

Kapittel 7. The Institutionalization of Industrial Administration in Norway 1950 - 90

- Consequences for education in business administration of domination by engineering

Introduction¹

It has now become common wisdom that there is a link between management practice and the culture of a given society. There have, however, been few studies that deal with the way in which educational institutions shape industrial administration (Fligstein and Byrkjeflot 1996). This may be due to the strong influence of neo-classical economic thought, in which the education system in itself does not matter because, in the last instance, it is shaped by the economy. Managers are understood to be calculators responding to market stimulus, and also in their search for new managerial recruits and their demand for education. In the current wave of cross-national cultural studies, on the other hand, managers and educational systems are presumably pre-programmed by a given society's culture (Hofstede 1993; Lessem and Neubauer 1994). This sudden jump from economic determinism to culturalism seems unfortunate. In the authors' view, there ought to be a relationship between the patterns of recruitment and qualification in management and what kind of industrial structures and strategies emerge in a given geographical area. Knowledge-producing institutions matter because they influence and shape the groups and personalities that are recruited to the executive positions; because of their impact on the way in which they interpret their own activities; and thus also how they legitimate what they do when confronted with opposition or insecurity.

The Modern History of Industrial Administration

The institutionalization of industrial administration

The modern history of Norwegian industrial administration, from about 1950 to about 1980, is the history of change within a tradition of strong continuity. During this period, the Norwegian system of industrial administration, for which the foundation was laid in the previous period (1900-50) was institutionalized. This institutionalization was due to a particular configuration of actors and ideas within the firm, the pattern of industrial relations, the professions, and the educational system.

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All these actors have to be taken into account in a fully fledged account of the history of Norwegian business administration. In this connection, stress will be put on forms of learning and possible types of education. However, in this period, there was no development of educational institutions for management education as such. The only private business administration school of any importance - the Norwegian School of Management (NSM) - focused primarily on practical economic administration and techniques for middle management (Amdam 1993). The major public institution for private business education in Norway - the Norwegian School of Economics and Business Administration (NSEBA) (Jensen and Strømme Svendsen 1986) - also leaned more towards teaching administrative techniques and economics than general management and leadership-oriented subjects.

However, the decisive point as far as the Norwegian system is concerned, was the historical domination of engineers in management positions, and the importance of engineering education in the production of managerial knowledge. In comparison with technical education, business education came very late, and its influence has to be considered against this background. Most positions above the level of supervisors that contain managerial obligations are strongly dominated by one type of engineer or another. Even though engineers have to acquire new types of knowledge in order to improve their chances of advancement as managers, they seldom lose their primary industrial/technological identification. This is, of course, due to their historical heritage - namely, that engineers were the dominant professionally educated group in industry during the process of industrialization - and, more specifically, to the way this heritage is currently being reproduced by established institutions (Halvorsen 1993).

Norway has a strong polytechnic educational tradition (Halvorsen 1993). This is considered to be the basic type of education - to which any managerial knowledge has to be added. Thus management and technology seldom lose contact. The educational system is linked to a hierarchy of administration within the firm. This hierarchy does not create strong lines of demarcation between the different sorts of engineers, and this makes it easier for engineering education in Norway to provide business with managers at all levels. Engineering education, then, is also a kind of management education. Managerial careers may also emanate from lower-level types of education, even though civil engineers dominate this area and sooner or later more than half of them end up in executive positions. Some of the reasons for the strong organizational domination of the engineering profession will be illustrated below, and we will indicate how this is related to the shaping of management.

Between the United States and Germany?

As a gross simplification it may be indicated that the Norwegian system developed as an unstable compromise between the American and the German systems. On the one hand, the strong German tradition within the engineering profession, and on the other, the powerful leaning towards the West with regard to business relations and social orientation, represented alternative structures and positions that had to be united. After the Second World War, a wave of Americanism came to make its impact on language, ideology, and social identifications. It did not lead to fundamental changes in institutionalized practices in industry, and the ‘German’ ways of doing things were still entrenched in some domains (Hartmann 1963; Ermarth 1993). No consensus as to what management is was established. Two major elements accounted for this relative instability: first, the entrenched position of engineers in Norwegian industry; second, the particular compromise reached in the early 1950s between the macro-governance of markets and financial systems and meso-management in industries and firms, which left the task of macro-governance in the economy to the national economists, and management, leadership, and administration in the firm to the engineering profession.

Before embarking on the historical account it is useful to specify the comparative background against which changes in the Norwegian scene are analysed. The success of the American management tradition is due to the fact that it has effectively combined the functions of leadership and administration in the idea of *general management*. Within an organizational unit, the terms leadership and administration may be used to distinguish between the need for motivation and innovation, on the one hand, and control and coordination, on the other.² This means that people in formal authority positions at all levels of the organization are responsible for leadership as well as administrative functions. The major distinction, then, is not between leadership and administration, but between general and specific management. Leadership is believed to be a necessary activity in all parts of the system, particularly where managers have to manage other managers. The American *general management* tradition, which emerged as a fully fledged idea and practice in the interwar period, was constructed by innovative business practitioners and consultants such as Alfred Sloan, Chester Barnard, and Peter Drucker (Barnard 1938; Drucker 1949, 1954; Sloan 1963).

The ideal was not the public administrator nor the owner-entrepreneur nor the technical director, but the general manager. The higher up the hierarchy, the more leeway there was for fulfilling this ideal; but in order to advance to such a level the specific manager would have to demonstrate leadership

abilities. The logic of the whole system, therefore, was more attuned to leadership than to administration. This logic was supported by an industrial relations system, which had a sharp distinction between the managerial and laboring classes, and an educational system, which separated education for manual and management functions. In the long run, according to such a philosophy, engineers could not occupy major positions in industry. It was a system that was much more open to dispute among the various professions presenting alternative leadership models. The theory of decentralized control and management by objectives, as introduced by Sloan and Drucker between the wars, and the steadily increasing influence of an economic and financial way of understanding leadership, have to be understood in such a perspective.

Then there is the type of business administrative system which is found in Germany. The German *Unternehmer* is even better educated than the American top executive, although more often in a technical discipline. In Germany the leadership function is more strongly constrained by family heritage, the importance of public administration, and the cartel tradition in corporate governance (Byrkjeflot 1993a, 1993b). The continental leadership/administration tradition (*Führung/ Leitung* in German) puts less emphasis on leadership and more on administration in the lower managerial positions. The leadership dimension is taken for granted to a much greater extent. Therefore, most emphasis is put on administration, and thus education in the appropriate administrative techniques. The idea is that leadership should not be thought of in relation only to specific educational programs for business, but has to be developed and preserved within other spheres, such as the state, the family, or the professional and occupational sphere.

It is claimed that the technical, engineering-dominated, and patriarchal family-dominated systems have each made their impact on the Norwegian management tradition. However, the suspicion is that, in general, the technical element is even more important in Norway than in Germany, which comes closest among the larger nations to the technical ideal. In Norway, the patriarchal system predominates within some networks of small firms in the regions, whereas the technical system is most firmly entrenched on a national level. Because there is often a missing link between regional and national industry, however, the engineering dimension is the key source of identification for actors in the field of industrial administration.

² When the term *general management* is used in this chapter, we refer to the specific American tradition of business administration. When we use the term 'management' however, it encompasses the executive function and the activities performed by personnel in management positions.

The new system of business administration education which was established in Norway in the early 1950s, contained an unstable compromise between the different actors; the owner-executives, the employer associations, the unions, the professions, and the politicians and administrators involved in the educational system (Halvorsen 1982, 1993). They all contributed to the invention of Norwegian business administration. While relying on the established tradition, they also had to deal with the strong influence from America.

Trends and movements, 1950-90: an overview

The Norwegian field of business administration in the postwar era has been constituted by four epistemological trends and social movements. These are the post-Taylorist, socio-technical, industrial democracy, and managerial trends.³ It is in the interaction of the systems of ideas, the actors who pick them up and give them new meaning, and the merger of these ideas and actors into social movements that the meaning and importance of epistemological trends may be grasped. These trends are constant only in an analytical way, however, because new forms of knowledge and actor constellations emerge and create new ideologies and practices on the basis of the same systems of knowledge. Moreover, they do not just combine the same basic ideas in new ways, they also create new kinds of knowledge and accumulate new types of experience. Managerialism as it emerged in the United States from the 1930s on, and was disseminated to the rest of the world after the Second World War, may have been exactly such a new combination of ideas and actions crystallizing into new kinds of social movements and social structures (Enteman 1993; Ringer 1992; Swidler 1986).

It is not thought, however, that managerialism existed as anything other than a sub-current in the Norwegian field of industrial administration in the immediate postwar era. Four epistemological traditions have been identified - that is, trends in the Norwegian context to which most actors had to relate. Some actors, of course, were more likely to link up with one trend rather than another. The trends were interdependent, which means that, in a field of knowledge, each developed partly as a response to another (Ringer 1992). However, the actors did not make entirely independent choices as to which ideas to pick up and respond to. Certain trends caught on more than others owing to economic, political, and social circumstances.

³ The distinction between trends and movements is an attempt to keep separate the ideas themselves and their use by the actors. The institutionalization of a field of industrial administration, from this perspective, is an outcome of the interaction between systems of knowledge and actor constellations.

The four trends were both cumulative and conjunctural. The sociotechnical trend and the industrial democracy movement were closer to thinking of the human relations type than that of the more rationalistic and bureaucratic post-Taylorist kind. Managerialism in the Norwegian context, where the organic way of conceptualizing society was firmly ingrained, was a difficult program of governance for anything other than the firm - at least before the 1980s when managerialist governance of the whole of society emerged as a possibility.

The post - Taylorist trend in the 1950s

The emphasis in the 1950s was on administration and efficiency, rather than on leadership and effectiveness, which later emerged, along with the sociotechnical and industrial democracy movements, as the more important themes in industry. On the whole, however, the field of industrial administration was getting increasingly complex and involved a growing variety of actors (Gulowsen 1984, 1987).

A compromise between an industrial relations system of joint management and a post-Taylorist type of internal administration was developed. The basis for this compromise was a deal, in the early 1950s, between government and industrialists, on the one hand, and economists and engineers, on the other. According to this deal, it was government's task, with the help of national economists, to devise the overall economic framework in which industrial actors could operate (namely, macro-economics), whereas the development of technology and business organization was left to the engineers in alliance with the owner-managers. This meant that a major part of the leadership element in management was left to the government and that, accordingly, the emphasis within the firm was on administrative tasks and product development. The tradition of post-Taylorism was both encouraged and advanced by this system of joint administration and division of labor between the professions and actors in government and business.

The deal was a setback for the managerial trend, which was being revitalized throughout Europe, partly as a result of direct American intervention. The golden era of post-Taylorism in Norway was in the immediate postwar period, and then again in the 1980s. However, when it reappeared in the latter period, it was in a new and more mature - and perhaps also a genuinely innovative - form; managerialism. Post-Taylorism was always the sub-current against which other more significant trends and actors defined their positions. Elements from this philosophy were institutionalized at several levels within the field of business administration; at lower levels through the training-within-industry (TWI) courses for middle and lower managers, and at higher administrative

levels through the Norwegian Productivity Institute (NPI), which was established in 1953 with funds from the Marshall Aid program. Between 1953 and 1958, 6,000 workers and supervisors went through the TWI program. The purpose of the program, which was initiated by the Norwegian trade unions, was to qualify union leaders for supervisory positions within industry (Gauslaa 1993; Utnes 1993).

After the Second World War, then, several institutions were established with the explicit purpose of transmitting knowledge of American business administration to Norwegian firms, but the emphasis was more on specific techniques than on managerialism as a philosophy and governance model.

The leading group within the field of industrial administration was an alliance between representatives of the joint management type of programs and the engineering profession. The latter had a technically competent and politically neutral image that fitted well with the agenda of the major owner-entrepreneurs in Norwegian industry in the 1950s, as well as with the consensus-oriented and technocratic governmental agencies. The major threat, in the perception of the owner-entrepreneurs,⁴ came from the strong labor unions. They themselves probably preferred the macro-governance of industrial development promoted by the national economists with the support of the social democratic government to industrial self-government in the economy, which they feared might leave an opening for a union takeover and thus intervention in so-called managerial prerogatives.

So the compromise that was struck was not only between management and labor, and government and industrialists, but also between economists and engineers. It was envisaged that the economists would concentrate their efforts on economic macro-governance, whereas macro-innovation and industrial administration would be left to the engineers. In this last task, however, the engineers were very much constrained by the joint management idea. A system for labor representation was developed within the firm as well as on a societal level. The major consequence of this was a further strengthening of the culture of cooperation, consensus making, and continuous bargaining between representatives of the workforce and the managers.

⁴ It is hard to estimate from available information the numerical strength of different types of ownership within industry. Owing to the importance of small-scale industry, Norwegian owner-entrepreneurs probably have maintained an important position.

The socio-technical trend in the 1960s

The predominant trend of the 1950s was challenged in the 1960s by the socio-technical trend. The movement forming around this trend introduced a human relations type of management, and contributed strongly to the development of human resources administration as a major strategy. The first major alternative to the engineering tradition in industrial administration was thus introduced - namely, social science, primarily in the form of psychology. However, it was still not introduced as an attempt to challenge the engineering profession, but rather as a means of supplementing its knowledge and ability to manage (Lundberg 1991).

During the 1960s, engineers, still the predominant recruits to managerial hierarchies, saw the demand for new managerial techniques of the types the social sciences provided. The socio-technical movement also challenged and partly changed the industrial relations arrangements initiated in the wake of the joint management deal struck in the 1950s. It supplemented the Taylorist tradition by adapting elements from the particular Norwegian joint management tradition. The new compromise was an abandonment of wage systems and systems of reward based on the traditional Taylorist system of measurement (work and time studies) and the introduction instead of trust-building agreements based on productivity and fixed wages for all categories of workers. The idea was to pass over the zero-sum power ideology, and show that both parts could increase their power through new forms of participation. This led, on the one hand, to an increased legitimization of the administrative system of the firm, bringing in types of knowledge from outside the engineering professions. On the other, the strengthening of the bargaining power of the leaders of the workforce at the firm level increased the legitimacy of the local union, at the same time as the union at national level had its position boosted. More aspects of the work situation now came under the joint management system. Engineers were able to adapt to this new situation and could therefore continue as the core group in the industrial administrative system.

The industrial democracy trend in the 1970s

The joint management type of administration of the firm came to a peak in the 1970s. It was during these years that the firm-based union administration developed several types of shop stewards (*tillitsmenn*) who not only defended the workers' immediate interests but were also involved in the firm as such - that is, in the development of policy relating to technology, marketing, and human resources. Moreover, a number of new positions were established as a result of the new laws for industrial democracy, the industrial environment, and health care (Hagtvet and Lafferty 1984). The

firm was increasingly managed from the top down by the senior executives and the union representatives, leaving middle management in a crisis.

The managerial trend in the 1980s

This crisis of middle management continued into the 1980s, which was a decade of strong ideological and political change. The Norwegian system of industrial administration now faced several major challenges, among them the revival of post-Taylorism as managerialism. This movement was associated with a strong belief in economics as an instrument of governance, mainly on the organizational level, and a frontal attack on the Keynesian ideology which had been the basis of the Norwegian compromise between economists and engineers, and workers and managers.

This perceived failure of planning and macro-governance gave an impetus to the new managerial movement. The firm as an organization became the central unit of interest for the managerial revival, because it focused on the need for autonomous management strategies at the firm level. The deepening economic crisis supported this fixation on the firm, since it was diagnosed as having been caused by 'Eurosclerosis' - namely, too much emphasis on macro-regulation, public administration, and privileges for special interest groups in the private economy. The firm had been incapable of reacting appropriately to market demands owing to the joint management tradition and the heavy domination of engineers and macro-economists in the administrative system. This development posed a challenge to the actors within the industrial relations system, who based their legitimacy precisely on a belief in joint management and the macro-regulation of relations within the firm. In addition, it was a major blow to the socio-technical traditions which, in Norway, had been successfully adopted by the engineers. The new managerialist movement was gaining support within the engineering profession as well, but its primary protagonists were graduates from the business schools. Support for the post-Taylorist model of industrial administration was clearly in decline. This was also due to increased complexity in the economy, the rise of the new educated middle classes, and the educational revolution.

New types of positions and organizational forms had been developed within the new academic field of business administration, and new ways of interpreting the purpose and strategy of the firm were introduced as a result of increased professional diversity. Innovative conceptions of industrial administration emerged among groups outside the engineering professions. New cooperative ventures between blue- and white-collar workers and management were launched - kinds of

cooperation that connected the firm to the societal and political scene in other ways than the earlier joint management tradition.

To summarize this overview; the 1980s represented a major challenge for the Norwegian system of industrial administration. But this challenge did not result in a fundamental change of the system. The diversity has increased; moreover, during the 1990s a revival of the trends associated with the other major movements in the postwar era has been experienced, together with a partial rehabilitation of the engineer who, in Norway, has demonstrated a remarkable ability to adjust to new trends in industrial administration. However, in the long run, the managerialist challenge of the 1980s may turn out to be a serious blow against the predominance of engineers in the management of industry. A new type of discourse has been established around the flexible firm, in which industrial relations and industrial democracy are considered as obstacles to change (Reve 1994). The diagnosis is that the social and political constraints on the autonomy of the firm have to be leavened so that the process of decision making relates more strongly to its market aspect. Its human resources aspect has not lost importance; on the contrary, it is seen to be more important than ever. However, this aspect is perceived to be important for a different reason. The emphasis is now more on the formation of skills, individual performance, and adaptability. In contrast to the previous emphasis which was on the design of the job itself, the internal career system, and so on. Macro-governance of the development of human resources is promoted at the same time as macro-governance of the economy and of the firm is being abandoned as a strategy for change.

Different trends and types of education for management

How the different trends and movements stimulated different types of training and education for management is the next thing to be discussed. At one end of the spectrum the most formalized and institutionalized sort of programs come to mind - programs that contribute to the formation of the professional system and positions within the industrial administration system. At the other, the more informal and *ad hoc* types of education, in which practitioners try to preserve their established position through the enlargement of their knowledge base. The next section of the chapter will discuss how the system of education for management, which was established in an era of engineering dominance, has influenced the position of various groups in industry, and how management in general is to be conceived of in Norway.

The educational system may be studied as an agent of change in the field of business administration, as will become apparent. Changes in the educational system in one period affect the interactions

between those involved in the next. There is a continuous time-lag. Initiatives and ideas from peripheral and non-hegemonic groups are activated within institutions of learning and counseling; they then blossom when the 'time is ripe' -namely, in conjunction with political and ideological changes in society. The movements described in the previous section may have strengthened certain epistemological positions, and affected thereby the attention these trends were given within the education system. Furthermore, various groups in the professions and the educational system react against the predominant trends within industry. Such groups develop programs and institutions that may influence the system for industrial administration in a major way. In the long run, too, the educational system is the primary means of bringing new actors and conceptions of industrial administration on to the scene. If managerialism is indeed a new ideology, its emergence, diffusion, and possible downfall cannot be understood independently from development trends generally within the education system.

Education and Management in the Post-Taylorist Period

In the immediate postwar era, there was a struggle between two sets of actors and ideas. On the one hand, there were those who were primarily oriented towards the Anglo-Saxon kind of management thinking, and on the other, there were those who emphasized instruments for macro-governance along with joint administration at the shop-floor level.

The post-Taylorist tradition was boosted by the Marshall Plan in particular, and the strong links between the Norwegian leaders and those of Britain and the United States during the war. A cluster of managerial ideas, inspirations, and traditions in Norway, which are hard to separate, are embraced by the post-Taylorist period. It might be said that what, in all probability, separated managerialism from Taylorism was the *general management* idea. However, as George Kenning, an American consultant working in Norway, emphasized, it was difficult to get top Norwegian executives to adopt a generalist attitude (Kalleberg 1991; Schjander 1987). This was because Norway was part of the continental European tradition, in which the distinction between 'general' and 'specific' management has not been emphasized.

In the Norwegian context, the managerial task was to administer a system on the basis of premises established elsewhere, whereas the Anglo-Saxon generalist manager was a less constrained specialist in the task of setting a purpose and then getting others to do the work necessary to arrive at this purpose. It was much more difficult to emphasize the need for strong leadership at the firm

level in the Norwegian context, since the demand for such leadership was not strong among owners and workers owing to belief in macro-governance and the joint management method of running the firm. There is also, for several reasons, a general skepticism among Norwegians of authority, which makes it difficult for managers to establish legitimacy for decisive action (Andersen 1988; Sejersted 1993). This may be the reason why it was easier to transfer the leadership function to national economists and the social democratic state, which had acquired its legitimacy in democratic elections and in its resistance to the German occupation. In the local business system, the causes of the limited success of managerialism may have been different again. The leadership function in small firms was less problematic, since it was often taken for granted that someone in the owner-entrepreneur's family would take on this role. The family and the regional context were more important than the belief in industrial administration or the government as such.

Internal recruitment

To specialize in *general management*, then, was not an appropriate career strategy in a country with a legacy of public administration, joint management, and a predominance of small family firms. To the extent that management was separated from ownership at all, in Norwegian firms around 1950, managers were primarily recruited internally (Halvorsen 1983). This gave them a double identification; with their occupation and with their firm. Their occupational identification could not be separated from the firm since their skills were both based on experience and socially embedded in the context of a firm. The educated engineer also had to start in a lower position in the firm, and go through the same sort of career moves as other workers; it was difficult, therefore, to distinguish the professional from the managerial career.

In other words, there were no established separate career tracks for general managers and professionals, as was usual in the United States and Britain (Goldner and Ritti 1967). The advantage of this type of recruitment was that it contributed to a high level of trust between upper- and lower-level positions. The engineer-executives knew the capabilities and tasks of the professional and managerial people below them because they had worked their way up through the same positions and had developed a network of social relations in the firm. Thus it was possible for them to allow the people beneath them to solve their own administrative and technical problems. As a result, the relatively untrusting Anglo-Saxon tradition of management thinking was not implemented in Norwegian firms in the 1950s, even though its success at the ideological level was apparent (Fox 1974; Kalleberg 1991; Schjander 1987). In the main, this new managerial orientation established a position outside of the firm, within the growing number of consultancies. In the increasing, though still

not very developed, process of separation between owners and managers, the latter companies played an important part. Consultancy was an engineering activity at this time - a leading position that only lessened slightly during the 1960s, as first business school graduates and then social scientists began to enter the arena.

Training and educational institutions

These management consultancy firms were backed by factions within the industrial organizational networks who, in accordance with new ideas emanating from the liberated West, hoped to get rid of some of the forces constraining management action within the firm. Many members of these factions had been educated in the United States, on management courses. Both people and organizations had strong links to the Taylorist movement; indeed, some of the organizations were actually installed to advance Taylorist management techniques. The most important of these was IR, later IRAS (*Industriforbundets Rasjonaliseringsgruppe*), established in 1936. The groups that pushed to have this division established were central to driving forward the neo-Taylorist techniques and services that now started to flood the market. This was done through the use of and backing from private consultancy firms, but more importantly still through particular organizational settings within the established industrial associations. To a large extent, the aim of these institutions was to transfer information to the general public about new ways of managing. IR, for example, started its own bulletin on management and rationalization within the national journal on industry (*Norges Industri*).

The actions taken by the network of management-minded industrialists were often closely coordinated with those of a number of rationalization agencies established by the engineering profession.⁵ All together, they represented a substantial attempt to advance post-Taylorist strategies within business administration. These groups were all dominated by engineers, and the most active and energetic among them established a tightly linked network of institutions and persons, which was the core of the post-Taylorist movement in Norway.

Nevertheless, this movement was unable to establish any form of regular education for management within the established educational institutions, even though it may be regarded as a breakthrough that the Norwegian Institute of Technology (NTH) decided, after about thirty years of discussion, to establish a professorship for industrial economics and organization (Halvorsen 1982; Hanisch and

⁵ Among the agencies in question were *NIFs rasjonaliseringsgruppe* and *Polyteknisk Forenings Rasjonaliseringsgruppe*. The last agency was an old and distinguished institution containing an amalgamation of the industrial- and the national/industrial-oriented educational bourgeoisie factions.

Lange 1985). When the professorship became effective after five years of planning, the curriculum consisted of a combination of subjects from labor law and industrial relations matters to techniques from the Taylorist cookbook. Demands from management circles within the Norwegian Association of Industry that NTH should create a whole division for studies on management were not granted owing to the strong polytechnic tradition. The purpose of the school was to educate engineers not managers.

There were courses in company management at some of the lower-level technical colleges at this time. However, they seem to have vanished during the 1940s and 1950s, basically because the engineering elite was trying to establish the discipline of business administration as a monopoly for the top echelons of the profession. The courses that had been initiated on a local basis at the technical schools lost their place in the system, therefore, and the support of planners of the education curricula. It is only recently that these schools have again become arenas for systematic managerial and organizational training.

The Taylor tradition also had some representatives at NSEBA in Bergen, mainly thanks to a Swedish professor, but it dwindled at this school too (Halvorsen 1983; Jensen and Strømme Svendsen 1986). The social network of organizationally oriented engineers was tight-knit and their strategy was to establish business administration as a high-status field of knowledge within the engineering profession. This group provided an important link between the activities of the various types of interest organizations, which gave an impetus to a strong post-Taylorist movement in Norway. Nonetheless, the achievements of the movement were limited. In the long run, the professorship at NTH may actually have turned out to be an obstacle to the establishment of a more broadly based education in management and organization.

The post-Taylorist movement, then, was most successful at the ideological and cultural level. It was met with resistance by owners of firms and among some labor leaders. An agreement between the social partners in industry - the so-called agreement on work evaluation and time studies - established a structure that gave the engineers room for action within the post-Taylorist framework. This agreement, reached in 1947, the same year as the professorship was established at NTH, represented the beginning of the post-Taylorist phase. It meant that the post-Taylorists were established across organizations that combined the engineering profession with managerial interests and positions. They contrived to create pressure groups - the so-called committee for cooperation between NTH and industry amongst others - but did not succeed in establishing higher education for

management. They only succeeded in implanting managerial knowledge within the established professional education system.⁶

Education and Management in the Socio-Technical Period

The success of the post-Taylorists was not total, leaving room for both supplementary and complementary types of management practice and thought. In this period therefore, institutions and types of education were created on the basis of alternative traditions that had emerged during the 1950s. These traditions later developed a more permanent and penetrating influence on company practices and management cultures. The established post-Taylorist institutions also became more diversified in terms of their knowledge orientation. Consultancy firms, for example, introduced new management techniques both in commercial fields and in human resources administration and development.

It was appropriate that the first challenge to the post-Taylorists should come in Norway, as in other countries also, from the psychology-inspired 'human relations' tradition. Einar Thorsrud, a psychologist, had already come on the scene in 1950. In 1953, he launched his frontal attack on the Norwegian Taylorists' most cherished progeny; the Method, Time, and Measurement (MTM) programme. This was a continuation of Taylorism, and closely associated with the ideas underpinning the Marshall Plan. Due to Thorsrud's intervention however, and a general resistance based on values deeply ingrained in Norwegian culture, the MTM program was never allowed to take off. Rather, the standards that had been developed became an export product, which turned out to be particularly useful for the Swedes (Volvo).

Thorsrud established an alliance with leading industrialists and managerial groups that wanted to push forward various types of human resources management. In 1958 his work was rewarded when the Institute for Industrial Milieu Research (IFIM) was established at NTH in Trondheim. At the same time another institution, the Seminar on Industrial Administration, was established at NTH. This traditional technological center was thus enlarged by two institutions which were directly concerned with the organization of the firm. The Seminar on Industrial Administration was later able to establish

⁶ The major achievement of the post-Taylorist movement was at the level of propaganda and consultancy. Two establishments need to be mentioned in particular: *Norsk Produktivitetsinstitutt* (NPI: Norwegian Productivity Institute) and *Produksjonsteknisk Forskningsinstitutt* (PROFO: Institute for Technical Productivity and Research). PROFO was established in 1950 by the leading American-educated Taylorists, and soon acquired a reputation as far as consultancy was concerned. The aim of this institution was to merge microeconomics and

its own department as a result of several years of discussion about the relationship between engineering and management, and the need for specialization or generalization in administration. The department was established after pressure from the engineers, who sought to secure and advance their managerial positions in the firm. positions that were challenged essentially by the owner-managers, and only marginally by other educational groups at that moment in time.

The new institutions at NTH represented alternatives to the essentially engineering way of thinking and the focus on administrative techniques of the post-Taylorists. From 1952, a further alternative - the 'Solstrand courses' - came to be located at NSEBA in Bergen. While the new institutions at NTH were oriented towards the internal problems of the firm, the purpose of the Solstrand courses was to broaden and enlarge the perspectives of top managers. However, the leader of the program, a psychology-oriented engineer called Rolf Waaler, also had a long career in vocational planning and the teaching of supervisors. These courses did not therefore become the basis of an entirely *general management* type of institution, but one based, rather, on a hermeneutical philosophy. The fundamental learning process consisted of collective reflections around own practices. Overall, this movement boosted the socio-technical program that was formulated during the early 1960s, and activated as projects the so-called experiments in 'industrial democracy' from 1966. These work-organization-centered projects came to dominate the period, creating fresh space in the next phase for the development of both industrial relations and industrial democracy.

A new dimension had now been institutionalized within the Norwegian system of industrial administration - the socio-technical, practice-oriented, and shop-floor-centered tradition of managerial thinking. It was primarily scholars at NTH who were active in this field, while the main business school (NSEBA) maintained a rather low profile. Thus the idea of *general management* became more distinctly associated with the engineering profession than with business school graduates.

Education and Management in the Period of Industrial Democracy

The *general management* trend developed among groups identifying with the postTaylorist position at the same time as the socio-technical tradition was appearing as a movement. By the 1960s and

knowledge of the technology of production into a specifically Norwegian tradition of rationalization. See also Carew (1987) and Yttri (1993).

1970, however, it was far less influential than the socio-technical trend and the joint management movement.

The 1970s represented a breakthrough for regulation of the managerial function, through agreements tariffs, laws, and other so-called constraints on the freedom of the top executive. Many of the traditional institutions got involved in this process and a new psychological research institute was established - the *Arbeidspsykologisk Institutt* (API). This institute was located in Oslo, and was able to gain the initiative in the field of industrial administration, which meant that the center of the socio-technical tradition moved from Trondheim to Oslo.

In some ways this period represented a return to the post-Taylorist debates; what types of incentives to use, how the degradation of work could be avoided through processes of rationalization, and so forth. The sociotechnical tradition of the 1960s had developed into a movement for the reinterpretation of the old Taylorist devices as they had been developed within a Norwegian system of bargaining. Even though it was possible, in this period, to see a growing number of schools and courses claiming to do training and education for *general management* (Amdam 1993), the real content of these new initiatives was rarely anything other than various techniques within the discipline of business administration. The need for these kinds of courses was obvious; the relative weight of administrative personnel within the hierarchy of the firm had grown fast. The proportion of white-collar workers, for instance, had increased from about one-sixth in the 1950s to one-third in the 1970s (NAF funksjonærstatistikk 1982). On the whole, the field of industrial administration was now thoroughly regulated and there was a variety of institutions and organizations which based their activities on the need for interpretation and defense of established positions within this field. The role of shop stewards in local bargaining on social- and health-related matters, as well on issues of wages and technology, had been emphasized in the new labor law. Worker representation on boards and new types of joint internal control systems were also established.

Education and Management in the Period of Managerialism

In the 1980s, the increased power of the upper-tier executives and union representatives in the field of industrial administration was met by resistance from lower managerial personnel. Middle management was tired of being excluded from both industrial democracy and the new staff departments. Lower managers linked up with educators in a movement which sought to establish the need for new managerial knowledge and possibly to professionalize. This is particularly reflected in

the jargon of the Norwegian School of Management, but also in the various initiatives for the revival of managerial education at the technical colleges. The middle managers' union developed courses on management and administration that were quite demanding. The schools for business administration and technology experienced a boom in interest, and they now also had to relate to a demand for more systematic education for practicing managers. Many of the institutions that had been established in the previous periods became much more active - for example, *the Norwegian Institute for Human Resource Management* (NIPA). This was the case with most institutions, save for *the North European Management Institute* (NEMI), which did not survive intact for the glorious years of the 1980s but faded away after a short period.

Even though money was wasted on NEMI, in general experience was accumulated. Some of this was applied to the new *Norwegian Institute for Leadership and Administration* (NILA), which was a joint venture between those who now felt the need for more systematic support for the managerial interests within industry. The professional organizations of the business school graduates and the engineers were involved, as well as industrial relations and business associations⁷. NILA represented the sorts of groups that would establish a leading position in the 1980s. It emerged as a central meeting place for the business-oriented circles within the professions and the owner interests. All kinds of problems relating to management were discussed. On the personnel side, there was continuity from the post-Taylor period. Those who had been active in the 1950s now participated in the new *general management* campaign, although they were now more attuned to social science terminology. But NILA never became much more than a talking shop and a coordinator and initiator of activities in other organizations.

Perhaps the most lasting contribution was the new management education programs within the professional organizations. Quite a few leaders were drilled in management techniques by these professional associations or by the independent agencies sponsored by NILA. By far the greatest energy was shown by NIF, the civil engineers' association, particularly in the so-called OLUF program. Business school graduates were more dependent on their parent educational institutions for the transmission of this kind of knowledge. NSM now started to play a more important role in the development of management as a separate type of epistemology - an alternative to the predominant emphasis on the economic 'theory of the firm'.⁸

⁷ *Norske Siviløkonomers Forening, Norske Sivilingeniørers Forening, Norsk Arbeidsgiverforening, Norges Rederforbund and Norges Industriforbund.*

⁸ The theory of the firm is genuinely anti-managerialist. The operation of the firm, according to this theory, cannot depend upon the insight or wisdom of specific managers. By introducing *the Concept of the Corporation*, to use

The managerial period represented a revival of interest for the executive function and the strategic importance of managerial hierarchies. Earlier periods had been more concerned with how the structure of the firm influenced productivity, improved democracy and working relations, and provided beneficent constraints on managerial activities. Now, 'to manage' was considered an activity that could change structures as well as develop new ideals and goals, and this meant that the emphasis was put more on leadership than administration. Or to quote Enteman:

Whether the organization behaves in an organic way is, to an important extent, a result of the management's efforts, and the direction of that organic force is something over which management attempts to exercise control (Enteman 1993: 164).

This ideological shift was of course related to an international ideological trend, but it was also linked to a change in the power structure of the firm. The unions lost power owing to economic setbacks, and the state could no longer subsidize industry for social and long-term economic reasons. Managers both attained more internal power and were also given greater responsibility for their own survival in the market. Managerial decisions about investment and market strategies emerged increasingly as a central focus. The *general management* idea was something increasingly greater numbers of Norwegian managers were attuned to, and, as a result, consultancy firms and educational institutions now found a growing market for their services.

Conclusion

After this broad overview of groups and institutions that were involved in movements and practical experiments about training and education in management, it may be concluded that these movements were not very successful in establishing business administration as a formal discipline in Norway's educational system. Educational planners still have not put this field of education on their agenda, in the same way as, for example, with engineering or the social sciences. Management has always been a supplementary field of knowledge for the established professions, and not a requirement for advancement into the top executive positions. Engineers may now specialize and write their diplomas within the ORAL program, which combines thinking on post-Taylorism, industrial relations, and *general management*. But this is as far as development within the traditional Norwegian system can come. Even graduates from the Norwegian School of Management (NSM) seek an identity as economists, not managers (although they are opposed to macro-economics) (Lidtun 1997). The

the title of Drucker's book about General Motors, business schools also had to abandon the notion that the only purpose of the corporation is to maximize profits (Enteman 1993, Drucker 1949).

emphasis is on the administrative and theoretical dimension, and also on how economic activities are influenced by the organizational setting called the firm. The focus has been quite narrowly centered on issues of interest for practicing executives in industry, which had often to be put on the agenda in specific interest organizations before anything happened. The professional organizations were the most important, in this context, but organizations of owners and business entrepreneurs, in which full-time executives were represented, also sometimes put forward demands for more management education. But while the professions wholeheartedly tried to increase their influence as managers within industry through forms of self-development and various courses in administrative techniques, skepticism among owner-entrepreneurs towards any kind of professionalization that might threaten their social position has been a constant feature.

The central argument in this chapter has been that in the postwar era, the engineering dimension has been of primary importance in the emergence of a structured field of industrial administration. The lack of *general management* as an autonomous type of knowledge, profession, or career type is explained by the influence and shape of the engineering profession. This profession has had a strong influence over the shaping of the industrial structure because it has been able to combine substantial knowledge on technology and industry with experience-based knowledge of organizations. In an industrial structure where ownership interests have been reluctant to withdraw from administrative positions, and with strong unions, skepticism of *general management* and professional staff is a significant phenomenon. *General management* has been welcomed as an ideology, as a tool, and as a criterion of identification for social movements, but not as a holistic and systematic type of knowledge that could be formalized within the education system nor a specific job category nor career track in the firm.

The joint management tradition is an important background for understanding the relative stability within the field of industrial administration. Joint management meant that the function of production was granted primary status within the business system. Even the economic crisis towards the end of the 1980s did not change this orientation. The engineering profession still provides a coordinating mechanism at the organizational level, linking a technology-oriented small-firm-dominated business system to technology-oriented public administration systems of research and innovation. The ongoing internationalization process represented by increasing capital flows across the borders, and the international restructuring of production processes and technologies might seem to threaten the stability in the Norwegian field of industrial administration. Currently this does not appear to be the

case. Even though there have been some major changes in the 1980s, our suspicion is that the engineer-managers are still firmly in charge.

These generalizations have implications about how to theorize about management and education. First of all, they show that the executive function needs to be underpinned by a particular kind of division of labor in order to make it possible for industrialists to create the image of the 'general manager' and venture into the process of professionalization. The educational system may push forward this type of division of labor, but cannot create it. The long-term development of interfaces between such unwieldy institutions as work organizations and the educational system cannot be changed overnight. These institutions even heavily influence the conception of the firm in itself in a society. Managerial hierarchies cannot be studied separately from the cultures and institutions in which they are embedded. 'General management' is a program for leadership as well as administration. The core of the idea is lost if management is understood either as a bundle of administrative techniques or as an ideology, as has often been the case in Norway in the postwar period. The original idea of general management itself puts a great deal of emphasis on leadership, more than is common in European managerial hierarchies, but there is of course no escape from administration. If one is a general manager then one is responsible for leadership as well as administration. There has also been much dissension recently over the tendency in the American field of business administration to put all emphasis on administration, leading to a 'collapse in leadership morality' and an 'exhaustion of managerialism' (Scott and Hart 1991: 46; Scott 1992)

It is argued that 'as management education grew, it increasingly divorced itself from its humanist background and pretended to be applied economics' (Enteman 1993: 168). In Norway, management education had never had a humanist background, but the present trend in management education may be toward establishing such a background. However, "the Achilles' heel" of managerialism in Norway may not lie in the lack of a humanist background. Rather, the problem may be that managerialism in itself is fundamentally undemocratic:

... managerialism presents a lethal challenge to democracy, because it discounts the importance of the individual in general and, more specifically, discounts the importance of voting in regard to the social choice (Entemann 1993: 157).

The idea of *general management* as a guiding ideology for societal development and governance may be difficult to sell in Norway precisely for this reason. But the idea is also in conflict with Norway's continental heritage, with its stricter separation between administration and leadership. If one is a German *Unternehmer*, one may blame those below one who are responsible for an

administrative failure. The reason for this, according to Hartmann (1959), is that the right of a German *Unternehmer* to exercise leadership is not questioned. In the American setting, on the other hand, the top executive's right to lead is continually questioned. This means that he or she has to prove his or her right to lead - and also to take charge of administration - and demonstrate such ability.

In the egalitarian and democratic Norwegian tradition, it seems difficult to legitimate managerial power - or the need for educational institutions for general management - in either the German or American way. Perhaps the more traditional type of family and state authority, especially if supported by political discourse, votes, and opinion polls, is the most promising alternative. What is wanted is a general administrator and a democratically elected leader, not a general manager. The era of engineers and public administrators, then, may not be over.

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