

THE SOCIAL SHAPING OF THE EARLY DUTCH MANAGEMENT
SCHOOLS

PROFESSIONS AND THE POWER OF ABSTRACTION

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The Social Shaping of the early Dutch Management Schools

Professions and the Power of Abstraction

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Abstract

In this paper we provide an alternative explanation for the rise of modern management schools at the turn of the 20th century. We argue that these schools were not just responses of the higher education system to the demand of industrializing companies for a new class of professional managers, like Chandler suggests. Based on our historical research we found that the struggle for emancipation of the new professions (engineers and accountants) was the main driver for the founding of these schools. Management schools were viewed as the main vehicles to raise the social status of these new professions.

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Introduction

One of the most interesting phenomena in the recent history of university systems is the rise of professional schools for management. Their suspect alliance with the commercial world, their lack of a coherent body of knowledge and their opportunistic flirting with science and practice have elicited waves of criticism in the course of 20th century (Hugstad, 1983; Cheit, 1985). Some authors even argue that business and management are illegitimate disciplines with a ruling philosophy which are anathema to the independent academic tradition of the university (see Macfarlane, 1995). In spite of this criticism business and management has become one of the most popular studies within the US and European university systems. In the US, about 90.000 students receive an MBA degree at 900 universities. One out of 250 American citizens have an MBA diploma. Exact figures about the number of graduates of business and management studies in Europe are lacking but in the last two decades the number of institutions that provide academic management education has exploded here as well.

This paradoxical history has hardly been explained yet. Most authors have emphasized the demand of the industrializing companies for a highly trained class of professional managers. One unique and prominent alternative to this explanation is Robert R. Locke's study *Management and Higher Education* (1989) in which he stressed the determinative role of traditional university cultures for explaining the variety between national management education systems. For example, the refusal to adopt a kind of American-like management education model by the Germans, known as the *German Obstinacy*, is explained by the dominant *Wissenschaft* ideal, the zealous dedication to the pursuit of scientific truth through systematic research, prevented the rise of practice oriented business schools (Locke, 1989, 1996; Gemelli and Rodenstock, 1998).

In this paper we shall not deny the importance of the demand from the corporate world or the role of university cultures, but will emphasise the actors who made things happen: *the professions*. Especially in the early phase of the development of management schools the professions (engineers, accountants, lawyers, economists) played a decisive role in shaping these new academic institutions.

The explosive growth of and differences between national management education systems after World War II can only be understood against the background of the changes in the national economic and university system in the pre-war period. Or as B.R. Clark puts it:

“Basic to the analysis of academic change, then, is the simple principle that existing structures have response sets that shape what follows” (Clark, 1983: 184).

This ‘response set’ was moulded in the formative period (1880-1940) of management schools and it strongly varied from country to country.

In this paper we will analyse and describe the rise of management schools in the Netherlands before World War II. We explicitly use the term management schools (and not business schools) as we do not want to exclude the role of the engineering schools in management education. In our historical actor-based perspective we have conceptualised management schools as professional schools which constantly have to find a balance between the culture of science and the culture of practice. Although this balancing act is a generic trait of professional schools, the ways how this balancing act is performed by the relevant actors and the ways in which these schools are embedded into national systems of higher education vary to a large extent from country to country.

We will first briefly describe the two dominant theoretical explanations for the rise and development of management schools. We then explain some of the basic dynamics of the concepts of the profession and professional schools that will be used in our description. Finally we give a detailed description of the social shaping of the early Dutch management schools during the first two decades of the 20th century.

Two dominant perspectives: functional and cultural logics

There have been only a few academic attempts to explain the rise of the modern management schools at an international and national level. Looking at these studies one can distinguish two fundamentally different approaches. The first is the so-called functionalist or culture-free approach, which assumes that (external) imperatives of economic and technological nature *determine* the evolution of a national system of management education in a uni-linear way. As these imperatives are prompted by the inherent drive for efficiency, national management education systems converge with respect to structure and content. One of the first and well known representatives of this culture-free perspective is the study of Harbison and Myers, *Management in the Industrial World* (1959). The authors contended that there is a ‘logic of industrialism’ which “leads to the same end-point-industrialism, the concept of a fully industrialized society, which is characterized by a number of common basic economic and social structural features” (see for discussion about the convergence thesis: Lane, 1989: 21). Modern versions of culture-free theories are the contingency approaches that became popular in the 1960s and 1970s and the ‘structure-follows-strategy’-approach of Alfred D. Chandler in the 1980s and 1990s. Chandler explains the rise of business schools at the turn of the 20th century as part of a broader process of professionalisation of management within the new multiunit business enterprises (Chandler, 1977: 466). The emergence of

these educational institutions is explained in terms of a *response* to “the expansion in the size and complexities of managerial hierarchies” at that time.

Culture-free approaches do not neglect cultural and social factors that play a role in the development of business schools but they put them into a functional, inevitable and uni-causal relationship. To put it in Chandler’s words:

”Cultural and social differences also may have played a role in delaying the coming of the large managerial enterprise and with it managerial capitalism.” (Chandler, 1977: 376).

Chandler does not claim that there is just one (American) route for education systems to managerial capitalism. However what Chandler does suggest is that education systems can only be adaptive and responsive and not causal to a certain economic development.

Many authors have criticized the culture-free approach to management education in relation to economic development (Mosson, 1965, Levine and Kawada, 1980, Handy e.a., 1989). In his seminal work *Management and Higher Education* Robert Locke (1989) has critiqued this culture-free approach by pointing at the great differences between several European management education systems caused by the differences in university traditions (‘heritages’):

“This means that the acceptance of business studies in each country depended on the ability of that country’s culture to foster and to assimilate it. And it also means that the form and the effectiveness of business studies will be, because cultures vary, different in each country.” (Locke, 1989: 54).

Locke aims at dealing with the specificity of educational evolution that can shed light on the relationship between business studies and economic performance (Locke, 1989: 55). In his view national educational heritages that are formed in the course of the 19th century explain the differences between countries in national management education systems. Although we sympathize with Locke’s culture-specific approach, he takes a rather static perspective on educational heritage. The question that rises is whether this educational heritage can *determine* educational patterns in a uni-causal way over a long period of time. Can we really delineate current national management education patterns from a once established educational heritage? We doubt this is possible. Modern modern schools are neither just a response to the rise of managerial hierarchies nor are they just products of cultural heritages in education systems. In this paper we therefore will advance a more dynamic perspective on the evolution of management education within management schools that pays attention to economic and cultural factors as well as to relevant actors involved. Our theoretical perspective is inspired by Berger and Luckman’s theory of social construction (1976) and Giddens’ structuration theory

(1984). Both theories acknowledge that actors cannot escape from the institutional environment when they are acting but they are also cognisant of the fact that this institutional environment is socially constructed and that it changes as a consequence of these actions. In our historical actor-based perspective we will show how this worked out.

Management Schools as Professional Schools

Our main argument here is that the rise of management schools (its form and its educational content) cannot be understood by its functions (e.g. creating a class of professional managers) but should be explained by the motives of the actors that were involved in the founding of these schools within the broader context of the modernization of higher education systems since the second half of the 19th century. The rise and development of professional schools are viewed pivotal in this modernization process (Jaraus, 1982). To make this point clear we discuss some basic concepts of the process of the forming of professional schools.

Professional training took place within the universities since the Middle Ages but was pushed outside by liberal education and pure research. Only the old professions (clergy, lawyers, doctors and academic professor) survived in pre-modern higher education systems by increasing their scientific character. The new professions (engineers, chemists, economists, accountants etc.), that began to emancipate during the second half of the 19th century, viewed higher education not only as the adequate place to develop and transfer the professional expertise but also to elevate the social status and to facilitate legitimization of the new profession in society. To understand the importance of the professional school for the new professions more deeply we first have to define the concept of profession.

Professions and professional tactics

What is a profession? From the extensive literature on professions we learn that it appears hard to find a generic set of attributes that allows us to characterize the great variety of (old and new) professions. To define a profession we therefore follow Abbott's minimal and loose description¹:

“...professions are exclusive occupational groups applying somewhat abstract knowledge to particular cases.” (Abbott, 1988: 8)

In Abbott's view controlling their body of knowledge and skills is the defining criterion for professions that distinguish them from other occupational groups. Any occupation can obtain licensure or develop ethical codes but only the knowledge system can (re-)

define its problems and tasks and can defend them against intruders from other occupational domains or lay people (Abbott, 1988: 9). Incomprehensibility, like Layton (1986: 4) argues, to the laymen (and to other professions) is the foundation for professionalism. The more abstract the profession can develop its knowledge system the harder it becomes for laymen and other professions to penetrate the professional domain. Abstraction therefore enables the survival in the competitive system of profession (Abbott, 1988: 9). Reference to a 'system of professions' is important here. It implies that the development of one profession pre-empts the development of others. If, for example, one profession claims a piece of the knowledge domain of management, it will evoke boundary conflicts with other professions in this field. Or as Abbott puts it: "...knowledge is the currency of competition" (Abbott, 1988: 98).

Especially for the new professions, that often lack formal recognition by the state, the knowledge domain is subject to attacks from other older or new emerging professions. One important defense mechanism that will be discussed in this paper is *reduction*. By reducing a particular complex phenomenon to its essence, a profession can claim this belonging to its 'field of jurisdiction'. Abbott gives the example of child misbehaviour that is reduced to the disease of hyperactivity and therefore can be claimed by the medical profession that it belongs to its field of jurisdiction.

In the old, functionalist sociology of professions (e.g. Parsons, 1939), professions were viewed as rather homogeneous and stable occupational groups with common values. The later sociology of professions has pointed to the instable and dynamic character of the profession as a collective actor (Bucher and Straus, 1961; Mok, 1973). Professions are constantly subject to internal dissension and conflict which may lead to segmentations within the profession or even to the forming of a new profession.

This implies that the profession not only should be very alert to domain claims from outside (by laymen and other professions) but also to the internal instability caused by conflicts and controversies.

The Paradox of Abstraction

The power of abstraction (i.c. reduction) not only lies in the defending of a professional knowledge domain but also in its potential for expansion. This is based on the notion that the diffusibility of knowledge increases with the increase of formalization (i.e. reduction) of knowledge (Boisot, 1995, 1998).ⁱⁱ It implies that formalized professional knowledge can be applied to a wide variety of jurisdictional fields. Reduction is often a redefinition of another profession's field of jurisdiction to its own. However, as Abbott argues, there are limits to expansion. As the knowledge become too abstract and general, and therefore become disconnected from actual practice, jurisdiction attenuates. Abbott distinguishes

two types of abstraction: *generalized* and *specialized* formalization. In the former form abstraction emphasizes mere lack of content: the abstract knowledge refers to many subjects interchangeably (e.g. the medical model). The latter form emphasizes positive formalism: abstract knowledge is focussed on a limited subject area (e.g. the physics model). This type of abstraction strengthens jurisdiction, especially when it is accompanied with effective treatment (a set of professional methods and instruments that mediates between the abstract knowledge and the concrete work of the professional).

The generalized type of extreme abstraction (lacking content) appears to be more problematic. It is hard to have effective treatments for a great variety of work practices. When treatments are disconnected from abstractions, the knowledge base of the profession is simply a set of generalizations without legitimacy. Such a situation makes the field of jurisdiction vulnerable to attacks from competing professions and intrusion from the lay public.

So, in general, the more the professional knowledge is formalized, the better the profession is able to exclude competing professions and the lay public from the field of jurisdiction.ⁱⁱⁱ On the other hand, the more particular knowledge is “lifted out of its context” (Giddens, 1990), the harder it becomes to find an adequate set of methods and instruments to apply this knowledge into a particular context. This trade-off mechanism in the profession concept is called the *Paradox of Abstraction*, which suggests that professions, in order to control a particular field of jurisdiction, need to find an optimal level of abstraction (Halpern, 1992: 996).

The Balancing Act of the Professional School

The centrality of abstract knowledge in the profession concept elucidates the important role the professional school plays in the institutionalization of a profession. It has to provide the profession with knowledge that is abstract enough to defend the field of jurisdiction against competing professions and easy access of the lay public. On the other hand it has to take care that the knowledge will not become disconnected from the professional work. This balancing act is characteristic of the history of professional schools.

This structural ambiguity of the professional school (Light, 1982: 346) becomes even more manifest at the moment these schools are adopted in the university system. As Whitley (1988) has pointed out, in university systems the profession is confronted with two conflicting reputation systems. Within the university reputation system people are expected to work on the advancement of disciplinary knowledge and are rewarded for their publishing in scientific journals and participation in the scientific community. Within the reputation system of practice, people are judged for their contribution to the

solution of practical problems, for their competence to apply knowledge in effective and efficient ways, and their commitment to organizational goals.

These two reputation systems within the professional school raises the question what should be the mission of the school: to what extent are they to *train* practitioners and to what extent are they to *educate* pure disciples of the profession's core knowledge? (Light, 1982: 346). This duality leads to a *hybrid mission* of the professional school.

In most cases, professional schools are not able to deal adequately with this hybrid mission. As Wagner and Wittrock (1991b: 333) argue, schools choose either for a scientisation strategy or for a professionalisation strategy. In first strategy the focus is on the development of a closed, formal 'self-referential' discourse. Relevant actors see the academic institutions primarily as research oriented. Education at these institutions should primarily be focussed at preparing young people for scientific careers. In the second strategy schools aim at the formation of a vocational group to which the training is devoted. Relevant actors view these institutions more as training- and education-oriented.

Professional schools also play another important role: *social status transfer*. At the end of the 19th century the new professions were attracted by the universalistic rhetoric of science, which could legitimate their professional work and guarantee their elite class position in society. As we will discuss later this pursuit for academic recognition coalesced but also conflicted with the demand for highly educated manpower in the modernizing industry.

Other stakeholders

It is important to note here that the shaping of the professional school was not solely left to the profession. It was subject to the dynamics of the *interactive triangle*, composed of the profession, the state and the clients (i.c. the business world) (Burrage, Jarausch and Siegrist, 1990: 207). The role of the state can be twofold: formal recognition of the school by legislation and educational policy regulation. Of course, the state also had an important role in founding the professional school. Professional schools were viewed as a main vehicle for providing the industrializing society with advanced, scientific knowledge and a highly trained corporate elite. The state also sponsored the founding of professional schools (esp. engineering schools) in order to erect barriers to what Disco (1990: 33) calls the fear of colonization by foreign or foreign-trained experts.

The other important stakeholder in the interactive triangle are the clients, in our case the business world. As the economic and commercial domain within the industrializing companies became more complex the traditional, expensive and time-consuming ways of training and socializing (on-the-job training, business site tours etc.) of young

management talent began to fall short. University-based professional schools could provide the prospective employers with uniformly trained, competent and loyal graduates (Disco, 1990: 32). A theoretical habitus was deemed desirable because it invested graduates with cognitive authority and flexibility within the commercial and economic domain that was becoming more complex (Disco, 1990: 32-33).

Representatives of the business world (e.g. chambers of commerce, employer organizations) will regularly express their concerns and educational wants to the professional schools and the state. If possible they will try to influence the curricula of the professional school, which may lead to conflicts with the academic value system. A well-known protest against the influence the business world on academia was voiced by Thorstein Veblen (1918) in his pamphlet *Higher Learning in America*. Here he defended the eternal goal of the university “to conserve and extend the domain of knowledge” against the emerging vocationalism and “incursion of pecuniary ideals” in academic education. Requests from the business world to educational institutions are often paradoxical. On the one hand they demand for critical and scientific trained graduates, while on the other hand they expect them to be loyal to the employer and to be not too specialistic.

What makes this interactive triangle very dynamic is that the relevant actors participate in different and sometimes overlapping social systems (Whittington, 1992). For example, the chairman of a chamber of commerce who is also engaged in the board of a professional engineering association.

The lack of a professional model for general management

There have been numerous attempts to define management as a profession. Unfortunately, these attempts have not been very successful. The lack of an established body of theory makes academic management studies, and therefore management as a profession, of an easy prey to its critics from academia and from practice. The question then rises to what extent Abbott’s theory about the system of professions can be applied to management schools?

Probably the most important notion that can be drawn from Abbott’s theory is that management (business administration) lacks a dominant professional model. In most cases professions have dominant cultural model (dominant ideas), which more or less govern and control the field of jurisdiction. For example, in the engineering profession, although split up in many segments, the technological nature of the task area determines the dominant ideas and activities of the profession. The lack of a dominant professional model has resulted in what Whitley (1988) has called an “ad-hocracy”, consisting of a variety of sub-fields which differ considerably in their degree of task uncertainty and of

task coordination. Taking management as a whole he characterizes it as fragmented, being proliferated of diffuse and unconnected intellectual standards, goals and techniques and multiple interpretations of research results (Whitley, 1988: 342-343).

Within management schools the two before mentioned abstraction strategies are at work. Specialized formalization takes place within the functional fields of management, whereas generalized formalization occurs within the area of general management. Some functional fields within management, like accountancy and operation research, have been, depending on the nature of the professional field, more successful in their abstraction strategy than others (human resource management, strategy, and to an increasing extent information management). All these sub fields attempt, departing from the professional core, to imperialise to the general management domain by reducing management essentially as e.g. a marketing, human resource management, information processing problem. Therefore, *general management* is the most problematic and vulnerable area within the management field as it claims an abstract, distinguishable body of knowledge. General management is an unconnected set of formalizations without effective treatments that can mediate between the abstract body of knowledge and the actual work of managers. One of the consequences of the absence of a dominant professional model is that professionals (within the university and practice) feel free to avoid engaging in direct debate and conflict with colleagues from different sub fields. This ad-hocracy precludes a cumulative development of a professional body of knowledge of management.

Professional Schools and Academic Cultures

At the moment that the first US and European business schools were founded, the idea of establishing a scientific field of management (a discipline) was quite detached from the ideas of educating a new class of professional managers. Academic education meant general education. Therefore, the typical 19th century debate on academic education was not about scientific versus vocational education, but about general versus vocational education. When the modernization of European and American universities took off, general education was gradually substituted by scientific education.

When Joseph Wharton offered the trustees of University of Pennsylvania \$100.000 to organize a “School of Finance and Economy”, he deliberately had chosen for the liberal arts college of the university “to create a liberally educated class of leaders for American society” (Sass, 1982: 20). Wharton phrased the object of his initiative as follows:

“To provide for young men special means of training and of correct instruction in the knowledge and in the arts of modern Finance and Economy, both public and

private, in order that, being well informed and free from delusions upon these important subjects, they either serve the community skilfully as well as faithfully in offices of trust, or, remaining in private life, may prudently manage their own affairs and aid in maintaining sound financial morality: in short, to establish means for imparting liberal education in all matters concerning Finance and Economy” (quoted in Sass, 1983: 21).

This quest for liberal education still reflected the old 19th century idea of the power of general education and had less to do with the demand for high-quality professional training by a rising class of professional managers (“Visible Hand”), as is suggested by Chandler (1977). It was primarily meant to elevate the status of businessmen in society (Van Baalen, 1995).

Similarly, in the Netherlands, the founding of the first academic Handelshogeschool in 1913 should not just be viewed as first step in providing businessmen with an academic education, but also as the end-point of a long lasting struggle for social emancipation.

The first curricula of the Wharton business school were primarily designed to these ends and consisted of courses like history, political economy, government policy etc. Only a few business-oriented courses were adopted. The same holds true for the first German and Dutch business schools which also reflected the typical general-vocational education controversy in these early years (Locke, 1989; van Baalen, 1995). Redlich concludes that by 1900 a sound foundation for high-class professional training, like in medicine, law, and theology, was lacking (Redlich, 1957: 58). The main reason was that commercial and business topics had not been subject to scientific attention. Here Locke observes that there was “no matter of scientific nature to teach in a commercial school (...), it still had to be created” (Locke, 1989: 71).

The lack of a body of knowledge at the US business schools

Outside the universities the first ideas about the development of a separate body of knowledge for management were launched. In his address *The Engineer as an Economist* to the annual meeting of The American Society of Mechanical Engineers in 1886 Henry R. Towne, one of the pioneers in scientific management, promoted the idea of empirically building up body of knowledge for management:

“A vast amount of accumulated experience in the art of workshop management already exists, but there is no record of it available to the world in general, and each old enterprise is managed more or less in its own way, receiving little benefit from the parallel experience of other enterprises (...) according to the ability of its managers,

receiving little benefit or aid from all that may have been done previously by other in precisely the same field of work” (Towne, 1886).

Since then this call for a common body of knowledge for management has been repeated many times by other pioneers of scientific management. Frederick W. Taylor advocated the development of a “true science”, based on research where “every trifle - there is nothing too small - becomes subject of experiment” (Taylor, 1911). Based on detailed research to the actual work of employees in the workshop, universal laws for management could be developed and ‘rules of thumb’ should be ruled out. In France, Henry Fayol urged his audience that it was “quite time to codify the data furnished by experience and place a body of theory within reach of all (Fayol, 1963). The ideas of these prewar pioneers in scientific management breathed the positivist thinking of August Comte who believed that the aim of social science was to unravel universal laws in society, like the laws in natural and physical sciences, by codifying observable social facts.

As Merkle (1980: 71) points out, there was a strong fascination with higher education from the side of the early scientific management pioneers. Getting their ideas accepted in the ‘ivory towers’ was seen as the establishment of their success. It would provide the Taylorites with certification which enabled them to formalize and monopolize management skills in industrial corporations (Merkle, 1980: 73). Taylor himself explicitly explained that higher education should not aim at liberal education but feed manpower into industry (Merkle, 1980: 72).

The professors’ resistance to the introduction of scientific management studies in universities, could not prevent them from becoming very popular courses at the business schools and the engineering schools.

In spite of the call for an integrative body of knowledge that was built on detailed research and collection of experiences no such a theory was developed. Both, Taylor’s and Fayol’s descriptions of management functions were normative, managerial ideologies that reflected their concern for industrial chaos and conflict and less of empirically tested ‘laws of management’ (Guillén, 1994: 43).

In the 1920s American management thinking gradually turned away from the mechanical and empirical view of scientific management (Daniel, 1998: 97). In the new thinking about management the human factor in business was emphasized, which resulted in a more ‘society-based conception of business’. Or as Daniel (1998) puts it:

(...) the change here (at the several business schools. PvB, LK), was so widespread it must have reflected at least the beginnings of attitude shift, from the controlling of workers to an understanding of human motivation.”(Daniel, 1998: 98).

However this new orientation did not result into an integrative body of management knowledge. Consequently, a great variety of management programs developed in academic business schools during this formative period. During the pre-war period, the US business schools primarily followed professionalisation path. The curricula of the business schools were descriptive, strongly oriented on business practices and, reflecting business needs. Of crucial importance was the development of functional areas (marketing, finance, production etc.) alongside the strategy and structure transformations that occurred at huge American companies (Chandler, 1977) and the financial support that was given by these companies. At the graduate level this functional specialization started at Harvard, Amos Tuck and Michigan; at undergraduate level at Chicago, Columbia, and Wharton. Moreover, business school curricula witnessed an explosion of topics and courses in the 1920s, which resulted in confusion in course offerings. In the late 1920s and early 1930s a widespread dissent and criticism arose about this constant subdividing of management knowledge in “self-contained subjects” (Pierson, 1959: 48) and business schools’ intimate (financial) bonds with the world of business.

The main problem thus was the lack of a coherent, integrative theoretical framework that could bind the different functional areas together. Two remarkable exceptions were Harvard and Chicago. In an attempt to halt this increasing specialization and vocational drift, Chicago tied functional areas to basic disciplines and tried to firm up the relations with the department of economics. The basic idea behind this so-called ‘environmental approach’ was that the “business manager administers under conditions imposed by his environment, both physical and social” (Silk, 1963: 18). Harvard’s approach was different, more instrumental. The school was not aiming at an integrative theory but at the integration of knowledge and experience through practice: the case study method. Dewing, one of the early historiographers of the Harvard case method, explains:

“Education, accordingly, would consist of acquiring facility to act in the presence of new experience. It asks not how a man may be trained to know, but how a man may be trained to act. It is concerned with precedents only so far as they lead to initiatives. It deals with the oncoming new human experience rather than with the departing old.” (Dewing, 1954: 1).

The other anti-specialization instrument, used by Harvard, was an elective course on Business Policy (1911-1912). It sought to approach business problems from the perspective of top management and to tie together the departmental courses of the first-year program (Copeland, 1958: 43).

However the typical response to this increasing specialization was not to work on a general theory of management but to restore the old Anglo-American ideal of ‘liberal

education'. Bossard and Dewhurst's (1930) influential research about American business schools promoted the strengthening of liberal education with a "businesslike disposition" and to bring down the number of narrowly focussed business courses:

"... a broad background of general and economic knowledge, a disciplined capacity for independent thinking, a facility in oral and written expression, and an instinctive appreciation of ethical values and responsibilities should constitute the primary goals of professional training for business" (Bossard and Dewhurst, 1930: 222).

Harvard responded to this call for 'businesslike liberal education' by inserting courses in Business History (1927) and Business Ethics (1928) into its curriculum. Pleadings for liberal education gained momentum during the years of The Great Depression. In a Harvard Business Review article, *The failure of Business Leadership and the responsibility of the Universities* (1933), Wallace B. Donham, dean of the Harvard Business School, criticized the failure of business and political leadership. The main problem was overspecialization and the lack of interest to consider actual business problems within their broader, societal context. Or, as Donham put it: "It is no one's problem to consider things in their relations" (Donham, 1933: 419).

In the same Harvard Business Review issue Ernest M. Hopkins commented, "in our colleges and universities narrow specialization has wrought grave injury." Overspecialization has contributed to the will and ability for cooperative action among men (Hopkins, 1933: 414). Hopkins therefore pushed the notion of 'unity as an educational ideal' to be pivotal in the reform of colleges and universities.

Looking at the development of the US business schools in this formative period they typically followed the professionalisation track. The management knowledge that was provided by the schools was fragmented into different specializations and reflected primarily the needs of practice. The call for a liberal education with a 'business like disposition' as a 'recovering mechanism' (Mittelstrass, 1987) was the typical response of the US business schools in the pre-war period. There were hardly any attempts to transform different pieces of scientific management, economics, bookkeeping, and accountancy into a new management (inter-) discipline.

The pre-war developments of management studies at the business schools and the engineering schools in the Netherlands took quite a different track. The Dutch business schools gradually changed, spurred by the zealous efforts of a small group of accountants, from a professionalisation strategy towards a scientisation strategy. This resulted in the successful establishment of business economics. The Dutch engineers, on the other hand, were more or less forced to stick to a professionalisation strategy, which implied that business courses were primarily taught for the further professionalisation of

the engineers. We first discuss management education at the Dutch engineering school and then at the Handelshogeschool in Rotterdam and the Faculty of Commerce in Amsterdam.

The Engineers and Management

Around the turn of the century Dutch engineers developed a strong professional consciousness. Two major societal developments had contributed to this professional consciousness. The first was the industrialization in the Netherlands that took off in the late 19th century. It resulted in the spreading out of engineers over industry. The industrialization gave rise to the deployment of new technical domains in which engineers started to work. In a very short period of time industry and commerce became the most important occupational domains for the engineers. The rise of the engineering profession was accompanied by a scientific revolution in technology (Layton, 1986). In 1879 only 6,7% of the engineers were employed in industry. In a very short period of time engineers invaded industrial corporations. In the period 1900-1917 the total number of engineers occupied in industry, shipping, and commerce increased from 312 to 1043 (from 29,7% to 37,9% as a proportion of the total number of engineers) (Lintsen, 1980: 190). The scaling-up and mechanization of production processes in industry were the most important pre-conditions for recruiting engineers for these new technical domains (Disco and Lintsen, 1983: 343-350).

The second major development, what Willink (1988) has called the emergence of a *civic scientism*, emerged during the second half of the 19th century as part of a broader process of modernization in Dutch society. In this emerging climate of change, a new social-ascending middle class (Buerkertum) held a positive attitude towards civic scientism: the modern utilitarian sciences, physics, chemistry, economics and commerce. Reform of higher education was part of it. The Higher Education Act of 1876 implied a valediction of the traditional, class-bound education system. Within this climate of change the emancipation of engineering education took place. The secondary engineering school in Delft, the Polytechnische School (1864-1904), after a struggle enduring almost thirty years finally acquired university status in 1904. Like in Germany this upgraded Polytechnische School, from then on called the Technische Hoogeschool, became part of the higher education system but remained, because of the disdain in universities towards vocationalism, still institutionally separated from the universities.

Notwithstanding this initially marginal position in the higher education system, the engineers believed, on the basis of their academic prestige and their applied scientific knowledge, that they could rationalize and manage the complex production system in

modern corporations. Disco (1974) has described this new professional consciousness of the engineers as follows:

“Understanding themselves as avatars of a new age, some late 19th century and early 20th century engineers claimed competence, (...), over a broad field which was later precipitate into micro-economics, management sciences, and industrial psychology and sociology.”(Disco, 1974: 718)

At the same moment the engineers entered the large industrial corporations the profession faced a conflict between the claims of science and business that pulled different segments within the profession in opposite directions. The engineering school played a pivotal role in this conflict as the school was expected to provide the engineers with the right business knowledge and skills to function in commercial and management positions.

In the Netherlands the first academic business courses, *Bedrijfsleer*, were taught since 1905 at the Technical University of Delft. *Bedrijfsleer* was more or less the Dutch variant of the German Betriebswirtschaftslehre (BWL). *Bedrijfsleer* was an unrestricted and fragmented field of commercial and industrial courses, which lacked an integrating formal object. It was called a *Kunstleer* (like in Germany) instead of a science, an arbitrary, loosely coupled collection of topics from scientific management and book keeping with a strong orientation on practice.

These *Bedrijfsleer* courses were meant to provide industrial engineers with the right business knowledge and techniques to function adequately in managerial jobs. Equipped with this business knowledge the engineers would be able to compete with lawyers who dominated management ranks in industrial firms.^{iv} This argument for emancipation was endorsed by Dutch national government, and even appeared to be the decisive argument for inaugurating an extraordinary chair in *Bedrijfsleer* and bookkeeping in 1908 (held by the accountant J.Ch. Volmer till 1934).

“...only with complete knowledge of *Bedrijfsleer* and bookkeeping, the engineer would be able to take the first position in the industrial company, while without this knowledge he has to contend with a second, subordinate role.”(quoted in: Gosselink, 1988: 19, translation by PvB and LK).

In the years 1908-1925 different segments of the engineering profession hotly debated whether business courses should be extended in their curricula. The motive behind the expansion of business education was social not educational, for the reformers sought to find the lawyer's monopoly in management's higher ranks by the extension of business courses in the Technische Hoogeschool study program.

Table 1. Number of management engineers as percentage of total number engineers in period the 1885-1919

Year	Total number of engineers	Engineers in management positions	Percentage
1885	550	42	7,6
1891	786	67	8,5
1900	1050	93	8,8
1910	2070	220	10,6
1917	2754	372	13,5

Source: van der Veen, 1918

Table 2. Number of engineer managers and lawyer managers in big Public Limited Companies in 1900 and 1916

Public Limited Companies	1900			1916		
	Total	Engineer Manager	Lawyer Manager	Total	Engineer Manager	Lawyer Manager
Oil, lacquer, and paint factories	6	1	-	35	3	1
Textiles factories	24	-	-	61	6	-
Breweries, meal factories	26	1	1	36	4	1
Sugar factories	29	-	4	40	4	8
Dry docks, shipbuilding yards	10	1	-	34	10	1
Chemical, Yeast, carbolic acid factories	29	3	1	63	14	3
Machine-, paper-, glas, etc. factories	62	-	3	196	62	3
Railways, tramcar companies	38	16	6	78	41	4
Gas factories	87	8	-	153	20	-
Total	311	30	15	696	164	21

Source: van der Veen, 1918

Both tables show a rapid diffusion of management engineers in managerial ranks. Table 2 demonstrates that the perceived lawyer monopoly, that served as one of the main arguments for the engineers to advocate extension of business courses in the engineering curricula appeared to be a myth. Industrialization took off very late (since the 1890s) in the Netherlands but as soon as the engineers entered business companies they outnumbered lawyers in managerial positions.

Later, the engineers used the rise of a large group of technicians, educated at the modernized vocational secondary technical schools into managerial jobs, as another argument to extend the proportion of business studies in the engineering curricula. The Dutch engineers felt they were squeezed between the lawyers at the top management level and technicians at the middle management level. This perceived tweek position gave the engineers a strong impetus to plea for an extension of business courses at the technical university.

Technical Economics: a new engineering discipline?

The debate over the expansion of business courses that went on in the engineering community, 1908-1925, exposed the paradox of abstraction. Whereas the extension of management courses in the engineering curricula would probably ease access to high managerial positions, it would devaluate the academic prestige of the schools and of the profession as a whole. The professional model of the engineers was based on technical knowledge. It was thought that mixing this up with (less scientific) business and economic knowledge the engineering education would end up in a “fish nor fowl”-model.

Initially, the discussion focussed on the education of *commercial engineers* at the technical university. J. Kraus, former vice-chancellor of the technical university, former minister Waterstaat, president of the Maatschappij van Nijverheid, and member of the Senate, whose addresses and articles became very influential, initiated the public discussion. In his article *The commercial side of the job of the engineer* (1911) he argued that, unfortunately, engineers were hardly represented in boards of directors of modern companies. As long as they lacked knowledge and insights in economics they were forced to comply with subordinate positions. He therefore advocated setting up a new engineering program at the technical university at Delft, that prepared students for new type of engineering profession, Commercial Engineers.

The Dutch industrialists, represented by the Maatschappij van Nijverheid, supported these requests. In their formal letters in July 1913 to the Council of Trustees of the university, the Maatschappij van Nijverheid wrote that the Technische Hoogeschool paid too little attention to the economic training of the engineers and urged for a more practical orientation in the curricula of the programs.^v The Maatschappij feared that the Technische Hoogeschool drifted away from homeostasis between industry and university and was victimized to the scientisation strategy of the academic segment of the profession.

Similar and in accordance with Kraus' ideas, the VDI (Vereeniging van Delftsche Ingenieurs) wrote a report on this issue in 1914 in which she proposed to set up a four year program for Commercial Engineers.

An annoyed senate of the technical university responded irritated to this public attack by saying that business practices could not be learned at the university, that diminishing the theoretical (esp. mathematics) courses would be irresponsible, and that the Technische Hoogeschool did not appreciate being goaded by people and institutes from outside the university.^{vi} The public discussion on the extension of business courses in the curricula did not have a scientific aim; they were meant to further professionalisation of the engineers who had to bridge technical and managerial aspects in their jobs in industrial firms.

After the First World War the issue about the extension of business courses flared up again. It is interesting to note that there was a slight turn of phrase in the discussion. Instead of talking about commercial training of engineers, now the discussion was about the economic training of engineers.

Several developments contributed to this new discourse. The first was the diffusion and popularisation of scientific management ideas after 1915, which gave *Bedrijfsleer* a more substantive body of knowledge. It contributed to the professionalisation of the management roles of the engineers. Moreover, scientific management emphasized the importance of empirical study and observation and could therefore pretend to be real scientific. According to Volmer, this empirical tenet of scientific management legitimised the position of *Bedrijfsleer* in academe.

The diffusion of scientific management ideas coincided with the need for standardization of machine requirements, tools, and implements that were imported during the years of the First World War. In 1916 the *Maatschappij van Nijverheid* and the KIVI, the professional association of the Dutch engineers, founded the Foundation for Normalization. From then on, normalization and scientific management became more or less each other's synonym. This new engineering discipline soon became institutionalized after the First World War. In 1920 the first management consultancy firm, *Organisatie en Advies Bureau (OAB)* was founded by scientific management engineer V.W. van Gogh, followed in 1925 by the *Adviesbureau voor Bedrijfsorganisatie (AvB)*, by J.M. Louwerse. Within the engineering organization, KIVI, the Division Technology and Economics was founded in 1924, which aimed at the development and application of *technical economics*. This new engineering science should cover topics like, wage techniques, hygiene and economics of human labour, psychotechnique, employee participation, internal organization, planning and control, balance sheet- and cost pricing analysis, and statistics.

Engineering professor I.P. de Vooyo was appointed as the first chairman of this new Division within the KIVI. De Vooyo was probably the first who gave broad, philosophical perspective on technical economics. According to him it was a new engineering discipline and should be conceived as a kind of applied economics for engineers, a separate field of expertise, which should interface between economics and the classical engineering sciences.

However, De Vooyo did not view technical economics just as an interdiscipline which aimed at the integration of economics and engineering sciences. He was deeply convinced that it could work as reconciling elixir for the collision between the economic and technical system, for the class-struggle between labor and capital, and to give modern technology a more human face. According to De Vooyo technical economics should develop as a 'society science' (maatschappijwetenschap), a new engineering science, which could provide the engineers with the right knowledge to take up their leading role in the modern society after the First World War. With respect to the education in technical economics, De Vooyo defended the 19th century ideal of general academic education: it should not be too specialized and too practice-oriented.

In his writings on technical economics De Vooyo aimed at a new integrative science for engineers. Contrary to this integrative version of technical economics, Jan Goudriaan, PhD student of the De Vooyo, treasurer of the new KIVI Department, and later one of the most prominent Dutch professors in Bedrijfsleer at the Handelshogeschool in Rotterdam hold a more pragmatic perspective on this new interdiscipline. In his PhD-thesis he defined this new technical economics as an applied science which should always start with a practical problem (Goudriaan, 1922). In the end, the very nature of the practical problem determines what knowledge from which science is needed to solve this problem.

Although technical economics became institutionalised within the professional organization of the engineers, the engineering school distrusted it. In spite of the calls from practicing management engineers in the course of the 1920s and 1930s, hardly any changes took place in the curricula of the technical university. Like Halpern (1992: 1006) argues, in order to achieve jurisdictional control over a particular domain, a professional segment needs support from established segments. In the case of the Dutch engineering profession, support by other segments did occur to some extent. The technical economic segment received support within the engineering organization, KIVI, but not from the academics within the engineering school. The latter feared a "patchwork of compromises" (Layton, 1986: 5) between business and scientific demands on the one hand and between technical and economic domain topics on the other hand.

In contrast to German engineering education, management studies could not flourish in the Netherlands. The dominant belief of Dutch engineering professors that non-technical subject would harm scientific status of the education of engineers, prevented technical economics to mature to a new engineering interdiscipline.

It is interesting to note that in Germany a similar debate about the coexistence of engineering and economic sciences in one study program had resulted in programs for *Wirtschaftingenieure*. The explaining difference for the failure of a similar program in the Netherlands is probably the fact that there was only one engineering school at that time. The consequence was that the different demands from different stakeholders were raised to just one school. In Germany there were many technical universities with different identities, which allowed for more pluriformity.^{vii}

The Accountants and Management

Although the engineers failed in establishing a new management science, the Dutch accountants appeared to be very successful. At the end of the 1930's they had their own academic discipline, called *Bedrijfseconomie*. (business economics). Why did accountants succeed where engineers failed? Several factors and developments contributed to the success of *Bedrijfseconomie*. One of the most important differences, compared to the engineers, was that when the accountants began to show interest in management issues, there was no academic institution that could resist a potential request for extending management studies in the curriculum. The first academic business school (Handelshogeschool) was founded in 1913 (Rotterdam). It and later the Faculty of Commerce of the University of Amsterdam (1921), and the independent (catholic) business school (Handelshogeschool) of Tilburg (1927), became the main vehicle for the scientisation of the professional domain of the accountants.

Like the engineers, the accountants had a strong professional consciousness at the turn of the century, claiming they were more or less designated to clean up business companies. They saw themselves as “the army of the economic order” (De Accountant, 1904) and believed that in the near future their profession “...should occupy the highest ranks in society”, and that they “were prepared, “relying on their theoretical competence and practical experience, to accomplish any task, how difficult this might be” (De Accountant, 1895). The accountants wanted to distinguish themselves from ordinary bookkeepers and the bunglers. The important difference with the engineering profession was that the accountants did not strive after managerial positions in companies.^{viii} They sought to play their important role in business companies as independent professionals, not as managers. The accountant profession at that time, not being formally recognized by state, could not outsiders, like bookkeepers and bunglers, from their professional

domain.^{ix} The only way to control their professional domain was, what Abbott (1988: 8) has called, *abstraction*. Abstraction is the attempt of the profession to transform practical skills to an abstract system of knowledge. The weak position of technical economics at the academic level put the engineers in a backward position compared to other professions, especially the accountants, that began to show interest in the management domain.

Bedrijfsleer and the Power of Abstraction

Two main developments have contributed to the rise of the Dutch accountancy profession. First, there was the rapid growth of public limited companies during the last decade of the 19th century in which a formal distinction between ownership and management of companies was regulated. The accountants' task was the independent audit of financial administration and bookkeeping of public limited companies.

The other important development was the notorious Pincoffs-affair at the end of the 1870s. This case was the first, large-scale financial fraud-case in the Netherlands that made the Dutch government and business world aware of the need of independent control of the bookkeeping of companies. However, like in England, the demand for auditing activities grew faster than the accountant profession, which forced the accountants to tolerate, to a certain extent, groups of bookkeepers and bunglers who were less educated and less certified (see for British situation: Abbott, 1988: 25).

The first professional accountancy organization, NIVA, was founded in 1895 with the aim to defend the profession against charlatans. It had developed its own examination terms, admission rules, code of conduct etc. However the NIVA-exams did not reflect the high scientific terms of requirements of a modern profession. The accountancy-exams of the NIVA aimed at a broad, general education, which could provide the accountants with the right knowledge that would enable them to hold high ranked positions in society.^x

In 1906 a small group of young accountants, led by Th. Limperg, branched off from the NIVA, and founded the NAV. The NAV wanted to modernize the accountancy profession, which implied developing strict regulations for the accountancy control activities and upgrading the examinations to high scientific norms. Or as Limperg put:

Our exams should (...) be leading in the field, because we do not want stay behind, but higher, more scientific. (...) The terms of examination should be that high, that university education will be necessary”(quote of Limperg in De Vries, 1985: 124).

One nice example of this scientisation strategy of this group of accountants was that the candidate accountants had to write a kind of PhD thesis, which should be defended during the final exam.

The pertinent point is that the scientisation of the knowledge domain of the accountants in first instance commenced outside an academic institution (see for other examples: Nowotny, 1991: 23-41). Probably, the NAV exams were even more scientific than those of the academic business school in Rotterdam. According to the first study guide the aim of the education of this school was “a general education for commerce”, which typically reflected the 19th century university ideal of education.^{xi}

Limpercg abhorred the non-scientific nature of *Bedrijfsleer*, which he described as a “series of problematic cases in the domain of bookkeeping”. His aim was to transform *Bedrijfsleer* into a real, rigorous scientific discipline. To this end he tried to integrate *Bedrijfsleer* with bookkeeping (which was the other *Kunstleer*), and connected these both *Kunstleren* with general economics. This connection with general economics (*Staatshuishoudkunde*) was an issue of great concern for the accountants but also for some economists, which started of after World War I. In Germany this debate started a few years earlier.^{xii} There general economist resisted the adoption of *Handelsbetriebslehre* in general economics, fearing that this “*Unternehmungslehre*” would harm the purity of the scientific status of their discipline (Sternheim, 1921: 12). The vindication for a close relationship between management studies and general economics was later also supported by the influential works of the British economist A. Marshall (*Industry and Trade*, 1919) and the American economist J.M. Clark (*Studies in the Economics of Overhead Costs*, 1923).

In the Netherlands Limpercg and the general economist H.W.C. Bordewijk, who showed great interest in the development of professional domain of the accountants, were the most important apologists of this connection.^{xiii} Space prohibits here an exhaustive description of the way Limpercg synthesized parts of bookkeeping, *Bedrijfsleer*, and general economics into a new economic discipline, *Bedrijfseconomie*. Central to his rigid intellectual framework was what he called the ‘economic motive’: a natural law which states that (rational) man will always strive for maximal profit. Because of this basic assumption Limpercg was able to develop *Bedrijfseconomie* as a sub discipline of general economics; all aspects of management studies were subordinated to this basic assumption. From the 1930s onwards Limpercg’s theories became very influential, mainly through his PhD students who evangelized his work in universities and practice. The full synthesis was only published in 1964 by his disciples.

Limpercg’s ambitions to transform *Bedrijfsleer* into an economic discipline, went concomitant with his efforts to get this discipline embedded into a ‘real’ academic

institution, the university of Amsterdam. In his view the Handelshogeschool in Rotterdam lacked a academic climate which could facilitate the exchange of ideas between different disciplines. In this climate of a Handelshogeschool “pure scientific education”, which was needed for a maturing of Bedrijfseconomie as a science, was impossible. The Faculty of Commerce was founded in 1921. Practical courses like bookkeeping, technology- and language courses were left out, and general economics was a compulsory subject. In the course of the years a further scientisation of this new faculty took place, which was symbolized by the change in name in 1935 from Faculty of Commerce Faculty to Economic Sciences.

Business economics: a contested discipline

Although Limperg’s ideas were very influential in the Netherlands for a long time, they were not undisputed. By making Bedrijfseconomie a sub discipline of general economics that needed to be taught within a ‘real’ academic institution, he offended both the engineers and the professors at the Handelshogeschool in Rotterdam.

Domain conflicts between accountants and engineers

Neither the accountants nor the engineers could at that time legitimately claim that management belonged to their professional field of jurisdiction. The domain lay fallow, open to be conquered by the new professions. During the years 1915-1940 the accountants and engineers moved to this new domain and claimed dominance over it.

As discussed before, the engineers wished to enter this field mainly for social status motivations. However, since the diffusion of scientific management in the Netherlands after 1915, engineers also began to work as efficiency-engineers, later management consultants. One of the first and most influential books, *Cost Pricing and Administrative Factory Organization* (1909), in this field was written an engineer, K.G. Simon, which forced the engineer’s way to enter the economic domain. Efficiency, in the end, was an economic issue, which moved the engineers into the area of business economics. By using the efficiency metaphor, the scientific management engineer sought to legitimate their entrance in the management domain. They believed it was their task to save costs by using the new scientific management techniques.

Similarly, the accountants, traditionally dealing with control and administrative matters, became aware that technical, administrative and organizational issues were closely interrelated. To have a complete understanding of all those issues within a company, they needed to be trained in business economics. Moreover, like the engineers, some accountants started to work as management consultants. Domain conflicts between the two professions arose especially about topics like cost pricing and organizational issues.

In 1918 the accountant A.E.C. Saarloos discussed the potential conflict between the two professions publicly in his article *Engineer or Accountant*.^{xiv} The author indicated that both professions were intruded into each other's domain. He consensually promoted the idea of a division of labour and a close cooperation between engineers and accountants. However most accountants appeared to be less consensus-oriented. In general they were of the opinion that engineers were dabblers and were working, on the basis of their 'unscientific' scientific management techniques, in an area which they did not understand.^{xv} Limperg (1965), followed by other accountants, suggested a *professional hierarchy* for the management domain. Because of their defective economic and administrative training the engineers should confine themselves to the pure technical aspects of an organization. The accountants on the other hand, could, because of their education in (business) economics, legitimately claim the first position as advisers to boards of directors. They were able to oversee and integrate all management issues in their right, economic perspective. The engineer's role should be subordinate, and support the synthesizing work of the accountants.

In 1923, the ONRI, the professional organization of consultancy engineers, and the NIVA discussed the fundamentals for cooperation between the two professions. Both organizations agreed upon a beaconing of their domain and a close cooperation. However, this agreement appeared to be void, no concrete actions were initiated to regulate the professional management domain. Rhetorical claims from both sides characterized the tenuous relationships between the engineers and the accountants until the breakout of World War II.

It's hard to determine which profession was most successful in the management domain. In the discussion between accountants and engineer the claim of the former appeared to be much more aggressive and arrogant. Engineers more or less avoided the dominant claims of the accountants. At least in one respect they had lost this professional domain conflict: they were not able to develop their own management discipline. The abstraction strategy of the accountants proved to be successful. By connecting general economics to *Bedrijfsleer* the accountants were able to set the directions of this new academic discipline for a long time.

The origins of segmentation in the profession of Business Economists

The second conflict was about the nature of the new discipline. The professors at the Handelshogeschool in Rotterdam differed fundamentally with their colleagues in Amsterdam about the character of this business science. In Amsterdam, Limperg had built an original, theoretical framework, especially by integrating his Replacement Value Theory (*vervangingswaarde theorie*) with a full-fledged theory of the internal

organization of the firm. According to Limperg this latter theory was the only and best method for determining cost prices and profit. In his view business economics was a prescriptive, deductive science, which provided guidelines for managers, accountants, and consultants in practice.

The professors in Rotterdam operated pragmatically and inductive. Their thinking was influenced by the work of Marshall and Clark. Especially Clark's ninth chapter "Different costs for different purposes" in his book *Studies in the Economics of Overhead Costs* (1923) reflects succinctly the leading motto in the epistemological view on research and education in business economics in Rotterdam. Here the professors did not reject Limperg's Replacement Value Theory. Depending on the firm's objectives, different concepts and different theories should be used.

The most prominent representative of this view was J. Goudriaan who was appointed as a professor in *Bedrijfsleer* in 1926 in Rotterdam. His earlier views on technical economics were reflected in his ideas about *Bedrijfsleer* and later *Bedrijfseconomie*. According to Goudriaan business economics was an inductive, descriptive science and was in fact just a 'methodological exposé'. Goudriaan promoted an interdisciplinary applied science, without a dominant perspective from economics, which does not aim at full integration of the different sub disciplines. In his view, business economics should have an utilitarian and pragmatic orientation, directed towards concrete problem solving. These two different perspectives on the nature of business economics became the two leading schools of thought in the Netherlands for decades. Different perspectives on the epistemology of business economics reflected the differences in the institutional settings. The independent *Handelshogeschool* in Rotterdam was founded by young businessmen with an explicit mission to serve the regional business community. In Amsterdam the school was embedded in the traditional university structure. To survive in this traditional academic climate the new business economists had to comply with the norms and values of the university.

Institutional transformation

The differences between the epistemologies of the Rotterdam and the Amsterdam school should be relativized to some extent considering the modernization and scientisation of the Dutch university system in general. In the first place both schools transformed from practice-oriented commercial schools into schools of (business) economic science. *Bedrijfsleer*, initially a rather arbitrary collection of courses tailored to business needs, transformed into business economics, a sub-discipline of economics. The length of study changed from a two-year program (Rotterdam) into a full academic program (six years)

with bachelors ('kandidaats-'), masters, and doctorate degrees. In this respect there is much similarity between the Dutch and German situation in the institutionalization pattern of early management studies. Locke has phrased this as follows:

“No discipline in a German university could have any ambition other than a scientific status.” (Locke, 1989: 134).

Underlying the pressure to conform to emerging scientific culture of the Dutch university system was what Locke has called the *Prestigedifferenz*. However it should be noted that this *Prestigedifferenz* had different origins and motives. On the one hand it was inspired by the disdain of the professors at the traditional universities. Engineers and business economists aspired to be accepted members in the scientific community. On the other hand, scientisation was part of the professional strategy to survive in the management domain. Perceived differences in social and occupational status between engineers, technicians at the middle management level, accountants, bookkeepers and bunglers pushed management studies in this scientific direction.

Finally, the question arises, did this new supply of graduates in management studies meet the demand of the corporate world? Representatives of the business community intensively involved in the start-up of the engineering school, the Handelshogescholen (Rotterdam and Tilburg), and the Faculty of Commerce (Amsterdam). In the course of this formative period their involvement diminished for two different reasons.

The first reason was the scientisation strategy of the schools that was in at the moment these schools were adopted into the higher education system. The schools became more autonomous and dissociated from the world of practice.

The second reason was these professional schools became increasingly attractive for large numbers of examinees from the modern, utilitarian Higher Burgherschools (HBS). These schools were meant to provide the industry and commerce sectors with qualified personnel, educated in the modern (in contrast to the classical gymnasia) sciences (mathematics, physics, chemistry, commercial law, bookkeeping, geography etc.). However, larger numbers of the examinees did not seek for a job in industry or commerce but matriculated in higher education studies. At that time the government complained about the fact the HBS-examinees invaded higher education that was reserved customarily for those who held a gymnasium diploma.

In the 1920s and 1930s these schools faced serious problems to adequately assimilate the massive influx of matriculants. As a consequence, the professional schools soon became overpopulated and the supply for graduates exceeded the demand by public and private organizations. An influential report of the Commission Limburg about the

overpopulation at the institutions of higher education concluded in 1936 “a serious overproduction of intellectual labourers was emerging” (Rapport, 1936: 597).

At the same time, the demand for graduates of the professional schools was decreasing because of the economic depression. Only a relative small portion (30-40%) of the graduates of the business and engineering schools were employed in business companies. The expanding governmental bureaucracy took in about one third of these graduates for civil servant jobs.

Our latter remarks on macro labour market developments and changes of the national system of education serve to put the development of the early management schools into the broader context of the modernization of society. It also demonstrates that functionalist explanations, like we described in the first sections of this paper, oversimplified the relationship between the economic and education system. Or as Levine and Kawada have put it:

“...education, training, and allocation of human resources in the process of modern economic growth constitute a set of highly dynamic arrangements. These reflect a variety of political, social, cultural, technological, and economic influences that make it unlikely that education and skill at any given time will closely match economic achievement.”(Levine and Kawada, 1980: 2)

Conclusions and Epilogues

In their recent book “Gravy Training” (1998) Stuart Crainer and Des Dearlove gave a poignant picture of the inside of America’s and European leading business schools. In this paper we have looked alternatively from the outside to the inside of the early management schools in the Netherlands. The rise of these schools did not take place in splendid isolation. The “Handelhochschulbewegung” (business school movement) (Bücher, 1925: 446-468) was an international movement that took place in the US and in Europe. Engineering schools and management schools were pioneering in the modernization process of national higher education system on both sides of the Atlantic. At the macro level these developments may look very similar, moving towards a convergence of higher educational systems. However, as we have showed in this paper, at the institutional level there appears to be much variety between and even within these systems. By looking at the actors (and their motivations) in relation to the different management schools we have been able to clarify the causes of institutional variety in management education. For example we saw how the route for management education for engineers was cut off by engineering professors within the engineering school and by the abstraction strategy of the accountants. We see the consequences even now of this

contest for the management domain that took place in the first two decades of the twentieth century. This very reputable engineering school is still weak in academic management education and has been surpassed in this respect by the new engineering schools that were founded in the 1950s and 1960s.

Our historical actor-based approach introduced a new element in the theories that have attempted to explain the rise of management schools: the emancipation of the new professions. The engineering profession suffered because of the collision between the two professional models: the technical and economic model. The two models are incommensurable, to the extent that they cannot be reduced to a common denominator. Because of this collision of professional models, the accountants were able to follow their abstraction strategy and could more or less monopolise the management domain within the university structure. This monopolisation implied exclusion of the engineers from this academic domain of management studies. At the work floor level the management engineers still appeared to be very influential. Especially when the human relations movement began to develop in the 1930s, the management engineers were very enthusiastic in evangelising this new corporate gospel. Where the accountants and business economists theoretically struggled about how to integrate the 'human factor' in their rigid (business-) economic theories, the management engineers could easily adopt these new insights into their consulting practices. For the business economists there was no way back. Locked-in into their scientisation strategy, they were unable to respond to the multidisciplinary management problems raised by Dutch multinationals after the Second World War. They were academically trained specialists in a corporate world that called for 'despecialisation' in the 1950s and multidisciplinary in the 1960s and 1970s. Business economics had become an 'academic tribe' (Becher, 1990), respected in the academic world, and increasingly disrespected in the world of business. In the end they were unable to escape the Paradox of Abstraction, as they had to allow the founding of new schools for interdisciplinary, practice oriented business administration in the 1960s and 1970s. Since the late 1990s these latter schools have outnumbered business economics in the inflow of students.

We briefly traced out the development of the business schools in the US. Compared to the Dutch situation we concluded that in the US the schools mainly stuck to a professionalisation strategy whereas in Holland the schools switched from a professionalisation towards scientisation strategy. It is interesting to notice that after World War II many Dutch business economists showed an enormous enthusiasm for the reputation and performance of the US business schools. Within the framework of the Marshall Aid (1948-1953) and later the European Productivity Agency (1953) many Dutch professors in business economics visited US business schools and wrote reports

about how to implement parts of the US curricula and pedagogues in Dutch initial and post-initial university programs (van Baalen, 1995). Before World War II the leading professors in business economics (Limperg, Goudriaan) ostentatiously disdained the low-level, practice-oriented programs of the US business schools. They especially deemed the case study method, hailed after the World War II in Europe, to be an incoherent, empiricist, vulgar pedagogical method (Limperg, 1979, Goudriaan, 1947).

This climate of change in the institutional environment, fostered by American influences, enabled the engineers, dissatisfied business economists, new emerging professions as the business psychologists and business sociologists, and representatives of the corporate world to break in into the closed academic management domain of the business economists and to put new claims on it. New schools for business education were set up as 'telic institutions' (Thompson Klein, 1990) that paved the way for interdisciplinary management education.

These new practice- and problem-based management studies can be viewed as an anti-abstraction response to the specialised closed discipline of business economics. At the same time they sought to professionalise the general management function per sé by abstracting from the practice of management. New theories for general management, like the decision-, game-, behavioural-, and general systems theories were introduced and developed to construct a science of management waiting to be confronted with a new paradox of abstraction in the late 1980s and early 1990s.^{xvi}

Notes

ⁱ The following paragraphs in which elaborate on the profession concepts is mainly based on Abbott's work of 1988.

ⁱⁱ Boisot states: "Abstraction, in effect, is a form of reductionism; it works by letting the few stand for the many" (Boisot, 1998: 50).

ⁱⁱⁱ In his well known article "The professionalisation of Everyone?" Wilensky (1964) put this dilemma forward pregnantly: "The lay public cannot recognize the need for special competence in an era where everyone is "expert". "(Wilensky, 1964: 145)

^{iv} General economics were institutionally embedded in law faculties of universities. Because of their knowledge of economics and law, law graduates were very attractive for fast growing companies. Due to the founding of the handelshogescholen in Rotterdam and Tilburg and the commercial faculty in Amsterdam economic science was able to emancipate from the law faculties.

^v ARA, TH-Delft, 1841-1956, inv. Nr. Brief van het Hoofdbestuur der Maatschappij der Nijverheid. Aan het College van Curatoren der Technische Hoogeschool Delft, 5 juli 1913

^{vi} ARA, TH-Delft, 1841-1956, inv.nr. 705. Brief van de Senaat van den Technische Hoogeschool Delft. Bericht op schrijven van 7 juli 1913, no. 978. Betreffende opmerkingen van de Maatschappij van Nijverheid nopens de studie aan de Technische Hoogeschool, 16 maart 1914

^{vii} Still German engineers were also leery of business studies. Wirtschaft-ingenieure programs appeared only in a few Technische Hochschule, notably Berlin.

^{viii} With this respect the Dutch accountancy profession differed from their British counterpart where many accountant used their profession as an entry to high managerial jobs (see e.g. Ch. Handy, C. Gordon, I. Gow, C. Randlesome, *Making Managers*. London, 1988, pp. 8)

^{ix} Formal recognition by the state was regulated by the "Wet op Registeraccountants" in 1962

^x It is important to note that at that time most accountants only had attended primary education followed up with secondary education level courses in accountancy. General education was still viewed as characteristic for the elites in society.

^{xi} Studieplan 1913-1914 en reglementen, Nederlandsche Handels-Hoogeschool

^{xii} In 1911 bookkeeping theorist J.F. Schär discussed this connection as follows: "Nationalökonomie und Handelsbetriebslehre sind also nicht nur verwandt, sondern zusammengehörige Forschungsgebiete; beide haben das Wirtschaftsleben der Menschen zu erforschen, die eine Wissenschaft nur mehr nach seinem organischen Ineinander greifen, die andere mehr nach dem Einzeldasein der einzelnen Ineinandergreifen (...)" In: J.F. Schär, *Allgemeine Handelsbetriebslehre*, Berlin, 1911

^{xiii} A research report (1920) of the professional association of Dutch general economist (Vereniging voor Staatshuishoudkunde en de Statistiek) indicated that the Dutch general economists appeared to be enthusiastic about more practice-oriented education in general economics. Many graduates from law faculties, in which courses in general economics were embedded, found a job in offices of the national government. As the latter increasingly had to deal with private companies, it was important that civil servants knew more about business economics.

^{xiv} A.E.C. Saarloos, Ingenieur of Accountant, in: *Accountancy*, jrg. 16, nr. 178, 1918, pp. 119

^{xv} See for example: Inaugural address of N.J. Polak, *Het huidige stadium en naaste taak der bedrijfsleer*, 17 January 1922 at the Handelshogeschool of Rotterdam.

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