Work Force and Economic Change in Early Industrialization in England and Germany

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How did the Industrial Revolution change the structure and the lifestyle of the work force? This simple question is a classical subject of economic and social history. It has been discussed under several labels, such as “the rise of the proletariat”, pauperism, and in Germany “Die soziale Frage” (with reference to the 19th and 20th centuries). During the last decades “new” economic and social historians have tried to gain more precise insights using econometric and sociometric methods, and most recently, workingmen’s culture and life-styles have come to feature prominently in the history of everyday life (Alltagsgeschichte). The perspective from which the subject is approached can be very different, and the results differ accordingly. At the one extreme, economic and social change appear to be ‘revolutionary’. Everything is new, different from what it used to be. The industrial revolution created a new work force, disciplined it and destroyed the old social structure. At the other extreme, economic change is seen as gradual, slow, even difficult to discern, and social change accordingly slight, marginal, more of an adaption of the pre-industrial labour force to somewhat new technologies and working conditions.

A third perspective distinguishes between pioneering branches and re-
regions on the one hand and the national economies and societies on the other. In the first group, where clusters of innovations occurred, social and economic change was quick and thorough, while – due to ineffective and often interrupted transmission – the spread of the new structures in the economy and the society as a whole was a slow process and is difficult to find in national statistics. This becomes even clearer if we consider the change of the work force in more than one country.

I

Let us first look at the pre-industrial work force. It ought to be clear by now that neither England nor Germany was a country of independent peasants and artisans in pre-industrial times. The work force of the centuries preceding early industrialization, including a period which some call proto-industrialization, was already very diversified and peasants and artisans belonged to the upper strata of it.1) Did they belong to the class of “labouring men” at all? This is the first question I want to deal with. In Germany certainly they were “Gemeine Leute”, “common people”, but were they labourers? Even if we leave out the full-fledged freeholders (Gespannbauern) and the artisans who employed journeymen and apprentices, there remain an awful lot of non-wage semi-independent


people in the work force of agriculture, mining, iron founding, milling, the putting-out system, in transport and shipping, etc., who earned their living by offering their labour and services on the market or who supplemented their earnings with particular wage-paying jobs in quasi-independent activities (or the other way round). The distinction between wage-labour and non-wage labour made by authors from Marx to Kocka can be very misleading as soon as we want to classify the real people of the 18th or early 19th century.

According to Gregory King the number of families of labourers and servants in England and Wales at the end of the 17th century was six times higher than the number of artisans and handicraft families – 364,000 against 60,000. The number of families of cottagers and paupers was 400,000 as compared to 180,000 families of freeholders and 150,000 of farmers who earned their living from the land. If we add the common soldiers and seamen and the vagrants, more than half of the population of England and Wales belonged to the labouring or poorer classes below the farmers and the craftsmen, in Gregory King’s terms they “were decreasing the wealth of the country”. And if we add to this group the shopkeepers and the tradesmen but exclude the freeholders, about two-thirds of the 5.5 – 5.8 million Englishmen belonged to the “work force”, which we have to take into account when we discuss the changes during the period of early industrialization.²)

We do not have similar information on the German society in the 17th

and 18th centuries. But there are indications that the structure of the work force was not that different, with the exception of forms of employment connected with shipping and sea-transport which, of course, were much less important in central Europe. One of the problems in classifying the pre-industrial work force is the definition of "skill." We are used to distinguishing between skilled, semi-skilled and unskilled labourers. This is a good way of looking at a craft where the master and the journeyman are regarded as skilled and the apprentice is on his way to becoming skilled — or of looking at a well-organized factory system in which some of the occupations require long training, others some, others none. From this point of view, the locksmith and turner are skilled labourers, but what about the miner, the weaver in the putting-out-system? In the Ruhr there existed three distinct groups of miners. Whatever their skills, they had different rights, particularly as far as health and old age insurance and job security were concerned. They earned different wages. Usually, the first-grade miners were not so much the most skilled but those longest on the job. Other mining areas like the Harz mountains or the Erzgebirge were dominated by skilled miners organized in specific guilds, while in other regions small peasants prevailed, or mining was done as a part-time job by rural labourers and cottagers. Nevertheless, all miners tended to develop a specific class or status-consciousness which they defended against the more general class-consciousness of the labouring classes until late in the 19th century.  


For Upper Silesia see L. Schofer, The formation of a modern labor force. Upper
Handloom weavers, a very large group throughout Europe, commanded very different skills and organizations. Some, particularly those working in towns and weaving woolen fabric or fustian, tended to be organized as artisans in guilds; others living in the countryside and working linen or cotton, tended to be organized through the putting-out system. But whether they owned their means of production or not, whether they did wage or piece work, whether they sold their goods on the market or to their employer or an intermediary, is a different matter and cannot be deduced from their social organization. There are great differences in how they fared when economic and technological change hit the old textile industries. In the long run, they all died out. But this was a development of a century, of three to four generations. If we look at the fate of this large pre-industrial work force in the early phases of industrialization and look at various decades and regions, we see all kinds of contradictory developments. Some worked as handloom weavers in centralized factories, specializing in certain fabrics which this larger firm sold in large quantities at the market. Others stayed where they were and produced for a local market, working in their cottages as their fathers had done. Some stayed put, but specialized in high-quality goods which were sold throughout the country or the world. Rudolf Braun has shown how in the Zurich area the better weavers stuck the longest to their handlooms, since the more difficult a job was, the longer it could be done only by handloom.49 The greater the skill, the longer the weaver could work in

his traditional surroundings; the less skill he had, the earlier he tended to join the work force of a factory. While the latter felt degraded — though he might have earned about the same or even more than before — the former was upgraded by the industrial revolution, at least relative to the others or for a certain period of time, and he could earn top wages as long as the machine did not reach his level of skill. Loss of status could take place very suddenly, however, if his particular skill was no longer needed.

The situation in England was not much different. "What can now be seen very clearly is that industrialization in its early and even in its middle stages involved considerable expansion of the hand-trades, that the pressures which produced industrial expansion in the 18th century could for a long time be accomodated within the existing structure of many industries and that expansion did not necessarily imply structural change even when some technological change was involved such as the introduction of the first spinning jennies."\(^5\) Essentially what happened is that an important part of the pre-industrial work force expanded considerably, though it was doomed to die out.

The same occurred with agriculture. Throughout the first half of the 19th century the number of people employed in agriculture grew, even in England, more so in Germany. Another growing group was the domestic servants. These three groups — agriculture, domestic service and cotton workers — comprised in 1851, at the end of the phase of early industrialization, the three largest occupational groups in England. Out of a population of 15.7 mill. over the age of ten, 2.1 mill. worked in agricul-

tire, 1 mill. as domestic servants (outside agriculture) and 0,5 mill. in cotton (more than 1 mill. in textiles altogether). While spinning was nearly totally mechanized by this time, weaving was not. Out of the 1,1 mill. textile workers about half were not yet integrated into modern factory life. The next largest occupational groups were building crafts, with 443,000 employees, and unspecified labourers, numbering 376,000, which Peter Mathias counts mainly as working in construction. Their daily work was largely unchanged, too. Thus, altogether, a very large part of the English work force – at least 4 mill. – was only marginal affected by industrialization as late as 1851.6)

This was true also for Germany in 1875. Nobody would be surprised to find in 1800 still about 62% of the 10,5 mill. persons employed in Germany in the primary sector, and 50% of the 2,2 mill. engaged in the secondary sector, working in handicraft industries (about 43% in the putting-out system). But that seventy-five years later, after a period of fast industrialization and railway-building, out of 5,1 mill. persons employed in industry and crafts (except mining) nearly two-thirds (64%) worked in businesses with 5 persons or less is something of a surprise. In absolute figures: While in 1800 about 1,1 mill. people work in handicrafts-like production, 1875 there are at least 3,3 mill. which can be classified as artisans, artisans' helpers and workers in very small-scale industry. And this process of growth of the work force in handicrafts did not come to an end throughout the 19th century. In Prussia the number of artisans, counted in special censuses, was 660,000 in 1849 and 1,5 mill. in 1895 (100 to 230). It grew much more quickly than the general population (100 to 150). The average size of the shop grew too, but remained very small:

from 1.6 to 1.9 persons. Most of the growth is due to the rise of the dependent work force in crafts, which is at the end of the century more than three times as large as in the middle; nevertheless, the number of master craftsmen who managed their own business grew, with 46%, at about the same speed as the general population.7)

What do these general figures tell us about the work force during the industrialization process? They confirm that it would be wrong to look only at the industrial work force proper, the people working in the mills. One of the fastest growing sectors in both countries was construction. In Germany its share of the work force in the secondary sector rose throughout the 19th century from about 10.4% to 14.4%; in England it rose from a little less than 13% in 1841 to 19% in 1901.8) Building, however, was a notorious 'unreformed' trade where technical changes began to take hold only later in the 20th century.

A majority of the work force in both countries was, therefore, only indirectly influenced by the industrial revolution throughout most of the 19th century. It was their style of life rather, the way they were living in urbanizing areas, the way they were getting to work (by railway more than by foot), their nutrition and forms of entertainment, more than the work itself which was transformed during the earlier decades of industrialization.

8) W. Fischer, op. cit., p. 535.
II

As to the core of the industrial work force, I tried to outline some developments and structures 20 years ago. Since then much research has been done, but I think that my observations still hold and are also valid with reference to England. Here are some of my theses and arguments of 1961–63.9)

1. Early industrialization did not mean, as many sociologists maintain, dequalification of the work force. Factories needed skilled workers from the very beginning, and they even had to retrain artisans and give them new qualifications. New skills were required.

2. The percentage of skilled, semi-skilled, and unskilled labour varied from branch to branch and depended on the level of technology. Machine-building, for example, required many more skilled labourers than textile spinning mills.

3. The degree of differentiation within factories was very high at the beginning and tended to sink in the process of technological progress. This can be measured for instance on the wage-scale, which was very wide at the beginning of industrialization, skilled labourers being paid up to 8 or even 12 or 14 times as much as unskilled young boys, but also 3–5 times as much as unskilled adult male labourers. In the course of time the lower wages rose more quickly than the higher ones, even before labour unions started exerting pressure in this direction.

4. Not only was the wage-scale wide, but the distribution of wages among

the workers was also very uneven. It was especially uneven where many children and women and a few skilled men were employed, such as in spinning mills. There, nearly no one earned the average or mean wage, but many earned less, and a few more. In factories manned mainly by semi-skilled adult men—like iron foundries—the distribution was much more even. Most of the men earned wages close to the average.

5. While some traditional factors like differences in legal status or the social origin of the work force still played a role in the differentiation within the labour force, the worker’s function in the factory tends to become the most important factor determining his status at work, and this internal status tends to spill over into the general social status of the worker and his family. Factory work requirements thus begin to determine social distinctions and prestige.

6. During the development of the industrial labour force as a class, these internal distinctions never disappeared fully. The working class remained hierarchical in itself, despite its unification. I may add, because this statement has provoked the vehement protest of all apologists of Marx: It was and it is my opinion that there is no contradiction between the formation of labour as a class and such subdivisions within the class; it is also not impossible, and has in fact occurred over and over again, that a person considers himself a member of the labouring class and a craftsman, for example a locksmith, at the same time, just as many Americans call themselves Irish within the American community, but to the outside world are true and patriotic Americans. Like America, the labouring class is a melting pot, and like America, it never melts down all the differences.

Though I have never tested these theses on English material, I have the impression that most of them also hold true for England. Sidney Pol-
lard once disputed some of them, particularly the first and the last ones, but never convinced me fully. But I have the impression that some recent works, like Malcom I. Thomis' "The Town Labourer and the Industrial Revolution" do confirm some of my results without dealing with exactly the same questions.

III

Let me turn now to the questions which have been raised by Jürgen Kocka and which were dealt with in a general way by Hobsbawm in his work on the English labour aristocracy: Were there national peculiarities in the formation of the industrial work force during early industrialization? Of course, there are always peculiarities – regional, branch-wise, individual and also national ones: but how can we identify them? How do we measure them? Obviously we need some standard, some ‘normal’ development. But unlike the standard meter in Paris or the meridian passing through Greenwich, there are no absolute standards in social sciences. If we, as many tend to do, take England as the standard, then Germany, France, Russia or any other country appear to be a deviation from this "normal" case. But why take England as the standard? Because it was first? This in itself is a considerable deviation, because only one can be first. If we were to construct as a standard a (theoretical) medium between the extremes of early and late-starters in the world or to take some randomly chosen country, say Spain, then England and Germany


would look very similar.

In a world-wide comparison, Germany was not a late-starter. Only a few countries, like Belgium or Switzerland, industrialized earlier than Germany. But is it reasonable to use countries as the basic unit when studying industrialization? Would it not be better to compare regions or cities? Only few regions in Europe industrialized earlier than the Rhineland or Saxony and very few cities earlier than Chemnitz. But many, even some English cities, did not until much later. Did Germany develop at a particularly high speed? The Ruhr after 1850 yes, but how about Saxony, the Rhineland, Württemberg? Was any German textile region faster to industrialize than Lancashire? I tend to think that the really tremendous economic changes in the Ruhr district, where a rural area with only marginal industrial activity was made into a center of heavy industry and much new, even foreign labour was recruited within one generation, there are many signs that labour force formation took place particularly quickly: the special methods of recruitment, the long-lasting influence of the Catholic church and of Catholic unions, the continuation of a rural life-style at least until World War I, etc. – but was this unique to Germany? We find the same thing in the American or Australian mining areas, and probably in those of many other countries. Only for the Ruhr can it really be said that the proportion of the industrial workers coming from rural agricultural backgrounds was “relatively high”.

Of great interest here is the question as to whether the artisanal tradition in Germany had less of a formative influence on the emerging German working force than on the English. Were there labour aristocrats in Germany such as those described by Hobsbawm for England? A historian of the German artisans or labourers probably would not be able to
write a sentence like this: “An ‘artisan’ or ‘craftsman’ was not under any circumstances to be confused with a ‘labourer’.”11) In Germany, at least the politically active, skilled journeymen had been calling themselves labourers since the 1840’s. Were they labour aristocrats whose behaviour differed from that of the majority of the working class, and why? As in Britain, the leaders of the German unions were artisans. But they did not exclude the ordinary unskilled workmen: they enlisted them, they identified themselves with them, and they were proud to merge their special craft with the wider group of labourers, thus forming a working class. I think if there was a difference between the two countries, we should see the British development as the exception, rather than the German, since the German labour unions and Social Democratic movement became the model for many others in the era before World War I.

Another difference between German and English industrialization which had an effect on the labour force is, according to Jürgen Kocka, the form of organization and the management-structures of the firms. It is true that bureaucratic models played a role in the industrial management of big firms in Germany, as Kocka has shown in his Siemens-study and elsewhere.12) But what about the millions ab of small enterprises which, as I have demonstrated and continue to assert – are as important a .factor in

11) E. J. Hobsbawm, op. cit., p. 324.
German industrialization as the Big Ten? Bureaucratic models are not applicable to them; on the contrary, many family firms did not expand as much as they could have because they feared bureaucratization. German entrepreneurs, particularly in smaller towns, behaved very similar to their French (or Swiss) counterparts. "Small is beautiful" could have been a slogan for many decades in Germany. Also, a relatively sharp dividing line between blue collar workers (including the skilled) and salaried employees is not typically German. It occurs mainly in Northern Germany and cannot be found south of the Main. Folk culture in Bavaria, in Suebia or along the Rhine crossed class lines, and I would doubt that what is true for Siemens in Berlin is true for a medium-sized firm in the South or even for Bosch, Daimler or the MAN -- some of the larger firms in the South. But this is an empirical question, and since new studies are coming out soon, we can wait for the results.

As to Kocka's third set of "contrasts" between the English and the German labour force, which have to do with the strength of corporate tradition, I would tend to agree generally, but not necessarily in the consequences he draws. Was there a sharper dividing-line between masters and journeymen in Germany than in Britain? Was the British master artisan really more a member of the working class, while his German counterpart tended to be a small entrepreneur and employer? This contradicts Hobsbawms statement which I quoted earlier. It is certainly true that German master craftsmen, particular those struggling to survive, wanted to disassociate themselves from the working class; they thought of themselves as members of the petty bourgeoisie, middle class, and independent, even if their earnings would have put them into the same class as better paid skilled or even semi-skilled workers. Were the British small independent
artisans really different?

It has been shown again and again that the tradition of journeyman brotherhood influenced the early organization of labour and the structure and behaviour of the working class in Germany. Is this particular to Germany? I think one finds it in Switzerland, Belgium, France and the Scandinavian countries. Not in England? One needs only look at the behaviour of many English unions today to see this tradition at work. Again I cannot see basic differences in the early stages of industrialization. It is possible to make the following general statements on the comparison between the British and German work forces.

1. A comparison of two countries is methodologically correct and useful only if one does not take one as the standard and the other as the divi-

ation. The German road to industrialization is no more a special case than is the English one.

2. If we compare empirically measurable phenomena, the differences are not very great. The problems and developments in the textile regions, for example, are very similar. The demands made of the workers and the disciplining of the labour force are very similar. The degree to which pre-industrial sectors, like handicrafts, continued to exist, is also similar.

3. Differences lie most obviously in the intangibilities, the attitudes of workers and groups of workers like the labour aristocracy in England and the master artisans in Germany. They seem to have identified themselves with different social classes and to have developed different political alliances. But again we have to be careful. Perhaps it is just that we know more about these two, not strictly comparable groups and not enough about the more similar groups in each society. What were the social preferences and political alliances of the independent master craftsmen in
England? And was the average German journeyman artisan really a leader or even an active member of the labour movement? Leaders are always a minority. Do we really know enough about the labour aristocracy in Germany? Thus, even this thesis is debatable.

(付記)

ベルリン自由大学の Wolfram Fischer 教授は、経営史学会主催による第二回日独経営史会議（東京，1981. 3. 20.-22.）に参加されたのち、本学経済学会の招聘と国際交流基金の援助により，4月7日までの約二週間にわたり，京都，大分，仙台，東京の各地に滞在された。本稿は，この滞在の間，同志社大学（商学会，経済学会共催），東北大学および専修大学で計四回行なわれた同一題名の講演のもととなったものである。

フィッシャー教授の滞在に際し御配慮をいただいた各位，とりわけ国際交流基金にたいし，心より御礼を申し上げたい。

（小野高治，川越 修）