6 On the constitution of economic actors in Denmark

Interacting skill containers and project coordinators

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THE NATURE OF DANISH FIRMS

Until recently the dominant theoretical picture of the firm has been the mass-producing giant. Its core activity was a specific product brought to mass markets by marketing and sales outlets. Integrating supplies reduced transaction costs and stabilized flows. Aiming at continuous growth and protecting their financial flows, such firms would gradually turn into multi-product firms. Williamson (1975) and Chandler (1977) have claimed this evolution of firm-organization to be 'ideal-typical'.

In Denmark the business system never followed this American evolutionary process. As demonstrated elsewhere (Kristensen, 1988, 1989a, 1989b, 1992a, 1992b; Kristensen and Sabel, forthcoming), powerful economic agents, reinforced by crédit mobilière-type institutions, tried through cartels and trusts to impose on Denmark an industrial organization similar to those of Germany or France during the last decades of the nineteenth century. These agents had little success, however, as craftsmen and farmers joined forces in village communities in the countryside during the same decades. Fighting for social space, these two groups formed cooperative institutions as 'immediate producers' to protect themselves from becoming dominated by an élite of large corporations. Protecting themselves in this way farmers and craftsmen established institutional formations, which reproduced these two groups as communities of peers, distributing land and industrial knowledge as direct possessions of the members of the two communities. From 1880 to 1918 the farmers dominated economic dynamics in Denmark, creating one of the most elaborate peer group organizations ever seen (Kristensen and Sabel, forthcoming). From 1920 to 1945, the dominant role shifted to craftsmen, but then from 1945 to 1970 it appeared that inter-

national trade liberalization had given large Copenhagen-based corporations a chance. This change, however, has proved limited. The development of the volatile economy since 1975 has confirmed that the dynamic core still rests with the craft-industrial sectors of the Danish economy (Kristensen, 1992a and 1992b).

Thus, although Denmark is inhabited by a great variety of economic types of organizations within manufacturing industry, its core consists of craft-based producers, predominantly appearing in industrial statistics as small- and medium-sized firms (SMEs). These SMEs constitute a persistently dominant fraction of industry, and they seem increasingly to dominate the organizing dynamics of other firm-types within the Danish context. The core of these firms are within manufacturing industries such as metal-working (primarily engineering and machine shops), furniture and woodworking, and garments – quite traditional industries, which have shown comparatively high growth performance compared with other OECD countries. However, they also play a role in sectors such as electronics and even some process industries.

Our aim is to investigate the pattern within this segment of Danish industry, which we think makes up the core of Danish industry's dynamics, while we neglect the more capital-intensive large firms, which are usually the focus of analysis in other countries.

Whereas Williamson (1975), as mentioned in the introductory chapter to this volume, sees peer groups as a transaction-cost-inefficient form of organization, Denmark may be said to have established this very form of organization based on a simple governance system consisting of reputational linking.

In the Danish case the social division of economic roles may be observed in the coexistence of two distinct phenotypes of firm: the skill container and the project coordinator.[1]

Skill containers

Skill containers have their origin in the craft shop. Their organizing principle is that a *Meister* recruits a number of skilled workers and equips them with the necessary machines and tools and a place to work from. This operating core is what makes up the identity of the firm, and other social groups within the firm are considered to be 'helping hands' to this core. Two different types of 'helping hands' are typical. On the one hand a group of unskilled/specialized workers assist skilled workers, enabling them to concentrate their work on tasks in which their skills are useful and needed. The

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second type of 'helping hands' are an administrative staff that keep the books, pick up the phone, contact customers, pay wages, etc. The 'entrepreneur' is often an active member of the operating core, and sees the evolution of this core as the major aim of his 'firm', rather than growth of the firm as such. Consequently, within the firm, managers in the traditional sense of the word (see, e.g., Penrose, 1959; Galbraith, 1958, 1972) play a largely insignificant role. In the Penrosian firm, growth originates from an established managerial team capable of developing and institutionalizing new operational routines within the lower hierarchy of the firm, whereas the shifting operational contingencies of a skill container set the agenda for managerial workers. Some of the mechanisms that are crucial to growth are therefore absent, and the firm seems much more dependent on external contingencies for its evolution than the typical Anglo-Saxon enterprise. Forward and backward integration is a strategy that is alien to the nature of such firms; when it happens, it serves to stabilize the shop against the fluctuations of the economy.

But the skill container firm's dependence on the economy at large is of a different sort. While the typical mass producer is highly dependent on the general level of activity, the skill container is contingent on the functioning of a narrow number of linkages. Customers ask the firm for its services, and as past services are the basis of the firm's reputation, this reputation may lead to new demands as its reputation spreads. Being dependent on this mechanism for growth and survival, the critical growth variable is the firm's capacity to recruit new skilled workers who can meet or improve the reputational standards. Thus, the major problem of stabilization is to be able to keep these skilled workers attached to the firm in spite of fluctuating demands. Such firms seldom start by producing a specific product, but they may sometimes gain a particularly significant reputation within a specialized field and consequently become specialized suppliers of a certain range of products.

The firm as a skill container is observable at many levels within the Danish industrial structure. Its purest form is a team of workers, who, as a group, secure employment on a large building and construction project. Such a team is often hired out collectively to work in another firm than their formal employer, for example a shipyard or one of the large engineering firms in Denmark. Second, factories have often been divided into workshops along craft- or processing specialities, rather than on the basis of a specific flow in logistics, for the reason that these workshops could be combined differently for different products over time. A third illustrative case is the craft

or industrial organization of railway towns in agricultural districts. Here, all sorts of craft shops were established side by side, making it easy for customers from the region to have produced a complex good or service by having the various shops combine skills and equipment according to specific, individual needs.

Historically, Rådvad was the archetype of such an organization. Rådvad produced a whole range of products for the Copenhagen hardware dealers. In this case, the hardware dealers' guild owned the factory building, but the individual *Meister* was formally independent, paying rent for his workshop, recruiting his own workers, paying their wages and running the shop; the hardware dealers supplied raw materials and bought the finished goods. At the turn of the century, many trades within the Copenhagen industry were made up of such workshops, coordinated externally by different buyers (of furniture, musical and other instruments, machines, etc.) who brought products to the market without engaging themselves in production as such.

Project coordinators

The second type of firm we call project coordinators. These are typical entrepreneurs who have a specific product idea which they want to bring to the market. As they are operating within an industrial structure of the type just mentioned, they are able to realize their project without investing large resources in fixed assets. Their task is to identify and coordinate two networks: combinations of suppliers that can produce the product which they want to sell, and channels for bringing the product to the final market.

Project coordinators are often able to make an income by exploiting personal networks. However, they typically have no resources for aggressive marketing and, if they do, their supplier network may soon impose limits on their growth, as suppliers will typically be hesitant to allocate more than one-third of their capacity to an individual customer. Furthermore, suppliers are unable to increase capacity quickly since their recruiting practice, as mentioned above, is highly dependent on the maintenance of reputation. Consequently, if the project coordinator starts out on a small scale, the growth process tends to be limited and much of the work concerns keeping the network in place and gradually expanding it. Most of the project coordinator's assets are intangible and therefore very difficult to finance through the Danish financial system. Also, it is very difficult to hand over to employees the task of keeping in touch with such

networks, either forwards or backwards in the value chain. The solution to growth is to ask personal contacts, whom the project coordinator trusts, to do some of the networking, i.e. to let a customer sell some products for other markets and to let a supplier organize subcontracting from other suppliers. Consequently, profits are increasingly dissipated to many agents in the network rather than being accumulated at one point, and this leads to gradual growth of the entire 'system', rather than to exceptional growth of particularly successful project-coordinating firms.

Combined skill containers and project coordinators resemble a modernized form of the historical 'putting-out system' – but only resemble. In Denmark, the union movement was one of the most active forces in modifying the putting-out system. They tried hard to have workers employed in workshops, rather than being self-employed at home. Whereas in some places it was the entrepreneurs' wish to impose discipline on the workers that led to factory production (Marglin, 1974), in Denmark it was the unions' fight to reduce sweated labour and undue competition that worked in favour of workshop organization. This union strategy, though often resulting in conflict with individual employers, also played an important part in maintaining an enduring social space for the craft *Meister*. Unintentionally, the strategy restricted the normal development pattern of putting-out systems, in which power, market relations and capital gradually become concentrated in the hands of a merchant, while the immediate producers gradually became dependent on the merchant for supplies as well as for orders. In the present Danish system it is difficult to identify large-scale merchant houses, as in Japan, which dominate a large amount of subcontractors; nor is it possible to see a large producer, as in the German *Bosch* system, capable of dominating customers. Power and influence seem pretty equally balanced, and the system is so generalized that project coordinators can choose from among many alternative suppliers, and suppliers provide several rather than only a few customers with their services.

The principle of combining skill containers and project coordinator can be applied to an endless number of areas and can be organized in an infinite number of hierarchies and non-hierarchies. The classical example could be the building engineer who tenders with a number of different *Meisters* for the construction of a building. In Denmark, development engineers often work in extremely small R. & D. teams and make only very rough sketches of a new machine, then contact different specialist machine-makers to take

part in different parts of the construction. In Danish shipyards this system is applied internally in the 'firm', involving an endless number of varying external subcontractors, depending on the particular needs of the end-customer.

Another example is the design company producing a fashion collection and then driving down a road in Ikast to combine knitters, wage-sewing shops, weavers, etc. to make different parts of the collection. But the system is also applied in 'hi-tech' areas. Many of the new electronics instrument producers, who set up small firms in Copenhagen in the late 1970s, concentrated on designing new instruments and outsourced the actual production to subcontractors (Kjeldgaard and Nielsen, 1988). The same can be observed within biotechnology (Norus, 1993). In these cases, the project coordinator becomes a container of specialized engineering skills, basically employing a group of R. & D. engineers who operate, as much as possible, as if they were still working in university labs. Many of the major Danish consulting firms, selling huge constructions for waste disposal, harbours, and turn-key factories to foreign countries, are in fact project coordinators that have grown large enough to undertake huge projects involving the coordination of a large number of skill containers of many sorts, as well as financial, political and diplomatic channels. Through these mechanisms, the different professions, though not immediately cooperating within the single firms, are mutually dependent for their operations, though they are often allocated to different firms, which can then concentrate on organizing cooperation among colleagues.

The division of labour between skill containers and project coordinators is never a settled game; on the contrary, it is often shifting. To be able to even out demand, skill containers will often take advantage of projects they have learned about through certain customers and then try to sell something similar to other customers. The knitting factory which gets involved in special fabrics for one customer may know that these fabrics can be sold on a market in which the initial customer is not operating. Balancing between what may be termed 'cheating', and good well-established honourable conduct becomes a matter that is continuously subject to test. But the regulating principle is, of course, that the individual skill container does not harm his general reputation, so destroying the basic means for staying in business as a skill container. Most firms will probably act with alternating intensity in both roles, as is the normal pattern in, for example, the construction industry, where *Meisters* sometimes act as main contractors and sometimes as subcontractors.

Acting in these networks in shifting roles is something which has to be learned by experience, and it requires a developed reputation as insurance to prevent customers or subcontractors from misinterpreting your acts. For this reason, it is in no way simple for a *Meister* to hand over his firm to a professional manager, to run the company along formal rules and contracts. We know of several examples where such a change has destroyed the firm – whether it was predominantly playing the role of project coordinator or skill container (an illustrative example is given in Andersen and Christensen, 1993). This is one of the reasons why the system seems unable to develop rapidly into a more structured system of subcontracting, as in the case of the Japanese or the *Bosch* systems. Trust seems to be non-transferable from the personal to the institutional level. The same applies when the initial entrepreneur retires and hands over his firm to a son or a daughter. Networks and coalitions are built, but they never become long-lasting power blocs.

This pattern, however, is not caused by the *Meister*-entrepreneur monopolizing the firm's external relations. Rather the reason is that he, like the rest of the operating core, operates through an informal system of relations, while managers recruited from outside this web of ties tend to formalize and therefore destroy the pattern involved in making and enacting market relations.

Market relations

As project coordinators choose subcontractors according to their reputation, the best strategy for the subcontracting skill containers to confirm these reputational linkages is to relate with the customer through people who possess the most relevant combinations of skills. As the task often shifts from one customer to another, it is highly varying combinations of employees with whom firms discuss a potential transaction. Many levels of skill containers may be involved in transactional negotiations in various situations. During the initial phase of the 'negotiations', representatives of a project coordinator will often meet a whole group of people from the skill container to discuss how a job can be done technically. At this stage the subcontractor tries to meet the project coordinator's needs by redefining the task according to his immediate capabilities. The principle of 'available resources' governs discussions in order to determine the need for additional investments or complementary subcontractors. Such negotiations solve many of the problems usually associated with product-maturing during the R. & D. phase of a large integrated firm. The people directly involved in this initial process are people who possess (the skilled workers) or who represent (the *Meister*) the skills involved in doing a job. Only later, when the technicalities have been solved, are the administrative staff called in to make calculations and write up tenders or estimates. They then connect to other groups in the project coordinating firm so that, by the end, the firms involved are connected on many layers before a contract is finally decided and confirmed between two formal representatives, often the owners themselves.

This process of enacting market relations confirms that it is not managerial levels that take actions, but rather the operative core. 'Managerial' levels act in assistance of this acting core. And it is exactly through this logic of market relating, i.e. engaging reputational skills in solving technical problems before the potential economic benefits and costs are evaluated, that it becomes possible to engage in a close cooperative project between two or more parties. Trust does not rest with the institutional structure of the system, it arises through the order of steps involved in the process. The system, however, is very efficient in reducing 'opportunistic' or over-optimistic promises as this reversal of the process, compared to the textbook forms of transactional logics, makes it possible for project coordinators to have the reputation of skill containers confirmed before any party has to decide on asset-specific investments. Economic calculation and managerial activities do not lead to the definition of projects, rather economics and managerial skills are employed to evaluate whether a technically defined project is feasible between two actors, who may then become partners.

It is fair to say that building business relations this way, though it only involves investments in tangible assets to a limited extent, implies large transaction costs in terms of how much time individuals representing the two actors have to spend on making a project possible. For these reasons there will be strong personal feelings involved in breaking a relation, as it means that individuals in both the involved firms will have to go through a new, long and painful process with individuals in other firms. Self-interest, thus, in a very simple way, works to create factions in each firm which act in favour of confirming and evoking the new 'contract', which therefore may often be extremely informal, a verbal promise. During the process, the two firms may even create a cross-firm coalition of technicians combining their technical creativity in order to convince calculators and decision-makers that the new engagement is economically sound.

Many projects between the two phenotype firms arise from the day-to-day contact between the two. Visiting fitters from a skill container doing a job at a project coordinator's plant may point out new opportunities and then engage the two parties in a larger project. Staying in contact through the bonds of their crafts, workers may find out how one firm can get some problems solved by another firm. Strategies evolve from daily operations, rather than vice versa.

Authority relations

It would be erroneous to say that in Denmark authority has been delegated to the operating core of skilled workers or technical specialists. In numerous articles we have tried to show that the opposite is true. The operating core has never accepted the delegation of many tasks to an increasingly autonomous managerial level. The separation of planning from execution, which was Taylor's core idea, was not in general accepted in Denmark. Danish firms, therefore, seem to operate with much less formal planning than firms in other countries (Ackelsberg and Harris, 1989).

The lack of formal planning is due not only to internal managerial weaknesses. Rather, as it will become clear below, 'managers' are much less dependent on convincing principals, whether financial institutions or state bodies, about their deeds. In many countries formal plans are used to legitimize strategies to external stakeholders, and having accomplished this these plans must be implemented in order to prove a firm trustworthy to its environment. Plans acquire an authority of their own, which employees have to accept as part of 'deals' of a higher order than they may influence. Such abstract and distant mechanisms of power and authority have been difficult to adopt within the Danish system. Consequently, in Danish enterprises managers have been unable to develop their own discourse and thereby to achieve a specific reflexivity, which reflects, on the one hand, the Danish practice and, on the other hand, a common concern for enlarging the social space for managerial action. This leaves the discourse on industrial strategy in the hands of the state and the interest associations' technocrats, who have very limited knowledge about the actual operation of Danish firms.

Consequently, Danish managers seem to operate in an extremely egalitarian way:

> An eloquent point can be made in this connection, namely that Danes generally resent the word 'power', which has all the negative connotations of superiority, force, domination, and coercion. No Danish manager would refer to the power he (she) has, but he (she) would willingly speak of his (her) responsibilities, a word which has positive connotations of work, competence, and obligations towards others. In consequence, what is important in a Danish setting is less who has authority over whom as who is responsible for what.
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> When many people have decision-making authority, each within their domain, managers have to work in constant cooperation with lower layers of the hierarchy, making all parties interdependent. In such a context, decision-making becomes a mixture of top-down and bottom-up decisions. This is what Hofstede (1984) would call a short power distance, and his findings on this dimension seem most convincing (Denmark is extremely low, number 37 out of 40 countries).
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> (Fivelsdal and Schramm-Nielsen, 1993)

However, we do not think that this pattern can be explained simply by attributing egalitarian values to Danish managers. Rather, another principle of authority, we argue, has such a predominant position in Danish society that it enforces on managers this egalitarian behaviour in order to survive as a group within firms.

Discipline is constituted through horizontal codes of work ethics. These codes are established during vocational training – at school and in the workshop during apprenticeship – and they are enforced by a tacit set of professional standards which skilled workers and other professionals expect each other to obey. Finally, these codes are policed by unions. To accomplish a job calls for the ingenuity and skill of each of the individuals involved. Therefore, the primary test of the individual worker is towards his mates, who will have to compensate if he fails to do a good job. It is acceptable to fail for specific reasons sometimes, but it is indeed not acceptable to fail many times without trying to compensate in other situations. A group of skilled workers must protect their collective reputation. Therefore, the individual worker has to protect his own reputation within the group, otherwise the group will exclude him after some time. The standards defining honourable work conduct are not easy to detect but, since they have been established through vocational training and job practice, they have reached a certain degree of isomorphism in different regions of Denmark.

Following Chester Barnard's argument (1938: 163) that 'the decision as to whether an order has authority or not lies with

the persons to whom it is addressed, and does not reside in "persons authority" or those who issues these orders', the manager has to work through these horizontal codes of work ethics, rather than against them. This can only be done if the manager himself knows how they function. This implies that managers working in close cooperation with lower-level workers, or even originating from the very same system, are best able to work with these horizontal codes, and to exploit the opportunities to issue orders in situations when they know that such orders are not against collective principles.

For these reasons, we think, most managers have to be able to manage by demonstrating a positive contribution to a group's performance in such a way that they improve their collective reputation. There are several ways of doing so. One particularly effective way is to contribute, through instruction, to the improvement of individual skills or the entire group's skills. They must be able to hire new workers, who fit into the group's standards of work, and to fire those who do not fit in.

To manage in order to retain and improve a group's performance is a very difficult task. Each individual in such a group operates very independently, also in external relations, and it is in the nature of the whole thing that each worker tries to improve the group's external reputation by doing a good job in direct contact with customers or suppliers. Consequently, each worker engages in a reputational network with people in other firms, and it is therefore easy for him to evoke offers of a new job in another firm, if he feels he is being treated poorly. Even merely conducting his usual business, he will often receive such offers unprovoked. For these reasons also the reputations of various managers spread fast, to the effect that egalitarian 'values' spread amongst managers.

The combination of these dynamics of authority works to establish a hierarchy amongst groups of workers and certain managers. It imposes competition on firms to attract and to keep a group of workers of high reputation. Firms following the logic of skill containers are subject to endless efforts to position their workshop technically and, in terms of quality, at the high end of the scale. This monitoring principle then lies in the system as such, rather than in the authority of managers, but it certainly helps select the kind of authority by which a manager may operate.

It follows from what we have said so far, that the managerial task of formulating a purpose for the organization is needed less than in most cooperative systems (see Barnard, 1938). This purpose is generally established through the business system: the common purpose

of establishing and improving the skills and reputation of the firm by improving exactly the same properties at the levels of individuals and groups within the informal organization.

Modes of growth in Danish firms

The growth of Finnish firms, as we shall see in Lilja and Tainio's contribution to this volume, follows some very simple rules as growth represents a means of protecting initial large-scale investments. One initial step, so to speak, necessitates the next. In Penrose's (1959) general theory, however, totally different mechanisms are used to explain the growth of a firm. This theory emphasizes the ability of a group of managers to establish routines of cooperation and routines for doing the jobs in which the firm specializes, thus enabling managers to devote themselves to new tasks and in so doing gradually to expand their field of operation. Managers' motivation for expanding their firm's space is less clear in Penrose's works, but it is easy to combine with Galbraith's theory of career patterns and motivation for the technocracy within large American firms.

Compared to these two examples, the reasons for and mechanisms of growth are much less clear in the Danish case, which is puzzling not only to the observer. Most firms stay rather small and often die if they try to grow fast. However, the Danish industrial structure contains a comparatively high number of medium-sized firms, which seem to be one of the groups in most other countries that have the greatest difficulties in surviving. Growth is possible for some and they seem to be able to create a place for themselves and play a role within the Danish industrial structure.

We think that the process of metamorphosis of the two phenotypes discussed above is that, first, skill containers grow gradually into multi-product contractors; while, second, project coordinators gradually transform into assemblers. One of the major reasons for growth among skill containers is a specific way of managing a specific type of risk. The worst that can happen to a skill container is facing a decline in orders and thus being forced to fire skilled workers on whom the firm's reputation rests. We shall show that in Denmark, firms have very few external institutions with which to share their risks. Project coordinators formulate their strategy on this basis and reduce their own risks by outsourcing to subcontractors. Subcontracting skill containers thus accumulate risk and their strategy in turn decides whether the system as such may be able to stabilize.

The normal stabilization pattern among skill containers is always to be looking for alternative employment of their skills and resources. For two reasons, subcontractors in Denmark do not just passively await growing orders from one customer. The first reason is that they would be investing in increasingly specialized machinery, which often requires financial and technical resources to manage. Second, such firms will know that they risk losing their most able and skilled workers if they simply follow a strategy that leads to an increase in the size of batches. On the other hand, the *Meister* knows that he always risks losing a customer and he is always trying to balance demand among several rather than a few customers, never trying deliberately to let one customer take up more than about 30 per cent of his total capacity. In order to be able to act in this way he will often be prepared to make additional, complementary but marginal investments in general-purpose machinery in order to be able to add a new customer to his existing group of customers.

Compared to their size, skill containers will often possess machine capacity in excess of what is needed, compared with the demands they meet and the number of workers they employ. In terms of profitability they often do a bad job, but these are the costs involved in protecting themselves against loss of core workers while, on the other hand, at short notice being able to increase temporarily just-in-time deliveries for a customer.

In periods of increasing demand, skill containers try to recruit new workers, whereby the *Meister* discovers that among them are a few persons with complementary skills and ability who fit into the core group and to combine these with the rest of the group in such a way that the group improves its level of self-management. This approach increases the responsibility of the *Meister* to look for additional customers and to purchase complementary general-purpose machinery.

Having started with a certain group of workers with specialized skills, and a certain group of specialized machines, though of a general-purpose nature, the firm gradually develops into a very complex machine-shop with many different processing skills. In many cases it is now able to perform the entire processing and assembly of a large number of different products. In this situation it has transformed itself into a factory that produces products for a whole mass of industrial customers who just bring the products to the end-user. Often this position involves the complicated administration of a whole group of subcontracting skill containers at lower levels of the value chain to do the final completion of products to

many different customers. In order to be able to manage such a set of complicated tasks, these multi-product contractors have to specialize. Therefore, they gradually select those areas in which they have the highest reputation, enabling them continuously to attract skilled workers and customers by applying the same strategy.

Project coordinators dealing with skill containers in order to grow in their main field, i.e. bringing a product to a market, will have to develop strategies for dealing with the strategies of skill containers. They will often be forced to meet increasing demands by increasing the number of suppliers. To do this without risking high variations in product quality they will have to expand their technical skills in organizing supplies, quality testing, etc. But the real core problem is that of finding a firm that will take responsibility for all the final assembly work. Often they will have to invest in facilities and workers to do this themselves.

On the surface this implies that project coordinators and skill containers develop towards a similar type of medium-sized firm. This happens only occasionally, however, because the two logics are very different indeed. Skill containers develop this form of organization in order to buffer their core skills from cyclical, seasonal or structural fluctuations; consequently, skill container firms often only assemble such semi-finished product groups that have very critical measures for performance; the project coordinators, on the other hand, take on assembly tasks only to be able to combine many semi-finished products into a finished product, the assembly of which is quite unsophisticated.

The organization of the medium-sized skill container is continuously run from below, whereas the project coordinator often develops some of the more usual traits of a Fordist mass producer: a larger group of managers relate to customers and suppliers in the network through which the firm operates and it employs a basically low-skilled core of (usually female) assemblers organized in a very autocratically run factory, often located far from the city where its headquarters is based.

It follows that growth within skill containers and project coordinators happens as a consequence of the basic structure of the system in which an abundance of small skill containers and small project coordinators are evolving their strategies. They have to grow because of the strategies that others develop to escape from becoming dependent on firms like themselves. Therefore it rather adds growth to the system than alters the system and the relations among firms.

Another reason why relations do not change with growth is that

project coordinators that reach a high turnover of similar types of products seldom use this position to dominate their Danish subcontractors. As soon as the quantity which they demand from subcontractors reaches a level that can be more efficiently negotiated with large foreign component or subsystem producers, imported components will substitute for Danish subcontractors. This, in turn, reinforces the latter's determination never to become dependent on one large customer.

In other words, firms which grow to such proportions that they would tend to have the capability and power to change the prevailing pattern of peer-group relations, tend to choose to develop relations with the international system rather than to establish a domestic hierarchy of the normal type, either in terms of a Fordist vertically integrated firm, or an external Japanese-type hierarchical system among subcontractors. In any case, these strategies make it possible even for firms with a high turnover to remain rather small in terms of numbers of employees, and to avoid establishing the kind of authority system which is associated with industrial activity in most other countries.

The managerial tasks which arise in such firms are less a matter of being able to coordinate and control; rather, their tasks are associated with negotiations and 'horse-trading'. Growth thus makes it possible for managers to establish a place for themselves within the project coordinator type of firm in Denmark but, rather than the managerial tasks and functions associated with running factories, these roles rest on traditions developed in large trading-houses and among merchants.

Summary of the business system characteristics of the typical firm: a comparative classification of Danish SMEs

The social division of economic roles between skill containers and project coordinators may look very similar to the division of roles found elsewhere, where SMEs play a major part in the formation of firms. Are there any differences between the Danish pattern, as modelled above, and the Japanese *kaisha*, which group subcontractors around a dominating manufacturing concern? Are the division of roles and the interactions among skill containers and project coordinators not similar to the division found in some Third Italy industrial districts between the middlemen, *impannatore*, whose contacts with foreign buyers make it possible for the small subcontractors of the districts to have their goods sold on the international

market? Finally, is Denmark's persistent SME structure not very much the same as that found among overseas Chinese family firms?

In our view the decentralized production systems of both the Japanese *kaisha* and the Third Italy represent closed associations in the sense that many SMEs participate in an integrated and closed value chain. Japan has become notorious for being able to keep foreign firms out and imports low (van Wolferen, 1989). Beccattini (1979) originally used the *filiére*, i.e. the vertically integrated sector, instead of the industrial sector statistically defined to characterize industrial districts in Italy. The dynamics of the system are determined by the organizing abilities of the dominating manufacturing concern in Japan, which has succeeded in creating a hierarchy of 'careers' among their subcontractors, monitored in much the same way as the internal labour force (Sabel, 1993). The organization of the system of subcontracting firms by the *impannatore* of the Third Italy seems, at first sight, more occasional and of a broader scope for alterations in roles among peers. The evolution of Benetton's network into a hierarchy seems to indicate that it is possible to change Italian districts into Japanese *kaishas* (Harrison, 1994).

In the Danish case 'the sector' cannot be anticipated as being vertically integrated. On the contrary, since at least the mid-1960s production of most standardized components and intermediary products has been lost to foreign suppliers. Denmark had neither the strong business groups, like the Japanese *keireitsu*, nor the artisanal associations such as the CNA, to develop strategies by which it could organize modernization of such types of production. Apart from their strategic importance, the production of standardized components and intermediary products offers rich opportunities for developing interactions and networks among enterprises and helps establish innovative user–producer relations throughout the economy. But it is also often along these networks that power and dominance most often are established.

For these reasons, Danish skill containers cannot simply identify themselves or have project coordinators define their place and role in the vertical division of labour. Rather, they have to play rapidly changing roles in many, rather than a few, 'value chains', if they want to survive. Typically, they improve their ability to do that by helping their customers buy cheap components and intermediary products from the world market by being agents for foreign mass-producers of the same type of items they themselves supply in customized form. Second, they expand their own capabilities by being able to organize occasionally a short-term value chain with

other national skill containers. And this pattern helps explain why Danish project coordinators are unlikely to become as crucial in organizing skill containers as the *impannatore* of Third Italy or Toyota of Japan.

The key source of the difference between Denmark and Italy and Japan, we think, is the skilled workers in the three countries. Whereas economic pressures in Italy may force firms into 'sweating' and dependence on a few customers, and thus establish a lasting reconfiguration of the system, it is very difficult for a Danish SME to survive through such a strategy. The team of skilled workers, constituting skill containers in Denmark, will soon leave such firms and reinforce from within the destruction imposed on it from the outside. The difference between Denmark and most other SME-intensive countries is simply that 'the firm' plays a less significant role in the institutional construction of Denmark than it does in most other countries, where firms *are* the way to organize a team of workers. We admit these differences to be more hypothetical than conclusive, not least because many of the studies on workers and work organization in the districts of the Third Italy have been rather superficial.

According to Redding (1990) and Redding and Whitley (1990) overseas Chinese capitalism is consistently characterized this way:

1 small scale, and relatively simple organizational structuring;
2 normally focused on one product or market with growth by opportunistic diversification;
3 centralized decision making with heavy reliance in one dominant executive;
4 a close overlap of ownership, control and family;
5 a paternalistic organizational climate;
6 linked to the environment through personalistic networks;
7 normally very sensitive to matters of cost and financial efficiency;
8 commonly linked strongly but informally with related but legally independent organizations handling key functions such as parts supply or marketing;
9 relatively weak in terms of creating large-scale market recognition for brands;
10 a high degree of strategic adaptability.

(Redding and Whitley, 1990: 86)

Against this framework, we would characterize Danish SME organization in the following way, referring to similar dimensions as Redding and Whitley:

1 small scale and relatively simple organizational structuring of the individual firm, due to the complex separation of operational and market-related activities between different types of firms;
2 normally focused within skill containers on a small number of processes, which can be adapted to an endless number of different activities, while project coordinators either present a distinct product-palette in many variants, or customized turnkey equipment for many different markets;
3 decentralized decision-making by operating teams, often represented by middle managers or shop stewards, while the top executives do the final formal checking;
4 ownership by a former craftsman in the case of skill containers is important for keeping the organization balanced in favour of the teams of skilled workers, and the owner often takes action to prevent both his/her family members and managerial groups from taking control of the firm;
5 as long as an entrepreneur craftsman runs his own skill container a paternalistic atmosphere prevails, but it is rooted in his reputation as a craftsman, rather than in his ability to create clientist relations to his workers;
6 linked to the environment through personalistic networks, but whereas these linkages are centralized to the dominant executive in the Chinese case, in Denmark they get established at many levels of the organization mutually between Danish skill containers and project coordinators. The dominating language is by craft specialization and the linkages reinforce the sense of craft community between independent firms;
7 normally very slow to recognize poor profitability, because it is difficult to calculate the costs of individual projects; financially very conservative, as it would typically rather choose to reduce financial costs than to optimize financial gearing;
8 commonly linked informally and weakly to a number of independent organizations, which recognize the reputation of the firm from having experienced its services in times of troubles;
9 project coordinators are often able to take advantage of the underlying system of reputational linking, establishing themselves as representatives of 'Danish design' and achieving large- scale market recognition among distinct market seg-

ments, which are able to evaluate high quality. This may both be observed in industrial markets for reliable equipment, and in consumer markets for connoisseurs;

10 a low degree of strategic adaptability; instead of being decided among top executives, strategies emerge as an evolutionary pattern from intended and unintended consequences of actions taken among a multiplicity of teams of skilled workers.

THE HISTORICAL AND SOCIETAL CONSTITUTION OF THE TYPICAL FIRM IN DENMARK: THE SOCIETAL PLACE OF THE FIRM

We have elsewhere tried to explain why the immediate producers (primarily farmers and craftsmen) were able to establish an industrial regime under their direct control (Kristensen and Sabel, forthcoming) and have argued why strategies from agents that want to impose on Danish firms a centralized structure have failed (Kristensen, 1992a, 1994a). In the following section we shall try to investigate this matter in depth, focusing on the behaviour of potential principals. Why did neither the state, the financial élites, the engineers nor the managerial professions succeed in making firms agents of their own projects in Denmark? We will conclude this section by interpreting the societal place of the firm in the Danish context.

The state, élites and business associations in Denmark

In many business systems, the state plays a crucial role in economic development. Thus Johnson (1982) has characterized the Japanese state as developmental, against the more regulatory states of the Anglo-Saxon world, while Wade (1990) distinguishes between regulating and governing the market. The Danish state, though among the oldest in Europe, can neither be characterized as developmental nor as governing the market. Compared to such strong states as France, which are able to concert action between state bodies, banks and business groups, the Danish state looks very weak indeed. More important, however, it seems to have been unable to develop a role as mediator, common to both Sweden and Finland, where the state may monitor negotiations among different business groups.

One reason for this weakness is probably the state's inability to act as an integrated body; it seems to be lacking an integrating or centralizing principle, be it a military purpose or belief in the divine

nature of the state. The reasons are to be found in the organization of the Danish state and the way in which the Danish welfare state emerged.

First, municipalities and counties are constitutionally independent authorities in Denmark, with legal rights and obligations for independent taxation and public spending. Thus, it is impossible to implement a developmental strategy without first consulting and negotiating with major representatives at these decentralized levels, and it would be difficult to reach consensus on favouring some regions and not others.

Second, many so-called public institutions, though funded primarily by the state, are 'self-owned'. The reason is historical, as most social groups had created their own institutions for social welfare, health insurance, education, etc. before the emergence of the Danish welfare state during the 1930s. While the creation of the welfare state in many countries rested on a central design, the Danish welfare state was established through the state's 'inclusion' of institutions created during the self-help movement around the turn of the century. It thus became an odd assembly of privately founded 'bodies'. The result of this process of state 'formation' is a complex segmentalism. Very different rules are applied in various sectors and areas, making any unifying principle for state action short-lived and dubious, as the constituent parties, who have captured the right to negotiate, vary significantly among various 'segments'. For example the 'folk-high-school movement' works through a complicated private and 'public' network by which it is self-administering, though receiving large funds from the state. Similarly, the unions and the employers' associations, together with representatives of the schools within the vocational training system, dominate all levels of this system. There is a large number of such segments, as the Danish welfare state was created as a compromise, guaranteeing some groups benefits in exchange for helping other groups. Consequently, the state is weak in rejecting demands from new grass-roots movements and has to include new segments as they arise, because it can claim no legitimate principle for exclusion (Fonsmark, 1990). For these reasons we characterize the state as decentralized, segmentalist but inclusive.

Whether this role of the state is an effect or a cause of the very fragmented situation of the Danish élite can be a subject of infinite discussion, as in the case of the chicken and the egg. The typical pattern is that the various fragments of the state are governed by representatives, who have been selected from the decentralized

bodies of the civil society. Consequently, the career pattern, determining who will achieve a high position at state level, is decided by the circumstances governing that area of civil society in which people act. Consequently, the folk high schools, the vocational training system, the universities, etc. tend to staff the corporatist bodies governing their own segments. The same phenomenon applies to bodies that more directly affect industrial development, for example export subsidies or subsidies for technological innovation. Inclusion into these many fragmented parts of the élite is governed by no universal selection criteria, and in Denmark there is no specific group, such as the *grandes écoles* in France, from whom to select the élite. There is no élite university as, for example, in Japan (van Wolferen, 1989) that ensures access to core positions. For these reasons neither a certain style of governance, nor a dominant form of discourse, that may help select developmental strategy, has established itself to legitimate resource-allocation. The strong pressure on government spending, however, has made budgetary discourse particularly strong, but always underlining the dangers of disequilibrium between the public and private economy, rather than pointing towards a coherent developmental strategy.

This does not, of course, mean that there is no élite in Denmark. Rather, the implications are that the actual élite is short-lived, dependent on personal relations and often the result of actions at the lower part of a segment. As ties to these lower parts tend to weaken while being in a power position, membership of an élite tends to destroy rather than to reinforce the position of power. Academic titles are, in general, less important to this recruiting process than in any comparable country. In Finland, for example, the title of doctor seems to be important to both political and administrative appointments.

To explain how the Danish élite arrived at its present situation, characterized by competing factions applying ambiguous recruitment criteria for being appointed to corporatist positions, would require an analysis of the transitional period from the absolutist monarchy to the present day. Østergård (1992) gives impressionistic sketches for such an analysis, emphasizing the power which the peasants gradually gained in Danish society. However, this growing role of the peasants, rather than being a cause, ought to be explained as an effect of the élite's weakness: for what internal reasons did the Danish élite disintegrate?

We think that a study of the provisional governments[2] from 1875 to 1894 would reveal some of the reasons for the disintegration of

the Danish élite. First, during that period estate owners and the old administrative élite became associated with the old Conservative party (Højre) which was seen as seizing power against both the constitution and the popular will, which at that time was represented by the Liberals (Venstre). The Liberals, broadly speaking, turned their back on the state during these crucial decades of modern Danish economic history and channelled much of their energy into the development of the locally based farmers' cooperative movement. Thus the Danish state was left in the position of a passive spectator during a period in which a much more Saint-Simonian state-building took place in Germany and France. This weak role of the Danish state was self-reinforcing. Instead of inducing cooperation among its élite, the state became a victim of rivalries among the emerging élite factions.

This rivalry was particularly strong amongst the circle of people connected to the three newly established Copenhagen banks, lasting from 1870 to the turn of the century. Tietgen, the Danish counterpart to Morgan in the USA (Kristensen and Sabel, forthcoming), and Adler of Privatbanken were in open rivalry with Gedalia and Glückstadt of Landmandsbanken, while Fonnesbech, belonging to the latter group, was in conflict with Estrup, chairman of The Copenhagen Bank of Commerce (Handelsbanken). To complicate this picture, Adler later joined the Bank of Commerce group in opposition to his old coalition partner, Tietgen (Gejl, 1989). Had this rivalry only concerned the fight for a dominating role of the banks *vis-à-vis* the economy, it would probably not have differed much from the struggles going on in most European countries at that time. However, these factions were directly and very deeply involved in rivalries for state power. In 1875, Fonnesbech had to leave his post as head of the government to Estrup, who simply assigned all the former members of the board of the Copenhagen Bank of Commerce (Handelsbanken) as cabinet ministers (Fink, 1986). We have limited knowledge of how this group around Estrup used its state power, but it is rather revealing that Tietgen added no new 'gründer-activity' to his former long list after 1876, and until 1894 he was often in open opposition to the many governments under Estrup's leadership. These rivalries among the élite made it impossible for the state to act as a coordinating agent for industrialization and destroyed the large banking groups' chances of gaining a coordinating power similar to that of other economic agents in many other European societies.

Probably it is also during this period that the state bureaucracy

learnt to behave obediently, whereas it formerly had tended to be a much more significant power within the élite. During these years of rivalry between various factions of capital and political parties, the bureaucracy institutionalized a behaviour of being loyal to the party in power, whatever its colour was, and did not develop economic dependence on any particular power-constituencies. Danish bureaucrats thus seemed to be neither easy to corrupt nor to become strong advocates of a lasting developmental logic involving a certain faction of a current business élite.

This situation left the yeoman communities with time to act and create institutions supportive of small-scale capitalism based on local circumstances, thus institutionalizing the potential for rival factions on an enlarged scale, so to speak. In addition, the state permanently lost its ability to hegemonize the discourse in such a way that the population would interpret anything that came from those sources as supporting superior national interest. Rather, in Denmark the state represented an arena where private interests could fight for public financial support. Consequently, we argue, the state has been unable to ask business enterprises to perform certain tasks or to be seen as an agent of national development. Rather, the causality worked the other way round. Public policy looked more like private appropriation of public money and the state became a means rather than an end.

The state being a weak agency, civil society was created by a very intensive process of forming associations from the 1870s to 1914. The farmers' cooperative movement, the labour movement, the craft movement and so on, all created associations able to act, where state initiatives were found deficient. Private associations came to regulate, quite autonomously, their own social spaces and even to create – as in the case of the employers' associations and the unions – their own laws and rules for negotiating conflicts between social groups and spaces. One effect was that Danish society, for a longer period than any comparable Western society, lacked laws defining the rights and obligations of limited liability companies (Just, 1986; Michelsen, 1991), making principal–agent relations dependent on social relations and thus very informal. Agreements often had to be negotiated directly by the parties involved, who lacked rules defining when an association was a firm, a cooperative or a simple partnership between private persons. The background for this method of approaching and building a capitalist economy was that the farmers' cooperatives benefited from tax laws by not being too well-defined *vis-à-vis* limited liability companies. The lack

of definition, thus, reflected the sharing of power in the early phase equally between yeoman producers and large corporations.

The strength of private associations and the weakness of the state combined later to develop a society in which the business community lost its basic tools for mediating cooperation and a cooperative search for strategy. Being unable autonomously to regulate the flow of goods and raw materials during bilateral trade in the 1930s, the state had to ask business associations to take on this regulating role. As a consequence, these business associations became extremely centralized and had to coordinate the Danish business world top-down, cooperating very tightly with a number of business-oriented ministries. For natural reasons, many of the costs associated with running the new bureaucracies of the business associations were paid by the state. As in various social welfare provisions, the associations prospered by state inclusion, and the bodies of ministries and associations became very tightly interlocked. While leaders of business associations often functioned as decision-makers on corporatist bodies within the state, the administrative functions of the private and the public organizations involved also became tightly interlocked, as administrators would often climb the career ladders by zig-zagging between the two – a pattern which still exists (Fivelsdal *et al.*, 1979).

These very direct mechanisms for state inclusion integrated state and business associations very tightly into one social field. The state helped associations finance their activities, making it possible for them to offer to their constituent business firms services at very low costs. For this reason it has been very easy for these associations to maintain a large constituency and formally to look very representative. However, it has also created a cleavage between the constituencies and their associations. Member firms no longer see them as mediators in interest conflicts, neither do they regard them as important bodies for formulating a strategy towards the state and for their industry's development. Rather it has become increasingly obvious that these associations are undertaking the task of turning private interests into public policy.

Business associations are important arenas in which particular factions of the business community create coalitions that enable them to dominate these associations and to be represented in the bodies that allocate public funds. From such positions they can create alliances which can direct several institutions into some kind of concerted action that may assist particular firms in a major way. Such forms of concerted action, however, can never be legitimized

by talking very concretely about the projects involved. But the administrative bodies of both associations and public institutions are, in general terms, able to legitimize these deeds by referring to universal theories or attractive lessons from other countries. In effect, the Danish business associations act as discursive bodies in which the universal or global discourse on industrial development is repeated to legitimize the concealed public financial support of private interests. Consequently, discourses that explicitly recognize past experience of the Danish business community and identify its particular needs are excluded. Such discursive practices, however, are not very resistant to criticism, and other factions refrain from such criticism only as long as their particular projects receive public finance.

Because of these mechanisms it seems as if consensus prevails, though it is not very clear to an external observer what the parties agree about. What has been destroyed during the process is an industrial public, which could have pointed out the tasks of the state and furnished the parties involved with an aggregated understanding of their common project.

Business associations in some countries, especially for small firms in Italy, are able to formulate their interests against the state and other associations, for instance associations of large firms in Italy, enabling them to enact their development projects bottom-up. However, in other countries such processes lead directly to the choice of top-down strategies, as in France. In Denmark this process has led only to short-lived, rather unconscious cooperation between different groups of firms, public financed 'self-owned' institutions and corporatist bodies assisted by administrators in associations and ministries. It enables particularistic projects to be carried through, without violating the dignity of the civil service. History is filled with examples of such coalitions. However, due to their nature they do not take on organizational form or become a well-defined strategic recipe to be imitated over and over again, and both the state and the élite become very volatile.

Financial institutions in Denmark

Though the three dominating banks were rivals, they probably imitated their German counterparts until the end of the First World War. Like Tietgen, they tried to mediate collaboration within groups of enterprises belonging to their sphere of interest. By 1905 they were represented on the boards of one-third of the 90 joint stock

companies in Denmark. This third, however, accounted for 56% of the total assets of the publicly held corporations. Consequently, they were able to coordinate a major share of the largest enterprises at the turn of the century. But this potential collaborative and coordinated economy had ended in scandals by the beginning of the 1920s. Intrigues between the two tycoons of that time, the founder of the East-Asiatic Company, H. N. Andersen, and Glückstadt from Landmandsbanken, by then the largest bank in Scandinavia, led to the Landmandsbanken being revealed as a club of speculators. This club included a large group of people in the highest circles in Copenhagen and had used the savings of private depositors in an unhealthy – and criminal – way for self-enrichment, but had failed (Mørch, 1986). The state hastened to limit the scandal, bailing out the troubled ship with taxpayers' money. However, the large banks had lost their position. This started a process through which they lost their ability to act like their German colleagues as coordinators and mediators of cooperation. They were no longer allowed to possess stocks and to be represented on the boards of industrial enterprises. Therefore only through great efforts could they establish the ties that make it possible for banks to act as principals towards agent enterprises.

The effect of this disruption of a credit-based system quite similar to that of Germany has not, however, been a transition to a typical Anglo-Saxon capital market-based system. In Denmark the stock-market has developed much more slowly than in these countries (Michelsen, 1991). Two institutions, in part, help explain this paradox. First, the building societies play a much stronger role in Denmark than in any other comparable society, allowing the building and equipment of private housing, farms and enterprises largely to be financed by these credit associations, which have deliberately been designed to prevent the borrower from becoming dependent on the lender. By issuing bonds in large series to finance their lendings, building societies rule out the possibility of establishing a principal–agent relationship between a specific borrower and a specific lender. Risks become socialized and statistical, rather than specific. The second institutional mechanism is the traditionally strong position of local banks and savings banks, which were created by the farmers to prevent themselves from becoming dependent on merchants and banks of larger towns. Though these savings banks could only engage themselves in loans to private customers, who could provide security in real estate, they have been able to play an important role, given the existence of basic financial means for fixed

assets from the building societies. Both these financial institutions benefited small producers whose major assets were farms or craft-shops and dominion.

By establishing cooperative facilities among themselves, savings banks have gradually been able to engage in an increasing number of sophisticated banking services. In order to serve local customers they developed a sophisticated technique for assembling complicated portfolios of financial sources when communitarian ties either induced such or forced them to do so. Such communitarian relations have continued to be effective even after many of these local banks and savings banks have merged with the large Copenhagen banks, as they had already developed the capacity to act on their own within a larger context before becoming subsidiary branches.

The social effects of banks and the state on the firm

If we are right in our characterization of the state, élites, business associations and financial institutions, the consequences are important. In many countries such contextual elements condition the behaviour of firms. In the Danish case the business system lacks this very conditioning. If it exists at all, our argument leads to the conclusion that such conditioning acts at a local, rather than national, level. Proximate institutions of the sort analysed so far give no indications of a certain type of isomorphism being imposed on firms.

In both France and Germany the institutional levels mentioned combine to create strong societal mechanisms which the firm has to address either by passive conformism or by intelligent strategizing. Even in the more institutionally pluralist Anglo-Saxon models, the strong impact of the capital market system makes the business firm engage actively in financial auditing, portfolio management, etc. which combine to pull managers into an earnings growth strategy. Being neither directed by the logic of the capital market, nor offering principals in a credit-based system channel of influence, the firm in Denmark, at this stage of the analysis, seems much less defined in its social role, as the external stakeholders are unable to ask for formalization and conforming behaviour.

Some would probably argue that this situation of the firm resembles the classical concept of 'free enterprise' which only has to adapt to the logics of the free market. Our argument is rather that the nature of the firm becomes radically different from our normal concepts. As we shall see in the coming section on other

proximate institutions (vocational training system, unions and professions) the lack of these conditioning factors creates less social space for managers and entrepreneurs to exercise their capabilities.

In our view, it is by combining often ambiguous demands, by coupling different partly conflicting rationalities or, in Barnard's (1938) terms, by reconciling ethical conflicts, that managers/entrepreneurs take on a social 'function' and thereby create a social space for themselves. In the Danish case, conflicting demands make it less possible to argue with some stakeholders against others, and vice versa. Consequently, it becomes quite difficult to import rationalities from a major part of the social fabric in order to legitimize authority. Management strategies become less self-evident and legitimate when they cannot be prescribed by a greater social context or be legitimized through a general discourse penetrating also institutions outside the firm. The naked state in a way leaves managers naked, too. When the agent can no longer refer to a principal, his ability to enact the role of a principal is rather weakened than strengthened. In a 'free enterprise', institutionally speaking, managers and entrepreneurs enjoy little autonomy, especially when this combines with proximate institutions which help employees achieve a high degree of autonomy in their jobs.

Vocational training in Denmark

At a very general level of analysis, Denmark's system of vocational training resembles the German dual system. Skills and testing are constituted by triparite commissions involving employers' associations, unions and public authorities at local levels for schools, at the national levels for specific trades and finally at a commission, which tries to create uniform modules among different trades. Compared to the German system, Denmark's has been modernized with the introduction of the EFG reform. As a rule, apprentices start with one year of basic training before entering their apprenticeship and selecting a narrower field of specialization. As in the German system, the Danish apprenticeship opens up a multitude of educational careers, for example to become a foreman/*Meister* or a *teknikum*-engineer. Such career paths have traditionally been very strong in manufacturing industry and crafts, making it possible for skilled workers gradually to approach managerial levels or to establish their own firms within their trade.

In recent years this career pattern has increasingly been contested by academic engineers or business-school graduates, and the enrol-

ment rate of skilled workers to these traditional, advanced educations has declined. Instead, a new pattern is emerging (Kristensen and Petersen, 1993) in which, having concluded their apprenticeship, skilled workers embark with increasing intensity on modules of further training at the publicly financed technical schools. Local schools of different orientations have started to collaborate on new curricula, enabling quite advanced courses to be shaped entirely at the local level. In some localities workers can shift between still more advanced courses by combining the knowledge of different schools and holding different job positions, gradually learning the theoretical foundations of their speciality, and gradually expanding their ability to integrate the skills connected to their job. At the same time, they often move from one work space to another, thus achieving the skills necessary for integrating a number of job roles within a factory. This pattern makes them particularly qualified for the managerial or technical tasks which involve swift communication between the firm's higher managerial, R. & D. or sales-oriented activities. Consequently, a complex web of managerial tasks at the lower level becomes intensively populated by former skilled workers who have personally experienced conditions on the shop floor.

During the last forty years unskilled workers have also been very successful in establishing their own training system, the AMU centres, enabling them continuously to contest the skills of the skilled workers by initiating similar courses at their schools. Consequently, within many Danish firms unskilled and skilled workers are competing incessantly to operate specific work-places and machines. On the other hand, the skilled workers continuously compete with technicians about the demarcation between these two groups, which consequently are involved in continuous competition over the technical and managerial tasks involved in running the factory, if not the entire firm.

Since these dynamics are rooted in the vocational training system which, due to state inclusion, is primarily publicly financed and hence a general national system, firms are only in part able to regulate such dynamics within their own domain. Achieving these skills at schools and through publicly regulated apprenticeships, employees at all levels are very mobile horizontally. Consequently, firms are forced to apply generalized criteria for job design, autonomy, etc. if they want to be able to recruit workers with good skills. Taking advantage of this system, firms have had no need for business services like those discussed in recent debates on the continual renewal of the Third Italy small business system (Brusco, 1992). The reason is simple. By sending their workers on further training courses, Danish firms achieve at little cost what their Italian colleagues have to pay for through cooperative business services.

In short, the vocational training system is an offer which only fools refuse. However, the effect of not refusing it is that the skills to operate, staff and plan the jobs at the shop floor are introduced to the firm through the workers, rather than through managerial and technical staff. New routines, thus, do not originate from an established team of managers within the firm, as in Penrose's (1959) theory, but often arise from workers' participation in vocational training.

As the intensity and the quantity of different further training courses are much higher in Denmark than in any other European country (Höcker, 1992; Auer, 1992), each individual worker acquires an almost unique combination of skills. Unlike the dominant picture of the German system, it will evoke tension and poor utilization of these skill combinations if a workshop is managed according to a set of standard skills, as in the case of the traditional craft-dominated factory said to prevail in Germany (Maurice *et al.*, 1986). Rather, these skill combinations can best be utilized if they combine directly among the workers at the shop-floor level. Therefore, managers have to know these strange combinations from having worked within a number of various projects over the years. They have in part to share biographies with those whom they are supposed to manage. In such a system, recruitment is not a simple task. While neither tasks nor skills are managed according to predefined standards, the simplistic rules of meritocracy are inapplicable. What a system like this requires is, on the one hand, workers and other employees with a certain combination of skills, and, on the other hand, a collective ability to exercise different combinations of skills in different situations within changing group compositions.

Craft-dominated unions in Denmark

As indicated above and also elsewhere (Kristensen, 1989b, 1992a, 1992b), one of the major reasons for the dynamics and hence the importance of the Danish vocational training system is that the unions compete for the right to organize different jobs by pushing their members to undertake further training, providing them with the skills to legitimize the unions' claims.

The origin of this pattern is to be found in the core role played

by craft unions during Danish industrialization. This core role again was the outcome of several interacting dynamics. One cardinal point was the discovery within the Social Democratic labour movement that it was much easier to organize unions if they followed the demarcations of the old crafts rather than those of general or industrial unions. This principle of organizing made the Social Democratic union movement in Denmark the strongest in Europe from 1880 to 1920. Simultaneously, the craft unions' role was reinforced by the wider craft movement. While gradually becoming enemies over the wage issue, the employers' trade associations, following basically the old guild divisions, collaborated intensively with their journeymen's unions to protect their trades against becoming proletarianized and/or destroyed by industrialization. They joined forces in setting-up and improving a system for vocational training by which both parties hoped to be able to regulate their numbers, improve and modernize skills and hence protect their trade from cut-throat competition and sweating.

In many industries this strategy proved successful and as the growing skill level amongst skilled workers helped them develop professional identities and continuously, despite industrialization, to strengthen their sense of belonging to a craft community, which would gradually spread from the old guild towns to include the craftsmen of agricultural areas. In effect, the remaining workers had to organize accordingly: males in the unskilled workers' union and females in their own union.

Compared with Germany this unionization pattern evokes very different dynamics among the different groups of workers. Conflicting interests cannot hide within the internal fight over hegemony of one union. Rather, these interest conflicts are fought out in the open and within individual firms employing different groups of workers. In central negotiations these different groups are able to develop different strategies in which their mutual rivalry plays an important part.

One important aspect of these strategies is that while the unskilled workers' and the females' unions have been in favour of centralized wage negotiations, most craft unions have maintained the right to negotiate wages locally after and between central negotiations. This gives the craft unions a very far-reaching range of adaptability and it is remarkable that in times of employment reduction, craftworkers are able to protect themselves from unemployment by being less demanding in local negotiations, while during booms they can change strategy rapidly.

However, by using this tool to protect their social space in the

factories during the 1930s and the 1940s, they forced the unskilled workers to contest the skilled workers on the basis of their skills. By first setting up evening courses and later on schools for specialized workers, the unskilled workers tried to compete over skills and consequently turned themselves into a consortium of specialized workers, contesting continuously, now as an institutionalized pattern, the skilled workers on many fronts. In short, the craft workers have imposed their own strategy on the unskilled and turned the unskilled union into a craft union. That this dynamic is very different from the German pattern is shown by the fact that in Denmark the intensity of further training among the so-called unskilled is the highest in Europe, while Germany shows one of the lowest intensities (Auer, 1992).

Another remarkable difference between the German and the Danish systems is the fact that a Danish worker who becomes a foreman or a *Meister* has to leave the union and become a member of another union. This difference in associative practice is due to the fact that in Denmark many of the first strikes broke out because foremen/*Meisters* tried to impose rules which were in conflict with the rights and obligations of the old guilds. These new 'factory regulations' became a core issue during the intensive strikes and lockouts around 1900. The employers won the right to organize their factories in exchange for recognizing the unions as legitimate negotiators. The effect, however, is strange. Foremen and *Meisters* are in the middle, belonging neither to the workers' nor to the managerial side, while the shop steward or 'trust man' is the true negotiator and mediator elected by the workers and to be approved by the managers.

However, the election of the shop steward is no straightforward matter. Each branch of workers, belonging to a certain union, has the right to elect their own shop steward. The 'local' shop stewards are then represented by a convenor who negotiates on their behalf with the managers.

Being excluded from this game, the Danish *Meister*, compared to his German colleague, loses a major part of the authority by which he could speak with his superiors, while he also knows that many of his superiors' decisions have to be negotiated directly with the convenor and 'his' shop stewards. Consequently, formal authority is reduced in the lower end of the managerial ladders and much autonomy is in the hands of the workers, who possess the skills to integrate planning and operations. At the same time, the workers' collective, by electing most often very experienced workers as convenors and shop stewards, monopolizes the knowledge about which

skill-combinations are truly capable of being integrated. Consequently, employers have the formal right to manage the factory but seldom possess the knowledge that makes this possible independently of the convenors.

In playing this game, the group that possesses the largest and broadest scope of skills tends to win the game of how to run the factory most adequately. For these reasons the game is, in most cases, easy to dominate for craft workers, and therefore union politics, also within firms, tend to be craft-dominated, even in cases where craft workers play the minority role.

Professions in Denmark

In many countries, primarily Saint-Simonian France but also in the USA (Noble, 1977) and in Norway, as shown by Halvorsen *et al.* in this volume, the engineering profession has played a remarkable role in designing the industrial firm as a social space within which the importance of its own role is confirmed by the whole set-up of the organization. The professional hegemony of accountants within firms in the UK is another well-known example of professional influence on the social construction of the firm.

In Denmark such influence seems to be limited, as most new managerial or industrial professions have lost to the craft-oriented complex. The case of the civil engineers in particular is enlightening. The educational reforms initiated in the beginning of the nineteenth century, which led to the establishment of the engineering profession, was seen by Ørsted as contesting the old guilds' influence on production. Before the turn of the century, however, the civil engineers had decided to contest the military engineers in their struggle for social space. They aimed, in particular, for dominance in the construction of public facilities and infrastructure (Kristensen, 1942). Then, from the First World War and until the end of the 1960s, the *teknikum* engineers, by building their education on top of the apprenticeship system, ousted the civil engineers both in numbers and importance in most industries. At the same time a complex web of further training schemes made it possible for skilled workers to compete for the positions arising with the imitation of American scientific management.

Today this means that the engineering profession is separated into three different formal types, each with a very different profile (civil, academic and *teknikum* engineers), where the *teknikum* engineers are particularly strong in areas of managing and monitoring production, sales, etc., i.e. typical managerial tasks of manufacturing industry, while civil engineers in particular dominate R. & D., construction, external negotiations, etc. (Jensen and Jørgensen, 1984). Unlike in Norway (see Halvorsen, Sakslind and Korsnes' contribution in this volume) this separation of tasks has made it difficult for engineers to form a coalition against other interest groups within firms. The *teknikum* engineers will often share interests with workers, while civil engineers may often be much more prone to get involved in projects with other firms' R. & D. departments, public-financed bodies and R. & D. institutes and thus become quite marginalized in terms of internal interest formation. However, during the last couple of decades, civil engineers seem increasingly to have created their own social space in terms of large, engineering consulting firms populated with people of marginalized relations to the firm now acting formally, as they have often done informally, as external consultants. Probably a similar pattern applies to business graduates with an academic degree.

This pattern has important consequences. Most academically educated managers within manufacturing firms are recruited to formal high-level positions, where they thus become socially isolated. Therefore, they often consider such positions within firms as temporary. The limited number of steps to climb of the career ladder within a Danish firm simply makes it impossible to imitate the universal career patterns of these groups, if they are not continuously looking for jobs in other firms. Danish top executives thus become a very mobile group. For that reason top executives are often considered unimportant in coalition formation, which then takes place at lower levels of the hierarchy. Rather than becoming top managers who possess the capacity to solve ethical and politically complicated issues within the informal organization, which is said to be the function of the executive (Barnard, 1938), top managers as a collective are nomadic, travelling from one firm to another with some universal theoretical schemes about how firms may reorganize and be changed. Again academically trained managers appear in the social role of the consultant, rather than that of the executive manager.

The social role of the firm

It follows from what we have said so far, that the firm in Denmark is unable to attire itself in some sort of divine or superhuman dress. Compared with Finland, for example, where the state sees firms as means of national development, the difference is great. For no group

or institution is the firm as such a means for larger than human interests. Like the Danish state, the firm is naked. It is simply a means by which men (and women) express their industriousness and through which they may aim to change their local positioning. While in many countries the state anticipates the supply of goods in general and hi-tech sectors of strategic interest in particular (Sweden some years ago even declared shoes to be one such sector) and of military importance, Danish firms have never been able to claim military importance.

Few, if any, firms in the industrial sector, would be able to mobilize more than a small gang of external stakeholders to act in their favour, politically or financially. No groups, organizations, or institutions are involved in the destiny of a firm to such an extent that they see their own survival as being dependent upon the survival of that firm. One may say that the core interest holders, apart from an entrepreneurial owner, are the skilled workers, but their relation to the firm is institutionally defined through their horizontal mobility on a labour market, where the state compensates their wages, should they lose employment.

Consequently, the core motivations for setting up and running a firm must be explained at the community level and, in particular, in terms of the individual's relations to this community, the extent to which this community celebrates, blames or counteracts the existence of firms and entrepreneurial activity (Kristensen, 1994b). It is at the communitarian level, rather than the institutional or the societal level, that it is decided whether the firm, as an institution, will be able to mobilize larger societal reserves and capabilities, should they be needed.

Our argument is that the firm as an isolated institution is not an agency in Denmark from the perspective that its strategies in themselves can create and restructure the context. Rather it is through the involvement of communitarian groups within and around the firm that are able to combine in such types of strategies that the firm as an institution will be helped to survive, to grow, or will be rejected and doomed to decline.

However, in retrospect, if we consider the totality of what has been said so far, it all adds up to a very peculiar way of developing an economy. Whereas in many countries the state shares risks with firms as a means of development, the Danish state rather seems to share the risks with the population in which it invests large resources to enable the citizens to act upon shifting circumstances. If they fail in this endeavour the state again socializes the costs. The firm in

this setting becomes merely a social space for the temporary exercise of human capabilities enabling individuals to express and position themselves within their community. The logic is no less holistic than in most economies within so-called development states, but it is indeed a very different logic.

A COMPARATIVE CHARACTERIZATION OF THE ENTIRE DANISH BUSINESS SYSTEM

As is generally the case of Anglo-Saxon countries, the Danish economy could be said to be partitioned, as major actors maintain arm's-length relations to each other (Whitley, 1994). In the Danish case, however, the partitioned nature rather expresses itself in fragmentation (Kristensen, 1992a). What is related are not major oligopolistic competitors, as in the case of the USA and the UK, but rather a mass of highly specialized SMEs. Another difference is that Danish society offers a rich variety of ways to mediate informal cooperation along different communitarian relations. Among such communitarian linkages we have emphasized in particular the tight social bonds in small railway towns, and collegiate relations among craftsmen (Kristensen, 1992a, 1992b). However, we wish to emphasize the opportunities that such ties also offer business associations and the state. Contrary to Germany and France, for instance, where such ties allow firms to establish more lasting forms of cooperation, the nature of these ties seems more fragile in Denmark. Here, they enable the formation of short-term project-oriented coalitions but do not lead to the institutionalization of a lasting bloc of dominant actors. Though the business system thus is partitioned among major players forming coalitions in order to compete for the control over associations, and through this control over public finance, the communitarian ties among SMEs make such mutual relations possible in that they are both protected from being controlled by fragile dominant agents and avoid the evolution of the centrifugal type of economy, which is said to characterize Chinese business systems, for example (Whitley, 1992a, 1992b).

THE CHANGING NATURE OF THE TYPICAL DANISH FIRM

In the first section of this essay we suggested the governance system among skill containers and project coordinators and within skill containers among various teams of workers to be rooted in

reputational linking. Unfortunately, at this moment, we have been unable to investigate whether this principle of governance is aided by nationally instituted mechanisms. It is obvious that standard-setting, technological measurement and public testing facilities, all of which Denmark has a great deal of help establish such a governance system and make possible the evolution among these two typical firm-types in Denmark.

However, we think that the major mechanism by which this governance system has hitherto worked in Denmark is close personal relations, though these personal relations, rather than being established through kinship, have become rooted in the craft educational complex. Whereas a conservative craft-educational complex may help establish very clear and enduring criteria for good and bad reputation, it is obvious that a craft-educational complex as dynamic, in technological terms, as the Danish will experience great troubles in retaining such criteria. Instead firms, both skill containers and project coordinators, are continuously infused with new methods of work, which have to be institutionalized as routines through interaction in a process that accepts no margin of time to separate execution from planning. It is precisely the ability to reduce planning time that enables Danish firms to gain a place in the international division of labour. Therefore, in general there is no time available to have a complex set of publicly financed institutions to define standards for reputation.

For these reasons, so runs our hypothesis, it is necessary for firms and teams of workers to establish their own reputations and test the reputations of others through a direct process of shifting collaboration. We think that Denmark, so far, has been unable to do this in other ways than by communitarian mediation. Since the craft districts in Copenhagen, in which certain crafts were clustered around a certain place or along a specific road, started to break up around 1930, the city has gradually lost the type of agglomerated economies in which skill containers and project coordinators interact. Simultaneously, it is obvious that the small village communities of Western Jutland have gradually increased their share in the total industrial development in Denmark. In these smaller communities extra-economic ties help establish such intensity of interactions that they can help sustain often only occasional business exchanges.

The ability to tie together a number of complementary skill containers on a short notice is, we think, what makes up Denmark's comparative advantage on the international market. This ability enables firms which are acquired by large multinationals to play a distinct role within such new corporate settings (see Kristensen, 1994a). As far as we know, such relations may rather reinforce than weaken these nationally specific traits. However, this strategy is more often a defensive reaction than an offensive determination of their own endogenous nature.

A more offensive response, which has been known about for a long time but more systematically explored only during the last decade, is to establish skill-container consortia. This strategy was adopted in Copenhagen at the turn of the century when, for example local cabinet-makers would join together and set up a cooperative store and showroom, which could sell to customers a whole range of different furniture. The same concept has often been employed, when Danish furniture-makers have joined together and appeared as full-range providers of all sorts of furniture at international trade-fairs. Today, this pattern among Danish furniture makers has been further elaborated, as they have set up a federative organization selling and exporting a whole group of furniture-makers' products internationally (Henriksen, 1994).

What happens in such cases is that a group of skill containers set up a cooperatively owned project coordinator that can act independently in given markets. Among machine-shops this approach has lately found widespread attention as it enables a consortium of firms to market an integrated set of abilities and offer sophisticated services to foreign firms in industrial markets. What is marketed is not a distinct product or specific subcontracting, but rather an ability to solve complex technological problems.

The evolutionary processes of growth and the problems of monitoring such federative types of firms in which peer-group relations are constituent of the organization is less than clear at this moment. In our view it seems as if, again, it will enable Danish firms to develop international strategies in a way that reinforces their basic identities, rather than changing them towards universal 'ideal types'.

NOTES

1 These two phenotypes are often integrated, as we shall see, in individual firms and for that reason it has been difficult to identify clearly such distinct roles being played out in the Danish case. The investigation of a network of firms focused on a lamp producer, by Poul Andersen and Paul Rind Christensen (1993), suddenly made the systemic pattern more clear to me. I owe much to them for this clarification, though the typification of the two phenotypes and the theorizing about them in what follows is my own responsibility.

2 The period when the Danish administration was carried out under provisional Finance Acts, not voted by the Lower House.

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