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## Entrepreneurship in a late-comer country: the German case

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## **Entrepreneurship in a Late-comer Country: The German Case**

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### **1. A Conceptual Framework**

How did the social structure, the dominant traditions, attitudes and values influence the development, the structure and the functions of entrepreneurship<sup>1</sup> in industrializing countries? To what extent, through what mechanisms and with what results did social and cultural factors determine or influence the availability and quality of industrial entrepreneurs and managers, their attitudes and behavior, their performance in the enterprises and their contributions to economic growth and development?<sup>2</sup> Most scholars agree that such influences and relations exist. But there is no agreement on just how important they are for explaining and understanding economic development and change; there is no agreement at all about the best way to study them; and at least in the case of Germany there is not much systematic knowledge about their character and working.<sup>3</sup>

It seems difficult to discuss these problems without a conceptual framework which permits us to select some relevant variables and which provides for some hypotheses about the social and cultural determinants of entrepreneurship in the process of industrialization.<sup>4</sup> In the following paper I shall try to use some aspects and implications of the theory of "relative economic backwardness" or "late development" as proposed by A. Gerschenkron and others<sup>5</sup> in order to select and structure some information on the social and cultural conditions of German industrial entrepreneurship in the 19th and early 20th

centuries. In three regards this theory seems to be more useful for such a discussion than others:

1. It offers or implies several propositions and hypotheses on the availability, recruitment, perceptions, preferences, attitudes, values, ideologies, behavior and performance of entrepreneurs (and the structure of enterprise and its management) in late-comer countries (like Germany) in comparison to early industrializers (especially Great Britain). Thus the validity of this theory can (and should) be tested with data from the history of entrepreneurship, while at the same time it may be instrumental for selecting, structuring and explaining information on the development of entrepreneurship in different societies. Six propositions of the relative-backwardness approach are particularly useful for supplying questions, viewpoints and hypotheses to be applied to and tested by research in entrepreneurial and business history:

- a) In a relatively backward country (late-comer country) there is less continuity in the development from the pre-industrial to the industrial period; there is a sharper break and a bigger leap than in the "first industrial nation." Here, the developing factory system can build on previous handicraft, putting-out and commercial traditions much more than the factory system in late developing countries. A higher degree of discontinuity in the backward country should be reflected in the recruitment, the social origins, the occupational background and the regional mobility of its early entrepreneurs. They should be *homines novi* in late-comer countries much more so than in early industrializing countries.
- b) As the difference between the status quo and the requirements of industrialization, in other words, as the necessary effort to industrialize and the obstacles against it are greater in the backward country, particular ideologies and collective emotions are necessary to start the "Great Spurt" and to get the process under way. Profit-orientation and the belief in *laissez-faire* principles are supposed to be insufficient stimuli for entrepreneurs in a backward situation; other motives, visions and goals of a less individualistic brand must supplement the more individualistic, sober and primarily economic goals which suf-

ficed to motivate British entrepreneurs. Gerschenkron identifies *Saint-Simonism* (France), nationalism (Germany) and orthodox Marxism (Russia) as ideologies of industrialization in late-comer countries; this hypothesis should be tested by a detailed analysis of the motives, values and perspectives of the entrepreneurs.

- c) One of the reasons why the development in late-comer countries differs from the development of the early industrializers lies in the fact that the pioneer serves as a model or as a deterring example for the late-comer. The backward country often successfully tries to imitate (or import) the technological and organizational resources which have been slowly and step by step developed by the pioneer; thus the backward country partly leaps at once into a relatively advanced state of development. It may also try to avoid certain mistakes which the pioneer made.<sup>6</sup> This central hypothesis must be tested by exploring whether/how the decision makers and actors—and that means (besides the state) the entrepreneurs—perceived of the pioneer, whether/how they imitated, imported or avoided results of the pioneer, and whether/how they managed to make up for his lead in a relatively short time.<sup>7</sup>
- d) One of the instruments by which late-comers managed to catch up with the pioneers seems to be a stronger emphasis on formal education and schooling rather than on empirical training. By analyzing the relationship between the educational system, the educational background of entrepreneurs and their performance, this hypothesis can be tested best.
- e) Backward countries—more so than less backward countries—display certain traditions which are obstacles for a smooth industrialization, and which had to be recognized and removed by entrepreneurs (or—less interesting in this context—by the state). Such obstacles are scarcity or dispersion of available capital, scarcity of skilled labor, a low business moral, public distrust of industrial/commercial activities, and, one might add, strong anti-industrial, anti-capitalistic values in powerful or large groups of the society, a traditionally conditioned inability to strictly separate economic roles from social and political roles, etc. If not the state, it was the entrepreneurs who

developed institutions, instruments, strategies and means to overcome these obstacles; one may think of banks, joint-stock devices, early integration and diversification, conscious policies of paternalism, firm-owned schools, certain management techniques, strategies of self-legitimation, etc. Such devices, which had an observable impact on the development and growth of the enterprise and the economy at large, did not originate automatically but were intended products or non-intended by-products of entrepreneurial decisions and actions on the basis of entrepreneurial perceptions and motives. Again, the backwardness hypothesis leads into entrepreneurial history.

- f) In general, the theory of backwardness draws attention to the different pre-industrial traditions in industrializing countries. It emphasizes their importance in explaining the different timing, speed and quality of the industrialization processes. It assumes that the way a country starts to industrialize has a lasting effect on the structure of the industrial society which emerges. And it stresses that certain given conditions may impede industrialization in the beginning but become dynamic forces later. What has been a liability first may become an asset later; relative backwardness may produce relative modernity. One can use and test this notion in entrepreneurial history.

2. There is a second reason for using this approach for the present purpose: this set of concepts, hypotheses and propositions is broad enough to permit (and require) the analysis of economic, social and cultural factors and their interdependence; it thus permits us to probe how social and cultural factors influenced the development of entrepreneurship and economic change—and these aspects will be at the center of the following discussions.<sup>8</sup> But it simultaneously draws the researcher's attention to the fact that the social and cultural determinants under scrutiny are themselves closely connected with and influenced by economic structures and processes. Consequently, it allows to avoid the danger of talking about social, cultural or psychological variables in an abstract way.<sup>9</sup>

3. More than other available approaches the theory of relative backwardness offers itself for *historical* research since it is a historical theory. The time factor is built into this theory, and so is change;

the notion of time differentials is central to it,<sup>10</sup> much more so than to structural-functional approaches,<sup>11</sup> role theory,<sup>12</sup> behavioral approaches<sup>13</sup> and simple stage theories.<sup>14</sup> Without denying basic similarities and constant factors in the processes to be explored, the backwardness approach emphasizes the differences in space and time, but then offers an explanatory scheme to systematize these differences.<sup>15</sup> Moreover, it refers to types of empirical data which the historian may hope to marshal (at least in principle).<sup>16</sup>

4. Finally, it must be stressed that this approach is based on historical *comparison* and thus permits and stimulates further comparison, not only between the "first industrial nation" and the late-comer, but also between one late-comer and another<sup>17</sup> using the different degrees of backwardness and different pre-industrial traditions as the starting-points and main criteria of comparison. Different authors have shown<sup>18</sup> that this approach can be extended to include some aspects of modern Japanese history and compare them with British and German equivalents. Parts of the North American experience might possibly be reinterpreted in this comparative framework, too.

This paper will not exploit these opportunities of comparison—due to lack of competence and space. Rather it concentrates on some aspects of the German experience and touches only slightly on corresponding developments in other countries. However, it is beyond doubt that, ultimately, a full understanding and explanation of German entrepreneurship and management can only be reached in a comparative perspective.

## 2. The Context

Most economic historians seem to agree that the German industrialization did not start before the 1830s/40s—if industrialization is characterized by a fast growing investment ratio, by massive investments in the industrial sector, by continuous, self-propelling growth of the GNP (in absolute terms and per capita, in spite of a growing population) and by the development of the factory system based on a quickly developing technology. Compared with the West European pioneers, Germany was an industrial late-comer. It started about 50

years later than England, and about 20 years later than France—but roughly 50 years earlier than Russia, and about 30 years earlier than Japan. In terms of relative economic backwardness Germany took a middle position. The same is true if the relative number of people working in the agricultural sector is used as an indicator, it is estimated that more than 60% of the German working population was employed in agriculture at the start of the 19th century, while England is estimated to have reached this proportion already by the end of the 17th century and employed less than 40% in agriculture in the early 19th century; France is said to have ranged at 55% at the end of the 18th century, while in Japan 80% of the population seems to have been in agriculture still in the 1860s; even larger proportions are typical for underdeveloped countries today.<sup>19</sup>

Unlike many countries which have started to industrialize after the Second World War, German industrialization was preceded by a long tradition of business and commerce which had slowly developed and had created significant inroads into an otherwise primarily agricultural society. Wholesale and long-distance trade on the one hand and industrial production from the handicrafts, the putting-out system and manufactories on the other, had gradually overcome the vast setback of the Thirty Years War (1618–48). This was true in the West (Rhineland and Westphalia), in Saxony and in part of Southwest Germany, while other German regions, especially east of the river Elbe, were still strictly agricultural.<sup>20</sup> By the end of the 18th century in some branches of textile production and in the metal industries and mining, some steam power and machinery had appeared. However, these industrial developments remained insular and weak and markets were fragmented and small, compared to the contemporary Western European models which were strongly admired.

The breakthrough did not come in the traditionally strong and dominant textile sector. It was, rather, the building of the railroads and the associated strong acceleration in the development of producer goods industries since the second half of the 1830s which brought the first massive disposal of permanent, fixed capital in the industrial sector; the proportion of net investments in the GNP grew strongly; there appeared the process of self-propelling growth, with only short-term interruptions, which is typical of industrializing economies.



This was based on an increasingly integrated market which was expanded by economic and political unity (1834: Customs Union; 1866/67: *Norddeutscher Bund*; 1870/71: foundation of the Empire), and by the expansion of the means of transportation (primarily the railways). The proportion of the business and industrial sector of the GNP notably increased. Within this system (but above all in the raw materials industries, the metal working and the textile industries), the modern factory system organized in a private capitalist way was established.

The depression of the 1870s marked the end of the "foundation boom." Cyclical depressions were particularly long and deep in the following years. A long period of fast and steady expansion only started again in the mid 1890s, and lasted, with short breaks in 1900–1902 and 1907–1909, until the First World War. Between 1873 and 1913 the German GNP tripled. The secondary sector contributed disproportionately to this expansion. While in 1873 about one-third of the national wealth came from industry, crafts and mining, in 1913 these sectors produced almost one-half. In 1875 about 50% of all those employed worked in agriculture; in 1914, 34%. In these four decades, Germany, the late-comer, finally overcame her relative economic backwardness; she overtook, in economic size and economic modernity, all other continental countries, and in some important respects (pig iron and steel production, chemical and electro-chemical production, maturity of industrial organization and technology) even Great Britain. This expansion of German industry was accompanied by structural changes which were strongly affected by entrepreneurial decisions and, on the other side, were of great significance for the development of entrepreneurship and management: the development toward big business through internal expansion and fusion; the trend towards the separation of ownership and control; the diversification of large concerns through internal expansion or external combination; the cartelization of German industry and the rise of share-holding banks; and finally, the increasing complexity of large concerns through the rise of science in production, distribution and management. In spite of a still very large proportion of small-scale industry, on the eve of the First World War, Germany had a mature and growing economy which—on the level of the large corporations

—displayed aspects of outstanding modernity comparable only to the United States.<sup>21</sup>

It is a basic feature of the German experience that this pattern of successful economic growth and capitalist development was not really paralleled by the development of a bourgeois or middle-class society and of a liberal-democratic political system. Contrary to Britain, the USA and France, there was no successful revolutionary tradition preceding the start of industrialization. Partly as a result of the relative economic backwardness, the growing German “bourgeoisie”—though influenced by the ideas of the 18th-century enlightenment—was not powerful enough to win general acceptance for middle-class lifestyles and values; it was not angry enough to break the power of the traditional elites by establishing a liberal parliamentary system. As far as there was revolutionary change in Germany around 1800, it was a “revolution from above”: powerful and efficient central bureaucracies—which on the European continent and in Japan (but not in England and the United States) had developed long before industrialization began—removed certain barriers against modernization. In Prussia—and the pattern was similar in other German States—reform-minded civil servants abolished still powerful remnants of the feudal past, pushed through the legal presuppositions of a competitive market economy and tried to foster economic and social modernization in some (not in all!) respects. They abolished or weakened the guild system, they changed the feudal relations between lords and peasants into contractual relations between (privileged) agricultural entrepreneurs and labor, they broke down internal and external custom barriers, they created a system of general education and they tried to promote industrial development. Their reforms were stimulated by a threat from the outside (the expansion of post-revolutionary France), by the civil servants’ interest in a strong state and bureaucratic power and by ideas of economic liberalism and philosophical enlightenment. Although German industrialization was not primarily the product of bureaucratic actions but of private entrepreneurs, and although there were some tensions between the bureaucracy and the rising business classes (especially in the most advanced Western provinces in the 1840s to the 1860s), German industrialization was not achieved *against* state power but

with the support of it. The bureaucratic traditions of German economic, social and political modernization remained very visible until the middle of the 20th century.<sup>22</sup>

It was part of this unrevolutionary modernization "from above" that the landowners' classes, it is true, underwent deep changes and adjusted to the new market economy. However, they managed to retain many of their privileges and much of their social dominance and political power. Besides the high civil servants and the military (who gained power and status after the wars of unification 1866 and 1870/71, which prepared the foundations of the Empire and achieved national unity under the guidance of the old elites), the landowners' class and many aristocrats belonged to the Imperial power structure until the break-down of 1918. Feudal, bureaucratic and militaristic traditions remained strong in spite of rapid industrial growth and capitalistic development; if analyzed in terms of current modernization theories (mostly inspired by Anglo-American experiences), there was a strange lack of correspondence in the German development: economic modernization went well together with social, cultural and political traditionalism.<sup>22a</sup>

How did the relative economic backwardness of the early German development reflect on the German entrepreneurs? How did they contribute to making good for it? How were they influenced by the specific traditions and anachronisms of German modernization? We follow the viewpoints proposed above in part 1.

### **3. Social Origins, Mobility Patterns and Occupational Background of Early Entrepreneurs**

As mentioned before, there existed a slowly growing industrial and commercial structure in some German regions before the process of industrialization began in the second third of the 19th century.<sup>23</sup> Leaving the merchants aside and concentrating on the production sectors, one can distinguish craft-shops, decentralized putting-out establishments and large-scale factories (centralized private enterprises, largely on a contractual labor basis, but without machinery) already in early modern times (long before 1800). Recent studies<sup>24</sup> seem to show that there was very little continuity between these

older institutions and the new factories. The market relations, technologies and entrepreneurial tasks underwent such a change in these decades that most of those older institutions did not manage to develop into modern factories; mostly they either broke down (into many factories) or continued in their old form (many craft-shops, some of which often developed into factories only two or three generations later). Only in a small minority of cases did the factories of the first phase of industrialization grow out of older institutions; the directors of pre-industrial business enterprises did not normally develop into the heads of industrial enterprises; the cases of continuity which, nevertheless, existed, were more frequent in the advanced Western provinces and Saxony, but rare in the backward regions of Middle and East Germany, where mercantilistic state interventions had had a deeper influence. There were sectoral differences, too: continuity was probably more likely in textiles than in heavy industry, engineering and, of course, transport; in other words, it was more likely in those branches which bore the brunt of German industrialization. If the backwardness model developed above is correct, there should have been more continuity of this type in Great Britain but less of it in Japan.<sup>25</sup>

In contrast to this discontinuity on the level of institutions and individual entrepreneurs there was probably a far greater continuity in familial and social terms. Even when a factory entrepreneur, a craft master or a putting-out entrepreneur failed to convert his business into a factory, it was often the case that his descendants—perhaps in another place or another line of business—did become factory owners. This explains the fact that many famous entrepreneurs of the industrial revolution, particularly in Western Germany, came from old families which, even in the 17th and 18th centuries, had been in industrial or business activities. Stumm, Krupp, Hoesch and Poensgen stand for complex and old bourgeois business dynasties, often inter-related, and quite similar to aristocratic dynasties in their marriage policies except that with them it was not so much a matter of increasing their territories as of increasing businesses, enterprises, entrepreneurial skills and capital.<sup>26</sup>

The combination of institutional and personal discontinuity with family continuity is also illustrated by the fact that of the Berlin en-

trepreneurs of the first phase of industrialization, only about one in three had inherited his business from his father, while three of four were nonetheless the sons of businessmen. Other investigations also demonstrate that the entrepreneurs of the second third of the 19th century, in general, were the sons of independent traders and businessmen, but did not come from the propertyless lower classes.<sup>27</sup>

What it shows is this: those new men who directed the new institutions were not quite so new; as sons of independent traders and businessmen they profited from traditions which come down from the pre-industrial era. They found it easier than others did to gain access to and control over capital, and to obtain entrepreneurial motivation, knowledge, skills and contacts, which were primarily handed on within the families. This indicates not only a clear limit on the chances of upward social mobility (which by the way was hardly impeded by legal barriers after 1810) but also shows the significance which the pre-industrial business and commercial traditions had for German industrialization; it points to the *limits* of German backwardness. If the hypotheses were right, comparative research would show that there was less continuity of this type in more backward countries like Japan or Russia. The proportion of entrepreneurs who were sons of peasants, aristocrats or civil servants should be higher in these countries.<sup>28</sup>

The pattern of geographical mobility fits into the backwardness syndrome also. In spite of the political fragmentation of Germany before 1870, there were no real barriers against the geographical mobility of entrepreneurs. In the traditional centers of industry there was relatively little geographical mobility during the early phases; the stability and permanence of the early entrepreneurs in the Rhineland and Westphalia have always been emphasized. On the other hand, the entrepreneurs of the second third of the century, in areas without an established and strong business tradition, were mostly immigrants. In Bremen, for example, they came primarily from the smaller towns of the North German interior. Very few of the Berlin entrepreneurs of the early industrialization originated in Berlin; particularly in the 1830s and 40s they tended to be immigrants, and to some extent came from very distant provinces.<sup>29</sup> There was remarkable migration of potential and actual entrepreneurs even before the mass migrations

of potential and actual workers commenced. The more advanced industry had been in the old times, the more generational continuity and fewer geographical moves at the start of industrialization, and vice versa.

Finally, one can explore the *occupational* mobility patterns, asking from what occupational position those persons who became entrepreneurs started.

It is striking that in 19th-century industrialization there was only the exceptional industrialist who had started as a skilled or unskilled worker, as a factory worker or laborer, as a servant or something similar. Apart from some exceptions, the urban lower classes lacked not only capital—as did many entrepreneurs from a craft background—but also useful business and technical knowledge, information about opportunities and an education which would have passed on motivation and a spirit of enterprise. It is also noticeable that only very few peasants, farm hands and agricultural workers became industrial entrepreneurs. The great majority of the people, therefore, took no part in the creation of the industrialist class. The permeability of the society of the time thus had very clear limits. In this respect, Germany differed only gradually from the Anglo-American countries, where the intra-generational chances for upward social mobility seem to have been only a little higher.

The circles from which the entrepreneurs of the industrial revolution primarily came, had, in one way or another, something to do with the business or trading economy—whether as craft masters and apprentices, as merchants, shop-keepers or putting-out masters, or as technicians or sons of early factory owners. The great majority of entrepreneurs brought some industrial, technical or business knowledge with them, and many had financial means at their disposal, which had been gathered in industrial or business activities.<sup>30</sup>

Entrepreneurs with a craftsman or artisan background were most numerous; very often they founded their factories after finishing their journeymen period and their usual travels (within and outside the German states); very often they moved from one specialization to the other; rarely had they been long-standing masters and owners of established craft-shops. Entrepreneurs with artisan backgrounds were

most frequent in the metal trades and engineering industries; often they formed a partnership with a former merchant; and it seems that—on the average—their firms remained rather small. Entrepreneurs with a merchant or putter-out background were nearly as frequent as the craftsmen-entrepreneurs; out of this group, it seems, the most enterprising men came, the builders of large enterprises and all-round entrepreneurs (engaged in many different lines at the same time). A third starting position for the leap to the founding and direction of one's own enterprise was that of the technician. This covered people from various social backgrounds with one of two career patterns: they were either graduates of technical schools or colleges who founded their factories soon after leaving school; or they were technicians, with or without a technical education, who had been employed for some years in factories as foremen or in some other leading position, and had gained much practical experience. As industrialization moved on, a fourth group increased, namely the number of entrepreneurs who had inherited their concern from their fathers.<sup>31</sup> For the owners of private enterprises (including partnerships) it was one of their assumptions that their offspring would inherit the works and not merely the ownership, but the practical direction of the concern. This tendency became so strong that entrepreneurs—at least those entrepreneurs who were sufficiently well known to be included in a national biographical handbook—in the second half of the 19th and in the early 20th centuries belonged to those groups of German society which had the highest self-recruitment rate. Only the military elite had a higher self-recruitment rate than them.<sup>32</sup>

In conclusion, the overwhelming majority of entrepreneurs of the first phase of industrialization came, in Germany as in France, England and the United States, from industrial and business trades and activities. This clearly shows how important it was to have had a pre-industrial business and trading tradition and clearly points to the fact that the relative economic backwardness of Germany should not be overstated. In this respect the German pattern was similar to the Western European and the American one. It would be interesting to compare it with more backward countries.<sup>33</sup>

#### 4. Social Values and Status—Entrepreneurs' Motives and Ideologies

What made these people decide to take up entrepreneurial activities? What can we say about the psychological, social and cultural factors determining their motives and decisions? Were the status system and the dominant social values in that situation of relative economic backwardness disadvantageous for the recruitment of entrepreneurs and for the performance of the entrepreneurial role? Did the status system, the social values and the image of the businessmen's role change when industrialization went on and Germany gradually lost its backward character? It is difficult to say anything precise on these subject matters since regional differences were pronounced and systematic studies are lacking. Only some preliminary remarks can be made.

There were indeed traditions and attitudes in the upper classes and upper middle classes of the German society which made it difficult—or at least less attractive—for the members of these classes to become entrepreneurs; these traditions and attitudes seem to have accounted for the fact that the status of the average businessman in early 19th century Germany was relatively low—low in comparison to aristocrats, military cadres, the bureaucrats and the more respected groups of the learned professions, but also low if compared with his counterparts in contemporary France or the USA.

For the nobility, manual work was of course unacceptable; but for many of them, particularly in the more advanced parts of West and Southwest Germany, trade and industry in general were a form of livelihood incompatible with their social position and group-specific standards. This aristocratic contempt for business pursuits, and the ensuing negative sanctions which aristocratic businessmen had to fear from their peers, were phenomena well known in other European countries, too. These attitudes even seem to have grown and become more explicit since the 16th and 17th centuries, and, at least in West Germany, stiffened again after the beginning of the industrialization; this stiffening of an aristocratic anti-business tradition was probably a defensive reaction against the slow rise of non-aristocratic groups which possessed wealth, claimed status and sometimes even



competed for power. Only if the enterprise was primarily in one of the branches of industry connected with agriculture (such as mining, smelting, brickworks, etc.), or if it was linked with a state appointment, did it become respectable for some aristocrats (for example in Silesia and Bohemia).<sup>34</sup> It seems highly probable that these aristocratic conceptions of business activities and of businessmen were responsible for the low degree of aristocratic participation in the formation of the entrepreneurial class in the first phase of industrialization. To the degree that aristocratic traditions influenced the public opinion, the climate and style in Germany, these anti-business and anti-commercial reservations were carried over into non-aristocratic groups as well. After the 1870s some of these reservations seem to have broken down.<sup>35</sup>

There was a second source of anti-business resentment and, consequently, a second reason why the social status of most German businessmen tended to be relatively low, at least in the first part of the 19th century. More so than in the United States, and probably also more than in Great Britain, the educated middle class in relatively backward Germany adopted a disparaging condescension towards those in trade. The more *Bildung* (education) served as the basis of the middle class' self-conception and its claim to respect, the more academics and officials looked down upon the frequently ill-educated small businessmen and petty-bourgeois industrialists of the mid-century. They rather despised these petty traders, craftsmen and financial dealers who followed "particular" interests in the mire of financial success, while they themselves, without access to material wealth, carried out "intellectual" tasks, and in the case of officials, served the "general" interest of the state. With this attitude, they certainly did not encourage their sons to choose the industrial and trading professions.<sup>36</sup>

The extremely high status of civil servants in most parts of Germany was often noted by surprised foreign visitors from Britain or America. The high appreciation for bureaucratic traditions was often tied up with reservations against the non-bureaucratic type of the businessman, who took risks, strove for profit, accepted competition and rose on the basis of material and individual success rather than on the basis of formal education and seniority. Military standards

and patterns were also clearly distinguished from the standards and behavior of the capitalist entrepreneur.<sup>37</sup> The continuous strength of bureaucratic traditions and the growing strength of militarism in Germany contributed to the fact that business values and capitalistic principles (like competition, risk taking, individual and material success, and dominance of wealth as a criterion of social standing) never gained the general acceptance and public esteem that they did in 19th and early 20th century America. Of course, this reflected on the status of the German businessmen. As an analysis of court ceremonial orders, of marriage patterns, of the political representation of businessmen within parties and bureaucracies, of the writing by contemporary observers, of popular literature and of the complaints raised by businessmen would show, their social recognition and political power did not correspond to their economic wealth—not withstanding tremendous differences between various types of businessmen, from various regions and different decades. The German society never became a “business society,”<sup>38</sup> and the German political system was never a purely plutocratic political system serving mainly the interests of the capitalist class.<sup>39</sup>

However, I hasten to add that there were strong counter-tendencies which modified the picture remarkably.

In general, there was, even in the first decades of the 19th century, no outright hostility towards business activities on the part of the German upper classes and the public at large. For decades it had been normal—with regional variations—to reward trading and industrial success with the grant of a noble title. The respect and the high regard with which economic success was held under the mercantilistic economic policy of the absolutist princes of the 17th and 18th centuries had contributed to the rising evaluation of business activities within predominantly agricultural societies having strong feudal traditions. Economic success had been regarded as an instrument and a token of national greatness by the absolutist rulers and their bureaucracies; while their economic interventions and promoting activities met with failure more often than not, their impact on the general image of economic innovation and success was positive and should not be underestimated. Some ideas of the philosophy of the Enlightenment, which in the 18th century became very popular

with the educated public, at the courts and with the ruling elites, had a similar effect. In this ideological context the businessmen—especially the long-distance merchant—became something of a symbol for unprejudiced, cosmopolitan, experienced and rational behavior. Because of this his social status may have slightly increased. In the Western regions, without strong absolutist rule and with advanced business traditions, the merchants, putters-out and factory entrepreneurs were even at the top of the social pyramid of their communities, combining wealth with high status and political power on the local community level. Mostly of Protestant faith, their belief system legitimized work and economic success in religious terms.<sup>40</sup>

Already in the 18th century and even in the more backward parts of the country, economic success, the display of wealth and “conspicuous consumption” were possible and admired although they did not fit into the traditional corporate order.<sup>41</sup> By the eve of industrialization the destruction of the old corporate system had been largely completed—by absolutist rulers, bureaucratic reformers, the ideas of Enlightenment, French influences and autonomous socio-economic change. The less petrified and self-evident traditional symbols, old life-styles, norms and laws became, the more opportunities appeared for individual expressions of life and work; new symbols of individual achievement, rise and success became available. There was observable change enough in these decades; many people—especially those in the middle and upper strata of society and those in towns and cities—learned that their fate was not unchangeable given but could be improved by individual (or even by collective) striving and action. In these years of change, an increasing number of people seem to have understood that wealth, status and life chances could be achieved instead of being definitely ascribed. A close analysis of the contemporary literature in the field of economic and social science seems to show that the principles of change and innovation gained respectability also in Germany (though later and less so than in England).<sup>42</sup> In early 19th-century Germany innovation, change and business activities were not stigmatized; they were neither socially nor legally forbidden for the majority nor reserved for marginal groups. In spite of all backwardness, this was not any more a static society (if it ever was), and the researcher does not have to look for

low-status minorities or outsider groups if he deals with entrepreneurship in early German industrialization.<sup>43</sup>

As many contemporaries have observed—mostly in a mood of regret and cultural criticism—in the course of the 19th century, visible economic success gained relative importance in determining one's social standing. Economic factors became more and more important—though within limits, as mentioned above—in determining social relations and even cultural phenomena. This seems to be a general aspect of industrializing societies; the German experience was no principal exception, but only different in degree and flavor. The more important wealth, money, economic power and “conspicuous consumption” became, the more status accrued to rich businessmen, the more attractive such careers must have become.<sup>44</sup>

There were other developments as well, which tended to reduce anti-business reservations in the German public. Insofar as industrial technology from the mid-century on went hand in hand with the natural sciences, it was possible for the sons of academics to find their way into industry with a justification in terms of scientific progress—clearly an “intellectual” value. The rhetoric of progress, with which bourgeois economic groups demanded the development of transport, trade and industry, was increasingly combined with nationalist overtones. The demand for “industry for the fatherland” was heard even before 1848 in the individual states. It served as an argument in the state policies for promoting industry, which, particularly in Prussia, tried to spread technical knowledge through technical and business education, through the creation of business societies, and through exhibitions and public competitions, and which tried to induce entrepreneurial initiatives on national-political grounds. The call for the strengthening of “industry for the fatherland” was soon linked with national-liberal hopes for political unity, as in the political demands of liberal entrepreneurs in the Rhineland before 1848, and in the emerging engineering associations of the 1850s and 1860s. Later, after the wars of unification, in which industry and technology were for the first time conceived of as instruments of war and were celebrated as one of the causes of victory, this national and soon nationalistic ideology of industrial progress and economic expansion was strengthened, and finally flowed into the

imperialist propaganda at the turn of the century.<sup>45</sup> In the course of these social and psychological changes, the reservations of nobles and members of the educated middle class about industry and trade weakened, particularly with regard to the manufacturing industries, which were scientifically interesting and of central importance to national power and prestige.

It was in this changing socio-cultural mixture of relative backwardness and modernity, of anti-business traditions and pro-business ideologies that people decided whether to become entrepreneurs or not. Closer analysis seems to show<sup>46</sup> that in the first phase of industrialization, the search for economic success and the striving for profit were powerful—probably *the* most powerful—motives for people to take up entrepreneurial activity. Those who came from long distance and wholesale trading were used to striving for profit and to the search for economic success on the basis of new opportunities, although they were mostly sufficiently well off to be able to satisfy the material needs of life either adequately or well. They were accustomed to regarding economic success as an important determinant of status and power.

Others were often propelled by their inadequate economic and social position. One must remember that real incomes dropped slightly after 1820 and then—after 1850—stagnated until the last third of the century; that because of the generally low level of incomes, even minor economic down-turns created crisis situations for the lower classes and the lower middle classes; and that in the business and industrial sector unemployment and under-employment were widespread. The prospects for an unestablished craft apprentice without property were at best very uncertain, if not plain bad. There were not many chances for him to establish his position, especially if he was trying to create the basis to start and support a family. The struggle with actual or potential poverty was an elementary driving force behind the energy, drudgery and readiness to risk, with which many entrepreneurs went hopefully from one project to another which they started, tried and failed, but did not give up and finally perhaps succeeded, with agonizing pains and with the help of the entire family, in creating a secure, prosperous and respected independent position.

In addition there frequently existed a strong desire for independence, a marked stress on status, and aspirations for power and dominance. It is characteristic that in several known cases technicians preferred an independent position as entrepreneur to a more secure but in the long term probably less profitable and above all dependent position as an official. Sons of entrepreneurs sometimes founded their own businesses rather than play the role of junior boss in their father's firm and wait for inheritance.<sup>47</sup>

The strive for economic success and individual independence and mastery, to many, was meaningful in itself, and needed no additional legitimation. They may have regarded it as rational in the spirit of their time, and they often vaguely believed that the chance for individual success was open to everyone as well, and that in the end the general good would follow if everybody would seek his enlightened interest and obey the rules and the laws. They hardly needed an additional "new deal of emotions,"<sup>48</sup> and in this they probably resembled many entrepreneurs in Western Europe, the United States and other parts of the world.

Large groups of early entrepreneurs, however, preferred to frame their ambitions and striving in the context of visions, ideologies and aims which clearly transcended the narrow economic sphere; this is where the social and cultural context of the specific country comes in.

Especially in the most western parts of Germany, early entrepreneurs displayed a high evaluation of work on ethical and religious grounds, and thus legitimized economic achievement and success, even when this was no longer necessary for the satisfaction of immediate personal needs. Success in work insured not only the support of one's family; it also formed the basis of pride in one's achievements, the individual's personal honour which according to bourgeois conceptions was always linked with honesty, quality, solidity and diligence. For the often devoted Protestant entrepreneurs of that time, it was also, for them, a pledge of the love of God.<sup>49</sup> This conception of work and achievement legitimized the hard work and the thrift (also in private life), the sense of order and sobriety, the rationality and the pleasure in the making of money. It thus legitimized motives and virtues whose objective function—though rarely conscious purpose—it was to secure a rational leadership of the firms and the profita-

bility of the invested capital, to encourage the expansion of the business through self-financing and to subordinate the private life of the entrepreneur's family to the success of the enterprise. It conferred sense onto a concern with success and expansion, which might otherwise have appeared senseless.<sup>50</sup>

A second way of legitimizing restless striving for achievement, success and expansion of the firm was based on the strong family orientation of those early entrepreneurs. Many of them perceived their firm as a vehicle for the rise, wealth and reputation of their family. They thus gained a long-term perspective which made it easier for them to renounce short-term advantages and to accept personal sacrifices if it would help the long-term success of the firm. Take the following quote of Werner Siemens as an example: "It is my main concern. . . to found a lasting firm, which perhaps one day under the leadership of the young ones could become a world firm like Rothschild etc., and bring our name to the notice of the world. The individual must be willing to accept personal sacrifices for this great plan, if he thinks it a good one."<sup>51</sup>

Finally it should be noted that the role of national arguments which sometimes motivated German businessmen legitimized their economic pursuits, and served as a rhetoric basis for status claims and their demands for favorable legislation. In the early times resentments against the powerful British competitor were voiced, industrial success was praised as a means of freeing Prussia—or Germany—from the dominance of foreign influences. German railway entrepreneurs either saw or sold their achievements as a means of national promotion, as a patriotic and civilizing mission as well. In the wars of 1866 and 1870/71 technical superiority and industrial strength, for the first time, were recognized as a basis of military strength. Consequently, some branches of industry (coal and iron, heavy machinery and chemical industries especially) were now often celebrated as vehicles of national greatness. In addition, the imperialist mood which increased since the 1880s and climaxed in the first decades of the 20th century provided new devices of legitimization for the export industries and the German businessmen—the *Wirtschaft*—in general. Economic success was now frequently associated with national strength; it seemed to serve not only private ends but also

purposes of national power in the heated international competition of the imperialist era.<sup>52</sup>

Businessmen liked to make use of that. But it is difficult to decide whether patriotism and nationalism were really motivating forces or rather convenient rhetorical tools in Sunday speeches and public relations. One thing seems clear, however: nationalism was less influential among early entrepreneurs' motives than economic, ethical and family related ones; as far as it did play a role, its impact was much stronger after the foundation of the Empire (1870/71), i.e., in the second phase of industrialization, when German economic backwardness was already strongly reduced and then quickly overcome. So it seems indeed difficult to regard nationalism as *the* development ideology of German industrialization in the context of relative economic backwardness. Perhaps this unproven hypothesis of Gerschenkron<sup>53</sup> fits better with Japan than with Germany.<sup>54</sup>

Summing up, one can say that there existed strong traditions and values in the German socio-cultural system which were hostile towards entrepreneurial virtues, capitalist behaviour and economic success. Due to its relative economic backwardness and specific traditions, which continued to be effective, Germany was far away from becoming a "business society." As far as one can tell, this did not really hinder the development of German entrepreneurship. Why?

On the one hand alternative sets of largely traditional values were available which could motivate and/or legitimize entrepreneurial ambition and economic success. Religious, family-oriented and national values were particularly important in this context. On the other hand those anti-business mentalities which were mentioned before were not very solid and insurmountable, since manifold changes had been long going on in German society when industrialization began. They weakened even more when industrialization developed. The social sanctions against strictly profit-oriented motivations, against the praise of economic success and against openly capitalist behavior were not strong enough to be prohibitive; the status of businessmen was relatively low, but not low enough to have a tangible negative impact on entrepreneurial recruitment and selection.<sup>55</sup> In other words: the relative backwardness of the German situation was



*limited* so that the need for a “new deal of emotions,” for non-economic ideological stimuli, was not very strong.

Finally, it can be argued that some non-capitalistic, non-business aspects of the German status and value system were conducive to entrepreneurial ambition and economic success. One can make the point that certain aspects of relative backwardness on the socio-psychological level and the lack of alternative opportunities (e.g., in politics) for German middle-class businessmen—which in itself was a consequence or aspect of the continuing high status and power of the traditional non-business elites—stimulated the economic ambitions of these middle-class men and directed their energies into the economic sphere while they adjusted to aristocratic superiority in the socio-political realm and accepted the skilful dominance of the older elites in principle.<sup>56</sup>

The German example seems to show that there is no simple, positive correlation between high status and social recognition of businessmen on the one hand, and entrepreneurial performance on the other. Certainly, status may be so low, and negative sanctions so strong, that the recruitment and performance of entrepreneurs are stifled and weakened; but once a certain threshold is crossed and stigmatization has ceased, it may well be that entrepreneurial recruitment and performance are even favored by incongruencies between economic wealth, social status and power. The continuing effectiveness of traditional values and mentalities does not necessarily reduce the effectiveness of economic development—quite the contrary.

## **5. Entrepreneurial Qualifications**

Germany's relative late-comer status and pre-industrial traditions also reflected on the qualifications of its entrepreneurs. German entrepreneurs had the chance to observe technological, commercial and organizational achievements within the more advanced Western countries, and used them by imitation and adjustment. In German industrialization the most important exporter of know-how was Great Britain, more important than France or Belgium; the significance of the USA was, because of its distance, small, but it grew towards the

end of the 19th century, and in the 20th, to become the more important exporter than Britain. English experience was particularly central for the German engineering, steel and textile industrialists; France and Belgium played a large role for the early travelling craftsmen and also for bankers; experience from the United States affected primarily some later technicians, engineers and organizational experts. Of the methods by which this knowledge was transmitted, the most important was the foreign journey of the future or already practicing entrepreneur, his son or a leading employee; this was more important than migrations of foreign entrepreneurs and technicians (such as Cockerill, Mulvany, Thomas, Dobbs, etc.), and more important than the recruitment of foreign workers, or the distribution of written information. Up to 1870 almost every third entrepreneur in the Rhineland and Westphalia had been on business or study trips abroad. Entrepreneurs in the extractive raw materials and chemical industries were overrepresented amongst the travelling industrialists.<sup>57</sup>

This is not the place to trace the manifold and changing channels through which German entrepreneurs imported experiences others had had. Nor can we discuss the economic results in detail. Suffice it to say that on the basis of imported technology, some branches of German industry tried to jump over the first phase and to start immediately on a more advanced level. This led, in the early period, to foundations, which in their fascination with the English example quite overlooked the fact that the German market and infrastructure were not at all adapted to such advanced forms of production. There were failures from this fact alone. On the other hand the import of technology, beyond the actual needs of the time, led to early impulses, and to a certain excess in production-technology development, an excess which sought in turn to create a demand, and which, once there was a demand, could more easily meet it. Thus what in the short term and for the individual firm might have been a commercially mistaken decision, led in the long run to a positive impetus to growth. The same mechanism contributed to an early trend towards bigness and towards relatively large-scale organization in the early stages of German industrialization.<sup>58</sup>

The early emphasis on technological progress was supported by

the relatively rapid development of German technical schools and higher education. It was, in the meantime, a common fact that German entrepreneurs possessed more schooling and formal technical education than their English counterparts. One can interpret this British-German difference in terms of the late-comer syndrome and relative economic backwardness.

On the one hand, a continuous and relatively slow development is more easily built on traditional knowledge (handed down on an empirical basis) than in the late-comer country which tries to jump from relative backwardness to relative maturity. In this case, forms of transmission of knowledge which go beyond empirical demonstration and imitation (in the sense of master-apprentice-relationships) become necessary: past experiences must be collected, transformed into a systematic body of knowledge and transmitted to those who shall use them; consequently learning in schools to an increasing extent comes to supplement learning in the workshop or the counting house. On the other hand, the stronger emphasis on formal education in less advanced countries seems to follow from the fact that the state plays a bigger role in their development, and the founding of general and technical schools is a task which is apparently more easily done by public bureaucracies than by private initiatives. To governments which try to overcome relative backwardness, education must appear to be a major, though expensive device.<sup>59</sup>

In the Prussian case, this mechanism of relative backwardness and of ensuing state development policy, absolutist traditions and a high esteem for education in the German middle class and bureaucracy all joined together in establishing a relatively advanced system of general schools which made the illiteracy rate among young males (conscripts) sink to 24% in 1875 (which was probably lower than anywhere else in the world at that time). Similar factors came together in initiating a largely state-sponsored system of technical schools since about 1820 which, probably earlier than in all other countries, provided for technically trained "cadres" to be used in the developing industries. (The development of commercial schools clearly lagged behind.) In all probability, the founding of and support for this educational system was the single most important contribution of the Prussian/German government to the development

of an industrial system (besides removing certain barriers—like internal custom walls and legal restrictions on the mobility of the factors of production).<sup>60</sup>

However, amongst the entrepreneurs of the first phase of German industrialization, an empirical education was dominant: either a limited elementary school education plus a craftsman's apprenticeship and a period of travels or a medium-level school education plus some kind of business training was needed. A growing minority of industrialists had, in addition, some practical experience on the industrial shop floor; they had worked in one of the "nursery firms" (e.g., Egells, Borsig), or—in the case of industrialists' sons—at least partially in their fathers' firms. The increasing number of technical schools seems to have educated more qualified technical employees than independent entrepreneurs, and undoubtedly they had much greater influence in the last third of the century than in the second.

But even in the early decades they left their mark on the education of industrialists. An increase of the average educational level of entrepreneurs is clearly observable even before 1870; this increase was closely linked with the increasing number of second generation entrepreneurs, who inherited their business from their fathers, were deliberately educated for business, and were possessed of an educational background beyond average.

The sons of entrepreneurs were exposed within their families to the values and norms of the behavior of the parents. The education of children in the closely knit entrepreneurial families in the Rhineland was strict, religious and oriented to the inculcation of the business and bourgeois virtues. Great emphasis was placed on the exact fulfilling of duties at home and at school. Only the children of the smallest factory owners, those emerging from the craftman's position, had to content themselves with an elementary school education, and then at once did their practical apprenticeship, normally in their fathers' firms. Most sons of wealthier factory owners, however, at least in the Rhineland, were privately educated, and then went to the higher school until they were 15 or 16. They did not have much sympathy for the humanistic grammar school education; they preferred the natural sciences and modern languages. Then they frequently got practical training with emphasis on either business or

technical matters, normally in the family's firm, but often in some other highly respected company in the same line. Before they entered their fathers' firms, the sons then normally worked some years abroad as employees. Increasingly, this traditional education of the heir was supplemented with attendance at a technical school or college.<sup>61</sup>

The increase both in general education and in business and technical training is shown in a sample of 400 entrepreneurs from the Rhineland and Westphalia (1790 to 1870).

Education of entrepreneurs in the Rhineland and Westphalia<sup>62</sup> (%)

	1790-1810	1811-30	1831-50	1851-70	1790-1870
General education:					
Elementary	72.8	58.3	31.4	19.2	43.5
Higher	27.2	41.7	68.6	80.8	56.5
Specialist training:					
exclusively em- pirical-practical	96.3	95.8	67.5	47.7	74.0
business or com- mercial school	0.9	2.8	16.8	14.6	9.3
higher academic studies	2.8	1.4	15.7	37.7	16.7
Number of cases:	109	72	89	130	400

Apart from the raw material industries, in which long years of the tradition of the state mining officials' education had created a special situation, and leaving out the new tendencies in the very small chemical industry after 1850, the proportion of those entrepreneurs with a technical school or technical college education was very small: 10-15%. But from 1830/50 it notably increased. This was, on the one hand, a result of changing technology and, linked with it, of the development of technical schools and colleges. On the other hand, this change was a result of the absolute and relative increase in the numbers of heirs of enterprises who had been educated in the ways sketched above. There was no increase of theoretical business education parallel to the improvement of theoretical technical education. After 1830 (though not before), most industrialists had, in addition, a general education which went beyond the elementary school level. By the end of the first phase of industrialization (1873), a better

general education for the average entrepreneur had become the rule. This did not only mean increased respect and higher status within an educationally conscious public opinion. In all probability this also meant improved qualification and increased preparedness for entrepreneurial performance.

With the rise of technical science in industry in the late 19th and early 20th century the technical college education quickly expanded and achieved formal equality with the universities; in 1899 technical colleges gained the right of granting doctorates. The proportion of entrepreneurs with a technical college education increased. On the one hand this was again partly due to the increased number of heirs among entrepreneurs; on the other hand it was due to the increasing proportion of salaried entrepreneurs who, on the average, possessed a higher educational background than owner-entrepreneurs. The investigation of a sample of 1300 well-known entrepreneurs in the period 1890–1930 shows that 52% of the directors (salaried entrepreneurs), but only 37% of the owner-entrepreneurs, had an academic education. For only 5% of the directors, but 10% of the owner-entrepreneurs, the school education was limited to the elementary level. The rest (43% of the directors and 53% of the owner-entrepreneurs) had a secondary school education but no academic training.<sup>63</sup> Salaried entrepreneurs had usually reached the top through quasi-bureaucratic careers starting on middle management or staff positions which were largely reserved for applicants with a minimum educational background and a corresponding degree.<sup>64</sup>

Of course, these were only tendencies: in contrast to the recruitment of public officials, higher school qualifications were not an *indispensable* requirement for access to the highest entrepreneurial positions, less so—it seems—than for staff and certain middle-management positions. Even in 1953 only some 31% of a sample of 12,000 board members and owners of businesses had an academic degree, a good third of which were in engineering.<sup>65</sup> But in large corporations and in specific industries—especially in the electrical manufacturing and the chemical industries—the proportion of scientifically trained entrepreneurs was much higher than these figures indicate. And although academic education was not the rule for entrepreneurs, it should not be forgotten that most of them had some sort of secondary

education, which—in the *Realschule*, the *Realgymnasium* and especially in different types of technical and commercial secondary schools—stressed subject matters with direct relations to economic life.

There is no way to spell out the precise impact of the German school system on the performance of German entrepreneurs, so far. It has been argued—by entrepreneurs for example—that *real* entrepreneurial qualities cannot be learned at school, but are picked up by practicing and/or are present by talent.<sup>66</sup> Indeed, it seems convincing that the rise of technical, commercial and industrial school systems contributed more to the high quality of different types of employees than to the excellence of entrepreneurship.

Nevertheless, most economic historians seem to think that the German educational system contributed positively rather than negatively to the development of German entrepreneurship; that this was especially important in certain branches dominating the later phases of industrialization (chemicals, electrical manufacturing, engineering, etc.) in which Germany came to excel; and that a stress on technological progress, which in the long run also paid off commercially, was closely tied up with this stress on formal education (which often was on the technical side).<sup>67</sup> Again, it would seem that the specific late-comer status of Germany resulted in specific devices which—the later the country the more the devices—meant assets in the process of growth; the entrepreneurial qualification and performance seems to be one of the channels through which this mechanism worked.

## **6. Further Perspectives and Conclusions**

It would be most interesting to analyze central aspects of the German entrepreneurial performance, and its techniques and results in terms of relative economic backwardness and in terms of the late-comer syndrome. For example: German entrepreneurs were confronted with the problem of capital scarcity, itself an aspect of relative economic backwardness. They solved it by developing and applying special devices: the joint-stock company, which became popular in Germany earlier than anywhere else in Europe, and the investment banks as a means of collecting, mobilizing and investing capital

which would otherwise have found its way into industry only with difficulty or not at all.<sup>68</sup> These devices later turned out to facilitate the rise of the modern corporation and the change towards "managerial capitalism." In turn, they strongly affected the pattern of entrepreneurship and management.

Another example: the scarcity of *skilled* labor—so typical for a relatively backward country—meant a great challenge for German entrepreneurs. They responded by developing certain devices of personnel management, which seem to be typical for a system starting at a middle level of economic backwardness. Most of these devices were invented anew. However, some others were developed out of specific pre-industrial traditions which were available as models and readjustable to new requirements. It could be shown in detail how techniques of personnel management and patterns of employer-labor relations in Germany reacted to conditions of relative backwardness and how they were influenced by bureaucratic, feudal and militaristic models, and by family and handicraft patterns handed down from pre-industrial times.<sup>69</sup>

A third example: contrary to what one may conclude from the British and the American experience, functional integration and product diversification of large-scale firms are not only results of an advanced industrial development appearing at a later stage of a country's industrialization; rather they may, as well, indicate relative economic backwardness, and appear at a very early stage of a country's development. So it seemed to be the case in Germany. Challenged by underdeveloped markets, a backward commercial and transport system, a poorly developed division of labor in the economy at large and weak traditions of impersonal and market-adjusted behaviour patterns, German entrepreneurs—in order to exploit the technological and economic opportunities they perceived abroad—often, and early, decided to functionally integrate backward and forward, and to diversify in order to survive. Relative modernity of the single firms was the only way to cope with the relative backwardness of the economy at large. Thus strategies of growth, patterns of organization and techniques of management were quickly developed and thus facilitated the modernization of industry for decades.<sup>70</sup> In these three respects there seem to be striking similarities between Germany



and Japan, that is, between two countries which share some features of relative economic backwardness, if compared with the "first industrial nation." An early trend towards the separation of ownership and control, i.e., of "managerial capitalism," a very remarkable emphasis on non-market devices in personnel management and in the employer-labor relations, and the early tendency towards large scale organization, functional integration and product diversification seem to be even more pronounced in the Japanese case than in the German one. These differences between Germany and Japan could also be explained by referring to the different degrees of backwardness and to different pre-industrial traditions effective in the two processes of industrialization.<sup>71</sup>

It was not the purpose of this paper to generalize on those aspects of entrepreneurship which are typical for all entrepreneurs in different capitalist systems alike; such aspects certainly exist although they can be formulated only on an abstract level: the capability and readiness to combine the factors of production, market- and profit-orientation, and certain innovative capabilities would seem to be among these general characteristics of entrepreneurs. Rather, the purpose of this paper was to pay attention to some peculiarities of German entrepreneurship, their socio-economic and socio-cultural determinants and their economic effects; these specific aspects were presented in a tentatively comparative perspective using the concepts of relative economic backwardness and late development. The origins and recruitment, the motives and ideologies, the qualifications and some achievements of German entrepreneurs were discussed. These aspects of German entrepreneurship were analyzed, on the one hand, as consequences of socio-economic and socio-cultural structures and processes; on the other hand, I have tried to understand them as factors which influenced economic growth and change. In other words: the concept of economic backwardness was used to analyze entrepreneurship both as a dependent and an independent variable and as an intermediating factor between economic, social and cultural overall structures and economic development.

German entrepreneurship was analyzed as entrepreneurship in a country starting its industrialization on a middle level of backwardness. These was a sufficient degree of backwardness to inspire and

develop devices which were productive later on; there were pre-industrial traditions which lived on and facilitated economic modernization.<sup>72</sup> However, it is important to see that German backwardness was limited. The gap between the late-comer and the pioneer—in other words, the gap between what was and what needed to be done—was not as large and discouraging as the gap between the peripheries and the centers today. In the categories used, the German entrepreneur turned out to be a specific mixture of backwardness and modernity which was highly conducive to economic growth.<sup>73</sup>

#### REFERENCES

1. Entrepreneurship and entrepreneurs, in this paper, are defined in a functional sense: entrepreneurs make the basic (“strategic”) decisions on the goals of the enterprise, its position in the market and its relation to the economic and social environment at large, according to criteria, in which profits and return on capital play a major role; these decisions include those on the mobilization and combination of the factors of production; and especially decisions on investment, the allocation of funds and the acquisition of new managerial personnel. Cf. *F. Redlich*, *Der Unternehmer*, Göttingen 1964, pp. 97 f.; *A. D. Chandler and F. Redlich*, *Recent Developments in American Business Administration and their Conceptualization*, in: *BHR*, vol. 35 (1961), pp. 24 ff.
2. Of course, these questions refer only to *one* aspect of the broad topic “The Entrepreneur in the Social Order.” Another aspect would be to explore the impact which the development of the entrepreneurial class had on social and cultural change, on changes of the class structure, conflicts, the status system, social values, politics, etc. The following paper concentrates on the first aspect, and the second aspect is only included as far as it has repercussions on the first.
3. Cf. *P. Kilby*, *Hunting the Heffalump*, in: *P. Kilby* (ed.), *Entrepreneurship and Economic Development*, London 1971, pp. 1–40: a good discussion of different approaches and controversies in the study of entrepreneurship. A good critical report on the present state of German entrepreneurial and business history is found in: *H. Jaeger*, *Business History in Germany: A Survey of Recent Developments*, in: *BHR*, vol. 48 (1974), pp. 28–48.

4. The problem of *selection* of variables to be discussed is especially urgent since it seems that there is hardly anything in the social and cultural spheres which would not have at least slight or indirect relevance for entrepreneurship—from demographic change and the family structure to education and social values. The following paper does not, of course, attempt to be exhaustive.
5. Cf. *A. Gerschenkron*, *Economic Backwardness in Historical Perspective*, Cambridge, Mass. 1962, esp. pp. 5–51, 353–364; *id.*, *Continuity in History*, Cambridge, Mass. 1968, esp. pp. 77–97; *id.*, *Europe in the Russian Mirror*, Cambridge, 1970, esp. pp. 86 ff. *R. Dore*, *British Factory—Japanese Factory. The Origins of National Diversity in Industrial Relations*, London 1973.
6. See the interesting suggestions by *Dore*, *op cit.*, p. 410 (with respect to Japan and Great Britain).
7. The hypotheses under b) and c) are explicit and central parts of Gerschenkron's theory. They directly refer to the perceptions, motives, ideologies, values and actions of entrepreneurs. They seem to require excursions into entrepreneurial history. It is rather surprising to see that Gerschenkron himself does not seem to expect very much from entrepreneurial history. Cf. *A. Gerschenkron*, *Social Attitudes, Entrepreneurship, and Economic Development*, in: *EEH*, vol. 6 (1953/54), pp. 1–19. However, he seems ready to concede (pp. 5, 9) that entrepreneurial history may have some illuminative merits especially in relatively backward countries.
8. This of course is a very selective application of the backwardness approach. It could also be used to explore primarily *economic* causes of entrepreneurship and economic change (which is not intended here).
9. It should be repeated, however, that every conceptual framework is selective and that there are, of course, aspects of the general topic which are not treated by an analysis following the lines proposed here. This is why a more extended and thorough analysis than this paper intends to be might find it desirable to supplement the above mentioned concepts and hypotheses by other categories and viewpoints from other approaches and theories.
10. The different timing of the some processes in different countries produces qualitative differences between such processes.
11. Cf. *T. Parsons and E. Shils* (eds.), *Towards a General Theory of Action*, Cambridge, Mass. 1952; *B. F. Hoselitz*, *Sociological Aspects of Economic Growth*, Glencoe, Ill. 1960, pp. 23–51; a short summary of

- this approach and its application for entrepreneurial history: *A. P. Alexander*, *The Supply of Industrial Entrepreneurship*, in: *EEH*. 2nd ser., vol. 4 (1966/67), pp. 142 ff.
12. Cf. *T. C. Cochran*, *The Entrepreneur in Economic Change*, in: *EEH*. 2nd. ser., vol. 3 (1965/66), pp. 25–37; *id.*, *Role and Sanction in American Enterprise* (1949), in *H. G. J. Aitken* (ed.), *Explorations in Enterprise*, Cambridge, Mass. 1965, pp. 93–112.
  13. Cf. *J. H. Kunkel*, *Values and Behaviour in Economic Development*, in: *Economic Development and Cultural Change*, vol. 13 (1965), pp. 257–277.
  14. Cf. *W. W. Rostow*, *The Stages of Economic Growth*, Cambridge, 2nd ed. 1971.
  15. Pejorative associations are easily aroused by the use of the word “backwardness.” It must be clear that in this paper the word is used without such a value component. Because such associations are hard to suppress, maybe it would be better, in the long run, to use the concept of “late development syndrome” instead (*Dore*, *op. cit.*, p. 415).
  16. Quite in contrast to theories which are based on the notion of changing socialization processes within the families of the preceding centuries. Cf. *E. Hagen*, *On the Theory of Social Change. How Economic Growth Begins*, Homewood, Ill. 1962. We have no data to test such a theory. Unfortunately, one must largely say the same (at least in the case of the German industrialization and its conditions) with respect to: *D. C. McClelland*, *The Achieving Society*, Princeton, N. J. 1961. Because of this lack of evidence we shall not treat these dimensions in this paper.
  17. The arguments of this paper are limited to entrepreneurs in capitalist systems and to the period up to 1914.
  18. Cf. *J. Hirschmeier*, *The Origins of Entrepreneurship in Meiji Japan*, Cambridge, Mass. 1964; *H. Rosovsky*, *Japan’s Transition to Modern Economic Growth 1868–1885*, in: *id.* (ed.), *Industrialization in Two Systems. Essays in Honour of Alexander Gerschenkron*, New York 1966; used here in the German translation: *Japans Übergang zum modernen Wirtschaftswachstum 1868–1885*, in: *W. Fischer* (ed.), *Wirtschafts- und sozialgeschichtliche Probleme der frühen Industrialisierung*, Berlin 1968, pp. 118–178. *D. S. Landes*, *Japan and Europe, Contrasts in Industrialization*, in: *W. W. Lockwood* (ed.), *The State and Economic Enterprise in Japan*, Princeton 1965; used here in the German translation: *Die Industrialisierung in Japan und Europe. Ein Vergleich*, in: *Fischer* (ed.), *op. cit.*, pp. 29–117. *Dore*, *op. cit.*
  19. *S. Kuznets*, *Underdeveloped Countries and the Pre-industrial Phase in the Advanced Countries*, in: *A. N. Agarwala and S. P. Singh* (eds.),

- The Economics of Underdevelopment, Bombay 1958, pp. 135–153, esp. 143; *Rosovsky*, op. cit., pp. 143 f.; *F. -W. Henning*, *Die Industrialisierung in Deutschland 1800–1914*, Paderborn 1973, p. 20.
20. Cf. *M. Barkhausen*, *Staatliche Wirtschaftslenkung und freies Unternehmertum im westdeutschen und im nord- und südniederländischen Raum bei der Entstehung der neuzeitlichen Industrie im 18. Jahrhundert*, in: *VSWG*, vol. 45 (1958), pp. 168–241. Because of these significant regional differences within Germany it is problematic to generalize on “the German entrepreneurs.” Cf. *S. Pollard*, *Industrialization and the European Economy*, in: *E. H. R.*, vol. 26 (1973), pp. 636–648, esp. pp. 636–39 (pleading for a regional approach). The present paper tries to take some account of this difficulty by differentiating between single regions in several cases.
21. Cf. *K. Borchardt*, *Die Industrielle Revolution in Deutschland*, München 1972; *Henning*, op. cit.; *H. Mottek*, *Wirtschaftsgeschichte Deutschlands*, vol. 2–3, Berlin 1964, 1974; *W. G. Hoffmann et. al.*, *Das Wachstum der Deutschen Wirtschaft seit der Mitte des 19. Jahrhunderts*, Berlin 1965, pp. 63, 204 ff., 454 ff.; *H.-U. Wehler*, *Theorieprobleme der modernen deutschen Wirtschaftsgeschichte*, in: *Festschrift für H. Rosenberg*, Berlin 1970, pp. 66–107; *H. A. Winkler* (ed.), *Organisierter Kapitalismus. Voraussetzungen und Anfänge*, Göttingen 1974, esp. pp. 9–57 (essays by Winkler, Kocka and Wehler).
22. Cf., also for the following paragraph, *R. Koselleck*, *Preußen zwischen Reform und Revolution*, Stuttgart 1967; *J. Kocka*, *Preußischer Staat und Modernisierung im Vormärz*, in: *H.-U. Wehler*, *Sozialgeschichte Heute. Festschrift für Hans Rosenberg*, Göttingen 1974, pp. 211–27. *H. Rosenberg*, *Große Depression und Bismarckzeit*, Berlin 1967; *H.-U. Wehler*, *Das Deutsche Kaiserreich 1871–1918*, Göttingen 1973; *R. Dahrendorf*, *Gesellschaft und Demokratie in Deutschland*, München 1965.
- 22a. Cf. *C. E. Black*, *The Dynamics of Modernization. A Study in Comparative History* (1966), Harper Torchbook 1967, pp. 85 f. *H.-U. Wehler*, *Modernisierungstheorie und Geschichte*, Göttingen 1975. On the surface, the pattern of Japanese development showed many similarities to the German case.
23. Cf. *F. Mendels*, *Proto-Industrialization*, in: *JEH*, vol. 32 (1972), pp. 241–61.
24. Cf. *J. Kocka*, *Unternehmer in der deutschen Industrialisierung*, Göttingen 1975, ch. III; and my contribution on “Entrepreneurship and Management in the German Industrialization” in: *Cambridge Economic History of Europe*, vol. 7 (forthcoming).

25. Cf. *H. J. Habakkuk*, *Industrial Organization*, University of Southampton 1968, pp. 4 f.; *C. Wilson*, *The Entrepreneur in the Industrialization*, in: *EEH*, vol. 7 (1954/55), pp. 129–45. These authors stress the continuity and gradual character of the English development. Cf. *Hirschmeier*, *op. cit.*, who stresses the discontinuity of the Japanese development.
26. Cf. *F. Zunkel*, *Der rheinisch-westfälische Unternehmer 1834–1879*, Köln/Opladen 1962, pp. 13–33.
27. Cf. *H. Kaelble*, *Berliner Unternehmer während der frühen Industrialisierung*, Berlin 1972, pp. 33, 55, 59, *pass.*; *H. Beau*, *Das Leistungswissen des frühindustriellen Unternehmertums in Rheinland und Westfalen*, Köln 1959, p. 71.
28. Cf. *Hirschmeier*, *op. cit.*, pp. 253 ff.; and—in spite of other differences—*K. Yamamura*, *A Re-examination of Entrepreneurship in Meiji Japan (1868–1912)*, in: *EHR* vol. 21 (1968), pp. 148–158; again in: *Kilby*, *op. cit.*, pp. 267–86, esp. pp. 280 ff.; both authors point to the large proportion of rich peasants and *bushi* among early Japanese entrepreneurs; in Germany entrepreneurs of rural descendance were very rare; born aristocrats were the exception (in Silesia and Bohemia, some few in Saxony, hardly any in the West). It seems that the proportion of entrepreneurs from rural origins was a little higher in the United States. Cf. *Kaelble*, *op. cit.*, p. 99 on the basis of *C. W. Mills*, *Lipset/Bendix*, *Crandall* and others.
29. Cf. *L. Beutin*, *Die Märkische Unternehmerschaft in der frühindustriellen Zeit*, in: *Westfälische Forschungen*, vol. 10 (1957), p. 65; *R. Engelsing*, *Bremisches Unternehmertum*, in: *Schriften der Wittheit zu Bremen*, vol. 2 (1958), pp. 48ff. *Beau*, *op. cit.*, pp. 48 ff.; *Kaelble*, *op. cit.*, pp. 19 f.
30. Cf. the preliminary international comparisons in *Kaelble*, *op. cit.*, pp. 110 ff. For evidence on the following paragraphs cf. my contributions mentioned above in note 24.
31. Heirs and founders of enterprises among Berlin entrepreneurs:

Time of take-over or foundation of enterprise	To 1835	1835–1850	1151–1873	Total
	(%)	(%)	(%)	(%)
Heirs:	14	28	57	35
Founders:	86	72	43	65
	100	100	100	100
No. of cases:	58	65	74	197

(According to: *Kaelble*, *op. cit.*, pp. 55f.)

32. Cf. *H. Kaelble*, Sozialer Aufstieg in Deutschland 1850–1914, in: VSWG, vol. 60 (1973), pp. 41–71.
33. The preceding remarks refer to the first phase of the German industrialization (up to the 1870s). Little is known about the later decades.
34. Cf. *Redlich*, op. cit., pp. 281–98; *W. Zorn*, Unternehmertum und Aristokratie in Deutschland, in: Tradition, vol. 8 (1963), pp. 241–54; *B. F. Hoselitz*, Entrepreneurship and Traditional Elites, in: EEH. 2nd ser., vol. 1 (1963/64), pp. 36–49, esp. 43 ff.
35. Cf. *Fritz Stern*, The Failure of Illiberalism. Essays on the Political Culture of Modern Germany, New York 1972, pp. 26–57.
36. Cf. *H. Sachtle*r, Wandlungen des industriellen Unternehmers in Deutschland seit dem Beginn des 19. Jahrhunderts, Diss. Halle 1937, p. 8; *Redlich*, op. cit., pp. 336 ff.; *K. Helfferich*, Georg von Siemens, vol. 3, Berlin 1923, pp. 153, 159 for the contempt of a civil servant, even in 1870, for his son, a director of the *Deutsche Bank* (“My Son, the *Kommis*”).
37. In reality this relationship was much more complicated. Cf. *J. Kocka*, Unternehmensverwaltung und Angestelltenschaft am Beispiel Siemens 1847–1914. Zum Verhältnis von Kapitalismus und Bürokratie in der deutschen Industrialisierung, Stuttgart 1969, pp. 148 ff., 171 ff., 523 ff.; *C. Helfer*, Über militärische Einflüsse auf die industrielle Entwicklung in Deutschland, in: Schmollers Jahrbuch, vol. 83/II (1963), pp. 597–609.
38. Cf. *T. C. Cochran*, The History of a Business Society, in: J A H, vol. 54 (1967), pp. 5–18.
39. For more details, cf. *Zunkel*, op. cit., pp. 66 ff.; *Kaelble*, Berliner Unternehmer, op. cit., pp. 125 ff.; *H. Jäger*, Unternehmer in der deutschen Politik (1890–1918), Bonn 1967.
40. Cf. *Redlich*, op. cit., pp. 334 ff.; *Engelsing*, pp. 9 ff.; *Barkhausen*, op. cit.; *W. Köllmann*, Sozialgeschichte der Stadt Barmen im 19. Jahrhundert, Tübingen 1960, pp. 108–123; *Zunkel*, op. cit., pp. 66 ff.; *Beutin*, op. cit.
41. Cf. the example of Berlin entrepreneurs of the late 18th century in: *H. Krüger*, Zur Geschichte der Manufakturen und der Manufakturarbeiter in Preußen, Berlin 1958, p. 242.
42. Cf. *R. Braun*, Zur Einwirkung sozio-kultureller Umweltbedingungen auf das Unternehmerpotential und das Unternehmerverhalten, in: *W. Fischer* (ed.), Wirtschafts- und sozialgeschichtliche Probleme der frühen Industrialisierung, Berlin 1968, pp. 247–284, esp. pp. 277–81.
43. Among others, *Hoselitz* strongly stresses the role of marginal groups in

early industrialization processes (Social Structure, op. cit.). Such notions usually go together with an implicit or explicit theory of the "normal" society as a rather static one. If society is perceived as a process of change, one need not search for the marginal group—as for a *deus ex machina*—to get change started by innovation. At least in the case of the European industrialization processes, the marginal group hypothesis does not lead very far.

44. Cf. G. A. Ritter and J. Kocka, *Deutsche Sozialgeschichte*, 2: 1870–1914, *Dokumente und Skizzen*, München 1974, pp. 322.
45. Cf. K. H. Manegold, *Das Verhältnis von Naturwissenschaften und Technik im 19. Jahrhundert im Spiegel der Wissenschaftsorganisation*, in: *Geschichte der Naturwissenschaften und der Technik im 19. Jahrhundert*, Düsseldorf 1969, pp. 141–187, esp. pp. 160 ff. For an example of early nationalism (1830), cf: E. Dittrich (ed.), *Lebensbilder sächsischer Wirtschaftsführer*, Leipzig 1941, pp. 134 f.; R. H. Tilly, *Los von England. Probleme des Nationalismus in der deutschen Wirtschaftsgeschichte*, in: H. Giesch and H. Sauer mann (eds.), *Quantitative Aspekte der Wirtschaftsgeschichte*, Tübingen 1968, pp. 179–196; L. Hatzfeld, *Der Anfang der deutschen Drahtindustrie*, in: *Tradition*, vol. 6 (1961), pp. 250 (f. n. 63); K. W. Hardach, *Anglomanie und Anglophobie Während der Industriellen Revolution in Deutschland*, in: *Schmollers Jahrbuch*, vol. 91 (1971), pp. 153–81.
46. Cf. note 24 above for evidence supporting the following paragraphs.
47. Cf. Dittrich, op. cit., p. 250; H. Witt, *Die Triebkräfte des industriellen Unternehmertums vor hundert Jahren und heute*, Hamburg 1929, pp. 40 ff.
48. This expression is used by Gerschenkron to circumscribe the ideological stimuli which he regards as necessary in relatively backward countries at the start of industrialization. Cf. above note 1.
49. Protestants were overrepresented amongst early entrepreneurs. This was partly due to the fact that they were minorities in areas with greater business opportunities (such as the Rhineland or the Saar territory); from their minority situation, it followed that the traditional roads to wealth, respect and power were closed to them, and, this encouraged them to stick together as a group, in a way that was particularly well suited to the needs of long distance trade, and the business activities which went with it. Cf. W. Däbritz, *Führende Persönlichkeiten des rheinisch-westfälischen Wirtschafts- und Soziallebens*, in: O. Most et. al. (eds.), *Wirtschaftskunde für Rheinland und Westfalen*, Berlin 1931, pp. 113 f.; Zunkel, op. cit., pp. 29 ff.; F. Hellwig, *Unternehmer und Unter-*



- nehmungensform im saarländischen Industriegebiet, in: *Jahrbücher für Nationalökonomie und Statistik*, vol. 158 (1943), pp. 402–430, esp. 412. The overrepresentation of Protestants among early entrepreneurs was probably also due to the content of their beliefs, which regarded economic success on earth as a token of salvation and grace. For the classic analysis cf. *Max Weber*, *Die protestantische Ethik und der Geist des Kapitalismus* (1905) and: *Die protestantischen Sekten und der Geist des Kapitalismus* (1906/1920), in: *id.*, *Gesammelte Aufsätze zur Religionssoziologie*, vol. 1, Tübingen 1920. It should be stressed that—contrary to the thesis of Weber—no differences are visible in the behaviour of Lutherans and Calvinists. Cf. *W. Köllmann*, *Sozialgeschichte der Stadt Barmen im 19. Jahrhundert*, Tübingen 1960, pp. 109 f.; *Hellwig*, *op. cit.*, p. 412. Good figures on the church affiliations of German entrepreneurs in: *W. Stahl*, *Der Elitekreislauf in der Unternehmerschaft*, Frankfurt 1973, pp. 206 ff.; a recent discussion in: *Kocka*, *Unternehmer*, *op. cit.*, pp. 36–37.
50. As an analysis of these attitudes on the part of industrialists of the Rhineland and Westphalia: *Zunkel*, *op. cit.*, pp. 66 ff.
51. Two examples: *C. Matschoß* (ed.), *Werner Siemens*, Berlin 1916, p. 218, 911 (quote); *Witt*, *op. cit.*, p. 45 (on Krupp).
52. See note 45 above.
53. Gerschenkron's evidence is restricted to the economist and promoter Friedrich List. But his representativeness can be questioned.
54. Cf. *Hirschmeier*, *op. cit.*, pp. 202 ff.
55. Cf. *Gerschenkron*, *Social Attitudes*, *op. cit.*, pp. 13 f. for the general thesis that social values and expectations which are unfavorable towards entrepreneurs "do not emerge as a major retarding force upon the economic development of European countries in the 19th century." He bases this statement largely on Russia, but it is corroborated by the German experience as well.
56. Cf. *Zunkel*, *op. cit.*, pp. 182 ff.: Zunkel analyzes how West German entrepreneurs retreated to their business activities after the failure of the liberal-bourgeois revolution of 1848/49 in which they had taken a strong part. While this tendency towards a separation of economic and socio-political power was originally a result of bourgeois defeat, most businessmen accepted this pattern after 1870, since most of their demands in terms of national unity and economic policy were fulfilled by the political system of the newly founded Empire, while the old class antagonisms between the feudal land-owners and the bourgeoisie withered away, and a new one—between capital and labor—moved to the forefront. The

- change of Werner Siemens from an oppositional liberal towards a business-concentrated, politically saturated supporter of Bismarck's state can serve as an example. Cf. *Kocka*, Unternehmensverwaltung, op. cit., pp. 51–55; in general: *W. Zorn*, Wirtschafts- und sozialgeschichtliche Zusammenhänge der Deutschen Reichsgründungszeit (1850–1879), in: *HZ*, vol. 197 (1963), pp. 318–42, esp. 40 ff.; full of details for the time between 1890 and 1918: *Jaeger*, Unternehmer, op. cit.; for the later period: *K. Röseler*, Unternehmer in der Weimarer Republik, in: *Tradition*, vol. 13 (1968), pp. 217–40. For the general context of this argument, cf. *Hagen*, op. cit., p. 242. Energetic and innovative persons are expected to concentrate on business activities if it is difficult for them to engage in alternative (i.e. political) careers. This argument fits to the first part of the German industrialization but not to the latter decades.
57. *Redlich*, op. cit., pp. 322 ff.; *W. O. Henderson*, England und die Industrialisierung Deutschlands, in: *Zeitschrift für die gesamte Staatswissenschaft*, vol. 108 (1952), pp. 264–94; *S. Pollard*, *European Economic Integration 1915–1970*, London 1974, pp. 80–89.
  58. Cf. *M. Schumacher*, *Auslandsreisen deutscher Unternehmer 1750–1851 unter besonderer Berücksichtigung von Rheinland und Westfalen*, Köln 1968; *Beau*, op. cit., pp. 37–45; *Groba*, op. cit., p. 9; *Dittrich*, op. cit., pp. 143 ff., esp. 150 ff.; *D. S. Landes*, *The Structure of Enterprise in the 19th Century*, in: 11<sup>e</sup> Congrès international des sciences historiques (Stockholm 1960), Rapport, vol. 5, Uppsala 1960, p. 121.
  59. *P. Lundgreen*, *Bildung und Wirtschaftswachstum im Industrialisierungsprozeß des 19. Jahrhunderts*, Berlin 1973.
  60. Cf. *O. Simon*, *Die Fachbildung des Preußischen Gewerbe- und Handelsstandes im 18. und 19. Jahrhundert*, Berlin 1902; *F. Schnabel*, *Die Anfänge des Technischen Hochschulwesens*, Karlsruhe 1925; *I. Mieck*, *Preußische Gewerbepolitik in Berlin 1806–1844*, Berlin 1965.
  61. Cf. *Beutin*, op. cit., pp. 67 ff.; *Beau*, op. cit., pp. 19 ff.; *Zunkel*, op. cit., 69 ff., 75 ff.; *Kaelble*, *Berliner Unternehmer*, op. cit., pp. 60 ff.
  62. *Beau*, op. cit., pp. 66–68.
  63. Cf. *Sachtler*, p. 41.
  64. Cf. *Kocka*, op. cit., pp. 466 ff.
  65. 36% of all degrees were in engineering, 19% in law, 17% in economics, 4% in philosophy, 1% in other disciplines, and in the case of 23%, no definite information was available. Cf. *H. Hartmann*, *Education for Business Leadership. The Role of the German "Hochschulen,"* Paris (OEEC) 1955, pp. 18ff. *ibid.*, *Die Akademiker in der heutigen Unternehmerschaft*, in: *Tradition*, vol. 4 (1959), pp. 133–148.

66. Cf. *J. Kocka*, *Industrielles Management: Konzeptionen und Modelle in Deutschland vor 1914*, in: VSWG, vol. 56 (1969), pp. 354 ff.
67. Cf. For example: *D. S. Landes*, *The Unbound Prometheus*, Cambridge 1969, pp. 340–348.
68. I speak of “capital scarcity” in the sense of scarcity of savings ready for investment in industry (not in terms of absolute scarcity of savings). The beginning of the German investment banks on a joint stock basis around 1850 was influenced by French models, but then they developed their own patterns and perfection. Cf. *M. Gehr*, *Das Verhältnis zwischen Banken und Industrie in Deutschland seit der Mitte des 19. Jahrhunderts bis zur Bankenkrise von 1931*, Diss. Tübingen 1959; *Landes*, *The Structure*, op. cit.;
69. Cf. *L. H. A. Geck*, *Die sozialen Arbeitsverhältnisse im Wandel der Zeit*, Berlin 1931; *E. Michel*, *Sozialgeschichte der industriellen Arbeitswelt*, Frankfurt 3rd ed. 1953; *J. Kocka*, *Management und Angestellte im Unternehmen der Industriellen Revolution*, in: *R. Braun et al. (eds.)*, *Gesellschaft in der industriellen Revolution*, Köln 1973, pp. 162–201; *Kocka*, *Vorindustrielle Faktoren in der deutschen Industrialisierung. Industriebürokratie und “neuer Mittelstand,”* in: *M. Stürmer (ed.)*, *Das Kaiserliche Deutschland*, Düsseldorf 1970, pp. 265–286.
70. Cf. *A. D. Chandler Jr. and H. Daems*, *The Rise of Managerial Capitalism and its Impact on Investment Strategy in the Western World and Japan*, in: *H. Daems and H. Van der Wee (eds.)*, *The Rise of Managerial Capitalism*, Leuven and The Hague 1974, pp. 1–34. The arguments of this article, it seems, are largely based on American and English developments; they do not sufficiently take into account the dialectics between the relative modernity of firms and the relative backwardness of the economy at large. These problems are discussed in detail in *J. Kocka*, *Expansion—Integration—Diversification. Wachstumsstrategien industrieller Grossunternehmen in Deutschland vor 1914*, in: *H. Winkel*, *Vom Kleingewerbe zur Grossindustrie*, Berlin 1975, pp. 203–26.
71. Cf. *Dore*, op. cit., for a stimulating comparison between Japanese and British industrial relations using the concept of “late development”; it would probably be fruitful to compare the Japanese and the German developments and their similarities and differences in these terms.
72. The impact of Germany’s bureaucratic traditions (which were of course pre-industrial in the sense that they clearly antedated the start of industrialization) on the process of economic modernization and growth was largely positive and partly negative. Quite apart from the economic, social and educational policies of the German bureaucracies

(which were probably—on balance, and on the whole—more favorable than unfavorable towards industrialization), one must take into consideration the bureaucratic models, patterns and values which found their way into private industry, facilitating the development of efficient management structures. However, in some cases this externally generated bureaucratization of industry (which later was followed by an internally generated process of bureaucratization as well) led to inflexibilities and over-rigid formalization which may have hampered economic efficiency and growth. Also, the role of family tradition was, by and large, favorable towards the development of the German industrial system. As mentioned above, family orientations motivated early entrepreneurs; in addition, the working cohesion of entrepreneurial families served as a basis for early capital accumulation (loans and investments from relatives on a basis of family-type confidence), and as a very important early management technique, decentralized large scale firms were often managed by members of the businessman's family, whose *personal* loyalty served as a basis for co-ordination while more advanced devices of co-ordination and control were still lacking. In the early German industrialization there was—in many cases—no strict separation between the private and the business role. But contrary to what has been analyzed with respect to other countries—cf. *T. C. Cochran*, *Cultural Factors in Economic Growth*, in: *Aitken*, op. cit., pp. 130 ff. (on Latin America)—this *lack* of strict role differentiation was helpful for the recruitment and the problem solution capacities of early entrepreneurs. However, there were cases, especially on more advanced stages of development, in which family considerations led to conservative investment strategies and to defining the firm's goals in a way which prevented fast growth, dynamism and innovation; in such cases family traditions became dysfunctional for growth. Under changing conditions, a tradition which had been an asset might become a liability and vice versa. These problems are discussed in: *J. Kocka*, *Family and Bureaucracy in German Industrial Management, 1850–1914: Siemens in Comparative Perspective*, in: *BHR*, vol. 45 (1971), pp. 133–156.

73. Stressing some economic advantages of the relative economic backwardness of German industrialization, this paper has not considered its possible "social costs." What has favoured economic growth may have hampered the liberal democratization of society and state, but this problem cannot be discussed here.