this is the exit option. As a result, revenues drop, membership declines, and management is impelled to search for ways and means to correct whatever faults have lead to exit.” The alternative “voice” reflects a totally different proceeding: “The firm’s customers or the organization’s members express their dissatisfaction directly to management or to some other authority to which management is subordinate or through general protest addressed to anyone who cares to listen: this is the voice option. As a result, management once again engages in a search for the causes and possible cures of customers’ and members’ dissatisfaction.”

Industrial organisations, the role model of managerial capitalism, are designed to offer long series of standardised products and services for mass consumption. The attractiveness of the products is tested through exit mechanisms (take it or leave it situations). Exit has also been considered as the main alternative of economic interaction by most economists. Naturally, there are exceptions. Some component producers and call centres are only connected to one or a few buyers, while most companies meet tough international competition. Usually, there are few direct contacts between the producer and the consumer in these organisations. For example, in the health care services, it could be hard for the client to have influence on the performance of the service asked for (Zuboff & Maxmin 2002). In most cases, the customers are not aware of how the commodities have been produced. For example, we are seldom aware of the working conditions at the manufacturer of electronic equipment components, an activity that often is placed in developing countries. The possibility to produce commodities for stock can also result in long time lags between production and consumption. Slow market signals dominate over direct contacts between actors.

Industrial organisations are characterised by hierarchical systems of decision making and limited transaction costs for internal search processes and internal negotiations. Efficiency is reached by high returns to scale in the production, despite limited interaction between levels, departments and individuals. However, this is paid for by high costs for monitoring. Many

levels of management and control are formed and professional positions are developed to handle this kind of activity.

In industrial organisations in most industrial countries, long-term formal contracts (mostly collective) have been the dominating form of employment contracts. This order was challenged by some of the major companies in the beginning of the 1990s. When ABB introduced the T 50 model, the objective was to reduce the lead - time by 50 per cent. One of the most important tools was the use of “goal directed groups”, which led to a dramatic change in the contracts of work. The system of continuous control was replaced with a system where the employees were given responsibility for the whole work process from order to delivery. But from the middle of the 1990s, the traditional form of organising seems to have grown stronger again; some people talk about neo-Tayloristic work methods. The manufacturing parts of the traditional industrial companies were sold to international companies specialised in component production. Traditional industrial relations seem to work in this environment, but under the threat of moving some parts of the activity to low-income countries. On the other hand, the remaining parts of the companies seem to be more and more project-based, with characteristics like the ones that will be discussed in the next section. Characteristics of typical industrial organisations are summarised in the following table.

Table 3 External and internal relations of industrial organisations

<i>Form of organisation</i>	<i>Market relations</i>	<i>Internal transaction costs</i>	<i>Form of contracts</i>
Strong permanent and weak temporary organisations.	Exit mechanisms and limited relations between market and internal organisation.	Limited search and negotiations costs. Large monitoring and control costs.	Formal (collective) contracts.

The expansion and spread of *Project-Based Organisations* challenge the traditional industrial structure. The activity of these organisations is in most cases closer related to its customers than is the case in industrial organisations. It is not unusual that the seller and the buyer work on the same project. The “exit” mechanism of the market is to a noticeable extent being replaced by “voice”, and sometimes even by “loyalty”, which is a third and more intimate category in Hirshman’s model. Most transactions are preceded by negotiations. Some of the more successful companies have developed sophisticated negotiation methods to handle the “voices” of their customers. High negotiation costs in the early planning stages of a project

will be reimbursed if it contributes to fewer mistakes when the whole production apparatus is involved later on (Ekstedt & Wirdenius 1995).

The ever greater service content in almost every activity creates a need for closeness. The work of the companies is performed in direct interplay with the customer, where he/she is active. Project-based organising consequently has a local side. The economic activity, e.g. the production and the exchange of services, takes place where the customers are located. Among other things, this entails that the commissioned companies tend to locate local branches with far-reaching independence in smaller cities. Global renommée is paired with local presence (Ekstedt et al. 1999).

The adaptation to the customer (customer focus) does not necessarily mean that the end consumers will have a great influence. Far from all consumers become empowered by these tendencies. This is obvious in the construction sector – a person renting an apartment seldom takes part in the design of it. Customers on other levels of the value chain have a more central role and an influence on the way things are produced.

The close relationship to the customer is directly reflected in the internal lives of the project-based organisations. Costs for monitoring and supervision are minimised, as it is in the interest of the project members to perform the assignment according to the description of the tasks. They of course want to be engaged also in future projects. The need for middle-management is thus small. Instead there are high costs associated with contracts and negotiations. The “Voice” of the customers is handled by negotiations (Ekstedt et al. 1999). But as a great part of the economic activity takes place at the customer or together with the customer these negotiations will also influence the internal life of the project based organisation. Negotiations are becoming one of the major elements in the permanent activities of project-organised companies.

In projectised activity it is not only essential to have good knowledge about the tasks involved, but also to have good relations to and knowledge of potential project members and business partners. Considerable costs are spent on search for information and knowledge in the process of forming a project team. Closeness to the customers makes it easier to discuss with them and to develop unique economic solutions. Closeness to other team members both in space and culture facilitates the process of team building and knowledge formation.

Successful projects are said to be created in a specific knowledge-intensive environment, e.g. in an industrial system. Concepts like innovation systems, industrial districts, clusters, networks and development/knowledge blocks relate to this idea (Porter 1998, Maskell et al. 1998). However, system thinking concentrates on the relations between permanent organisations, while projectised economic activity aims at forming new organisations. But the stress on knowledge formation is shared by the two approaches, which is also in line with modern thinking on economic growth and development in general (Romer 1991).

The change from traditional industrial organising to project organising may consequently be expressed as a shift from monitoring to negotiation costs. This shift has a dramatic impact on the contractual forms. The formal contract has to be designed in a general way and make room for individual specifications and negotiations. Or in other words, general contracts must probably be supplemented with individual negotiations adapted to the unique situation of each project. Contracts of how, when and where to work are therefore to a high degree informal and implicit.

The work in project-organised activities is goal and problem oriented and not rule oriented. A central aim is to fulfil the goals of a given agreement, but how this is done is on the other hand a more open question. It is difficult to more in detail regulate relations between actors, and in many cases it could be perceived as a hindrance to the activities. In some cases, however, informal rules have replaced the lack of formal rules.

In the construction sector it is common to talk about professional codes guiding the members of a team in the different phases of a project. The individuals adapt to these codes based on long practical experience and from working with persons knowing the trade (Polanyi 1958, Bröchner et al. 1992). These kinds of implicit rules have not yet developed in other project-based branches. Management and IT companies follow a different approach. They try to induce tacit contracts by convincing the customer to use their concepts and follow their specially designed programs. Many consultant companies have taken great pains to develop special methods for working and for solving problems. Before entering the market, the personnel has to be trained and convinced of the ideas. It can be both costly and time-consuming to replace staff that already is part of the individual company's culture. However, the investments in human capital may pay off, as the models used are company specific,

which makes it possible to keep the customers – as well as the employees – locked in for some time (Ekstedt 2002).

In many projects, power and responsibility are to a great extent delegated, irrespective of the kind of formal rule system. Fulfilling the goals according to a given agreement is the central endeavour of the project team; how this is accomplished is left more open. Therefore, this way of working could be experienced as a threat to the present relations of the labour market. The employees’ position and ability to negotiate will have a major impact on their working conditions. Better knowledge of what informal contracts imply and support in negotiations from persons in similar situations, through for example the trade unions, may lead to more power (Ekstedt 2002). Are the trade unions prepared to change their role in this direction? In Sweden, the increased activity of trade unions in individual insurance matters could perhaps be seen as a step in this direction. The coverage of existing legislation, e.g. regarding work and companies, will gradually deteriorate, which can lead to that the individual co-worker will need more support (see Ekstedt 2002, Appendix to the Government Report on Labour Law Ds 2002:56). The individual will not be protected by collective legislation in the same way as when the laws were made. The individual’s changed position can lead to changed trade union strategies (compare Sundin 2003). Occupational positions and strategies are of particular interest in relation to owners and managements of organisations. Characteristics of typical project-based organisations are summarised in the following table.

Table 4. External and internal relations of project-based organisations

<i>Form of organisation</i>	<i>Market relations</i>	<i>Internal transaction costs</i>	<i>Form of contracts</i>
Internally: weak permanent organisations and strong temporary organisations. Externally: Strategically strong permanent organisations harbouring projects for development and production.	Voice dominates market relations. Close relations between market and internal organisation.	Limited monitoring costs. High negotiation and search costs.	Informal and implicit contracts important. Individual negotiations where individuals may need support. (New role for unions?)

Working conditions in project based organisations

The contextual forces, which can come both from other parts of the same organization, from other organizations and institutions, affect both the project and the employees involved (Grabher 2004). For the organization, the most important forces are connected with prioritizations and conflicts between different goals, and with issues concerning who is to have disposal over critical resources, most importantly the employees' time. Project workers often feel that they cannot simultaneously fulfill their obligations within and outside of the ongoing project, which generates stress. Projects can thus become pawns in internal power struggles in which managers attempt to influence project results to achieve personal gain. At the same time, project members acquire more or less unique competence by working in advanced projects, and can use such knowledge as a means of advancing their own career interests, since the systems in place to convert individual knowledge into commonly shared knowledge are often ineffective (see e.g. March 1995 and Martinsson forthcoming). All in all, much of the responsibility traditionally assumed by the company, primarily through its management systems and HR function, now resumes with the individuals. (Packendorff 2002).

The most important consequences for persons working in project model organisations can be described in terms of three critical dimensions (Söderlund 2005). *First*, projects are characterized by their pre-defined time limits, which produce time pressure, and in goals that change once the project is completed. This demands a high tolerance for stress, and an ability to face new job duties and goals at regular intervals. The *second* characterizing feature is that one's colleagues in the project group are seldom familiar. The project workers may not know one another at all before the project starts, and the work group is dissolved as soon as the project is completed. This puts demands on people's social skills, and on their ability to work intensively, focused and goal-oriented in temporary teams comprising more or less unfamiliar faces. The *third* characterizing feature is a high level of uncertainty: one must solve difficult problems and cope with expectations that are often unclear, since those specifying the requirements cannot properly assess what may await them. This entails that those who work on projects must be willing to learn, and be able to cope with work that involves uncertainty. We will discuss the effects of these three dimensions, based on organizations in which the employees hold permanent positions but work mainly on projects (Arvidsson & Ekstedt 2007).

Time and stress

Projects' pre-defined deadlines and budgetary restraints, objectives and focus on individuals create a risk that stress levels rise, particularly for those who generally spend the bulk of their time working on projects and are not given the time for reflection that line work often offers. Projects often lead to heavy workloads and mental stress reactions. On the other hand, involvement increases among employees who are doing project work (Zika-Viktorsson et al., 1998). One important challenge facing the employees is to use the intervals between projects to rest and reflect, and not to start the next project right away, something that can be hard to do when one's status depends on how many projects one has been involved in.

Social skills, leadership and loyalty

Another effect of the increased use of the project model and its focus on competence may be that those who work on projects become more loyal to their project than to their company. Each individual often places major emphasis on the relationships around which each project is built. Getting to know new employees quickly and making sure both to take their specialized expertise into account and to assert one's own are becoming key traits for successful people. This is most important for project managers, but also for project participants, who must demonstrate their competence in order to advance and be included in exciting future projects. This places new demands on people in terms of their social skills.

Organizations that use the project model extensively have, in principle, separated the managers' responsibility for financial results, employees' competence development as well as their job security. Employees usually have a permanent line position, at which they spend perhaps 20 – 30% of their time at work, and where their supervisor is responsible for their learning, career, social issues and other security and comfort-related matters. They also spend 70 – 80% of their time with project managers, who are responsible only for their performance within each individual project. The project leader(s) under whom one works can also vary over time. *This leadership is thus entirely performance-oriented.* As a result, traditional roles such as those of manager and subordinate have changed in character and become more complex. In some companies one talks about one kind of leadership for "human elements" and another for "results." In essence, line managers often have control of and responsibility for

resources (including employees), while project managers have control of and responsibility for results.

Project managers in consultancy firms may be more loyal to their teams, customers and projects than to the company as a whole, a phenomenon also seen in other studies of professionals and their relationships to organizations and bureaucracies (see e.g. Scott 1966). There are studies that indicate that employees can feel a greater sense of belonging to their profession and interest-based groups or projects than to their company (Söderlund & Bredin 2005). Teigland (2003) notes, for instance, that programmers at IT companies often solve company-related problems within the company with the help of outside interest groups, regardless of whether sensitive company information is being disclosed to outsiders.

Learning, risk and the mobility of the labor force

When the project model is used, individuals within a company tend to be more clearly divided into roles based on competence rather than administrative roles or roles based on function. An employee with an academic degree who previously had been working as a marketing manager may instead be classified as a project manager with special competence in marketing. The distinction may seem minor, but it is actually dramatic. The focus on expertise combined with use of the project model means that each person's competence is subject to internal competition in each new project. When a new project is being staffed, personnel are sought on the basis of various roles.

It is necessary for those working within this system to cope with the increasing internal, and sometimes also external, competition, which requires the ability to constantly improve oneself, and to have social skills so that one can "sell" oneself within the system. This salesmanship is based on the success of and attention surrounding projects in which one has participated, and on how one's own contributions to the project are rated. Individual learning occurs throughout a project, based on the problems and tasks for which each individual is responsible. The training that companies organize outside project work consequently diminishes in favor of such "on-the-job training." This creates noticeable obstacles to the newly employed and others who lack experience in project-based work. The system obviously emphasizes the importance of personal human capital in the form of expertise in some area, and social capital in the form of a good reputation among important contact-creating people.

If we take this tendency to its extreme, we see that competition will occur between individuals in various areas of specialization rather than between companies with more or less fixed human resources. This tendency is characterized by Ekstedt (1988) as a *transition from organization-based to individual-based knowledge*.

Responsibility

The result from this trend is that each *individual* must assume more *responsibility* for their *own career* than has previously been the case. To put this in more dramatic terms, business risk, i.e. the risk of receiving no income (or rather performance-based pay) is being shifted from companies to individuals. When the project model is used and salaries and compensation are tied to each person's contributions within various projects, these people become, in a sense, "self-employed" within the framework of a company. There are IT companies that have explicitly called upon their employees "to act like they were self-employed." If compensation levels are tied to the time a person is employed within projects and these projects also constitute income sources for the company, i.e. are pure customer assignments, these people will assume a large part of the company's business risk. This is quite common in management and strategy consulting firms, and changes the individuals' risk status considerably compared with a situation in which they hold permanent positions with fixed salaries. We see no clear indications that this is about to happen in industry, but the obstacles in its way are, as a result of the advent of the project-based approach, fairly insignificant. As noted, it is likely that individuals will favor their projects, their project group and perhaps even themselves more than the organization as a whole (Söderlund & Bredin 2005).

New Roles

The roles of employer and employee are changing dramatically. No one is "giving" work, or employment, to another person who is "receiving" it or is being employed. Each worker must instead constantly arrange for their own supply of work by being attractive to project managers, while project managers, who need competent workers, must at the same time be attractive to the project workers they need in their projects. Project workers compete against one another, while project managers have to compete with other project managers and possibly also with line managers for access to the most competent personnel. This clearly means that those who have difficulty selling themselves and being competitive will have problems finding assignments. People who have mainly worked in and enjoyed line-based

positions may have a difficult time adapting to a new, project-based working life. There is an obvious risk that working life will become increasingly polarized. The same greater flexibility that may benefit certain attractive individuals can also lock in or exclude others (cf. Allvin et al 2006).

Conclusions

A new division of labour takes place in the industrial economy. It affects the relations between and inside organisations, as well as between countries and regions. Temporary organisations are becoming more common at the same time as permanent organisations are facing a new role. Permanent organisations will continue to be the base for the structure and strategies of economic activity. Projects are increasingly being ordered, harboured and marketed by these. The permanent organisation is still superior when it comes to production of long series of standardised products – an activity that is growing in many developing regions. The decline of employment in traditional manufacturing in Europe is to a great extent compensated by work in project based supporting services. Local as well as global systems of production, like networks and clusters, can be seen as arenas for this kind of economic activity. It is important, however, that the supportive services have some substantial activity to support. It is hard to believe that this is possible without a flourishing manufacturing sector. Without such activity it is likely that the knowledge intensive supportive parts move to areas where commodity production take place.

The changed relationship between the company and its customers drives the process. More complicated and unique products lead to tighter relations between seller and buyer. The “exit” mechanisms of traditional industrial organisations are being replaced by more “voice”. The increased closeness is also reflected in the internal relations of the companies. Traditional industrial organisations are characterised by limited negotiation and search costs, at the same time as monitoring and supervision costs are high. In terms of transaction costs, the characteristics of project-based activity are the opposite: limited monitoring and high negotiations costs. The low control costs provide opportunities to rapidly expand or shrink the economic activity. The borders of the organisations become blurred and the responsibilities of the organisations, including work and working conditions, become less clear.

The internal work - contracts used by an organisation reflects the structure of transaction costs of the organisation. Industrial Organisations generally use formal employment contracts resulting from negotiations between the social partners. Employees and employers are quite aware of the rules, and negotiations inside the organisations are kept to a minimum. The situation in Project-Based Organisations is different. There the contracts must provide space for adaptation to the situation of each project. In these organisations, informal contracts are becoming an increasingly large part of the contractual relationship. Individual negotiations are becoming more important and consequently also the individual's ability to negotiate.

The situation for individuals is consequently different in Project Based Organisations compared to those in traditional industry. Project-based work can be engaging and inspiring, but it is also characterized by specified deadlines and performance demands that create stress. Project-based work focus on results; a special sort of leadership is emerging that does not include "soft," human or social aspects. Individuals have to assume more risks. They have more responsibility for the future results of the organisation and consequently also for their own financial compensation, development and advancement, as well as their future employability.

How will the existing *institutions* of the European Society *anticipate* this New Division of Labour? What will happen when an increasingly greater part of economic activities takes place outside the traditional industrial organisation; in *temporary organisations like projects and clusters*. It will no doubt have effect on the rules of the labour market and its actors like the trade unions. How the unions and other social actors will respond to this situation remains to be seen. The discussion above shows that it is obvious that the *unions* at least have to *develop their role of supporting individual members* in negotiations – before other actors do. Local authorities and local schools and universities may also anticipate this development by creating knowledge intensive environments to facilitate for companies to start new projects. It is also important to start programmes for individuals where they can train the understanding of “ the rules of the game “ in project based activity.

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