

In doing so, Grabherr offers us a wealth of detailed information on the many forces which were important in international social politics in the 1920s. He has made good use of the gold mine offered by the ILO archives, which make it possible to follow the activities of Albert Thomas and his staff from day to day. The archives of the German government have also been used extensively. This is much less true of the British and French archives. Grabherr presents us with a clear picture of British policies particularly, but mainly on the basis of the literature and the German and ILO archives. Still, one is tempted to think that the overall picture would have become even clearer if Grabherr had been able to do as much research in British and French archives as he has done in German archives. The same point applies to the international organizations of workers, and – to a lesser extent – employers and to other states. Belgium was represented at the ministers' conferences and did ratify the Convention, as did Czechoslovakia. In Italy the fascist government, whose relations with the ILO were already rather strained, raised the maximum length of the working day to nine hours in 1926. To be complete, a history of the Washington Convention would have to incorporate the vision of these and other parties, too, and inform us about the actual development of working hours in more countries. However, it is hardly fair to list all the points which remain to be elucidated, since Grabherr has thrown so much new light on the history of the Washington Convention.

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HOMBURG, HEIDRUN. *Rationalisierung und Industriearbeit. Arbeitsmarkt – Management – Arbeiterschaft im Siemens-Konzern Berlin 1900–1939. Mit einem Geleitwort von Peter-Christian Witt.* [Schriften der Historischen Kommission zu Berlin, Band 1.] Haude & Spener, Berlin 1991. xxiii, 806 pp. DM 148.00.

This book provides an exceedingly wide-ranging and detailed study of the processes of industrial rationalization in the Berlin engineering industry. Homburg concentrates on the Berlin plants of the Siemens concern, and in particular the electric motors plant. This plays a “central role” (p. 428) in the technical and organizational rationalization efforts by a firm which itself was a leading exponent of the German rationalization movement. She considers rationalization in terms of the concern's “labour-market strategy” (p. 12) and embeds her study in a regional and labour-market context by describing the geographical and social structure of the Berlin labour market in the first part (pp. 27–144) and its interest groups in the second part (pp. 147–252). The broad scope of the four early chapters seems not entirely justified in the sense that the developments outlined there are only occasionally related to the technical and staffing developments at Siemens analysed in the second part.

The emphasis in most of the ten chapters is on the 1920s. When source material and statistical information are available, the author at times also comments on the inter-war period as a whole. She does not systematically include the political upheaval of 1933 in her analysis of technical and staffing trends. This is all the more surprising since she notes in her conclusions that after a rather “experimental” phase during the 1920s (p. 526) the rationalization of the production

process in the Siemens electrical plant could be continued “in a relatively methodical way” in the 1930s (p. 527). After all, the change of political system was not only significant for corporate social policy (Chapter 10, pp. 586–661) because of the subsequent crass interventions by the German Labour Front (DAF). (These were actually largely successfully resisted or moderated by Siemens.) It was also an important historical event in the development of industrial rationalization in Germany. This has been clearly documented in several studies on Siemens which have appeared in the last three years.¹

With this study Homburg aims to contribute to historical research on the labour market. She draws in particular on Alfred D. Chandler Jr.’s approach to corporate history and the theory of segmented labour markets (pp. 5–15, 664–665). She wants to assess “a concern’s relative autonomy” (p. 9) with regard to the “corporate management of the workforce” (p. 4). She wants to describe the efforts aimed at extending the concern’s “room for manoeuvre with regard to the ‘labour factor’” (pp. 5, 346) through the “internalization of market functions” (p. 382) by means of technical and organizational rationalization measures. And not least, she wants to explore the limits set on this effort by internal and external factors.

In this she succeeds impressively and vividly in Chapter 5 (pp. 255–343), which deals with rationalization projects in the Berlin engineering industry as a whole as an introduction to the book’s third section on the history of Siemens. This chapter’s final section discusses psychotechnology, which was heralded by its contemporary advocates as “rational people management” for the solution of “human problems in industry” (p. 319). The aptitude tests carried out in laboratories inside and outside the factories in the 1920s to assess apprentices and above all female workers in the Berlin engineering industry were quite capable of providing information about eyesight, manual dexterity, or reaction time. But they said little about a worker’s subsequent performance at the workplace, among colleagues within the company or about job satisfaction or length of stay. These were all dependent on a range of other factors, events and developments of a personal, interpersonal, staffing policy, technological and economic nature, which could hardly be anticipated by the tests. Often those who achieved the best test results were not those who stayed in the job longest (pp. 336–338). Moreover, the demands made of the workers’ temperaments, skills and knowledge were not as clear-cut and unchanging as the logic of the testing process had to assume (pp. 329, 339). But above all the desired rationalization effect could not be predicted, that is, there was no certainty about the extent to which workers “would translate their tested skills into performance within the existing labour structure and hierarchy” (p. 331). The “rationalization of the human factor” (p. 342) and, the creation of the “transparent worker” (p. 343) remained an uncompleted task.

The final five chapters constitute the historical section about Siemens proper. Chapter 6 outlines the concern’s economic development and discusses the composition of the workforce. Chapter 7 gives a chronological account of personnel policy,

¹ See Tilla Siegel, *Leistung und Lohn in der nationalsozialistischen “Ordnung der Arbeit”* (Opladen: Westdeutscher Verlag, 1989); Rüdiger Hachtmann, *Industriearbeit im Dritten Reich* (Göttingen: Vandenhoeck & Ruprecht, 1989); Carola Sachse, *Siemens, der Nationalsozialismus und die moderne Familie: Eine Untersuchung zur sozialen Rationalisierung in Deutschland im 20. Jahrhundert* (Hamburg: Rasch & Röhrling, 1990); and Tilla Siegel and Thomas von Freyberg, *Industrielle Rationalisierung unter dem Nationalsozialismus* (Frankfurt/Main and New York: Campus, 1991).

covering the break with the master craftsman tradition, the rise of the production engineer and the rather hesitant streamlining of responsibilities, which left the supervisors and works managers considerable freedom of action with regard to the introduction and organization of rationalization measures in the production process (pp. 416–420).

A reconstruction of the rationalization process at Siemens is not very fruitful from a socio-historical viewpoint because it is difficult to link the development of manufacturing technology to the development of the staff structure in the electric-motors plant in terms of gender balance, skills, turnover, promotion opportunities or deskilling (Chapter 9, pp. 528–586). The author's observations on the development of the staff structure therefore tend to remain at a general level (pp. 528–545) and are only occasionally related to technical developments. She points out that the division of labour between the sexes was along the line men = variable machine operation / women = repetitive manual labour (pp. 546–555). She does not discuss the experiences, prejudices, conflicts and decisions which allowed this division to be retained during all the technical restructuring (pp. 491, 511, 512). Concerning the structural impact of the technical rationalization efforts on the status and qualifications (skilled, semi-skilled, unskilled) of the male workforce, the author is forced to rely on data from the electrical industry as a whole (pp. 555–566). That is to a large extent due to the nature of the source material. But it is also a question of how available material is used. If the descriptive material from the Siemens archive – available in larger quantities than for many other German firms – is analysed with the same care as the quantitative data, then it becomes possible, as has been shown by Siegel and von Freyberg's work on Siemens (*op. cit.* 1991, pp. 344–369), to describe at least in individual cases the implications of rationalization measures on the skills required from and the hierarchical grouping of male and female staff.

In her analysis of Siemens's social policy (Chapter 10), the author confirms the research findings mentioned earlier on the nature of the concern's personnel policy. Workers skilled in the installation, resetting and operation of equipment continued to be in demand in Germany owing to the combination of technical and production rationalization with a diversified product range and small-batch production typical of Germany in the 1920s. Together with the group of technical staff and engineers in the factories they formed the (numerically) small elite of "key staff". Siemens's social policy and social benefits were intended above all to ensure the stability of this elite (pp. 560, 566, 624–638 and 679–680).

The author does not do justice to the ambivalent modernity of a policy aimed at the selection and cooperation of hand-picked "colleagues" when she describes it as "anti-union" (pp. 584, 680) and puts it in a line with the right-wing "factory community movement", the "factory community policy" of the German Institute for Technical Training (DINTA), and the German Labour Front (DAF) under the Nazis (pp. 659, 679). In fact Siemens clearly distanced itself from DINTA and similar currents during the Weimar Republic. Following on from the "central labour community" between employers and employees during the First World War, the bureaucratic dealings with the works councils after the November Revolution and the creation of a concern-wide "General Works Council", Siemens developed something more akin to a "cooperative management style", to risk an anachronism. This management style, which could accommodate both representation of employee interests at concern level and more general agreements on wages

and working conditions, was hardly less able to deliver on the concern's economic goals than the subsequent authoritarian management style of the Nazi era. (In fact, Siemens fought many a hard battle with the DAF.) That these arrangements were also part of the Siemens-specific rationalization processes which advantaged the skilled male elite becomes clear to various points in this study.

Particularly informative in the section on Siemens's history is Chapter 8 (pp. 426–528), which reconstructs the possibilities and limits of rationalization in a historical context, using the example of the production of electric motors. It shows, for instance, that the great variety of motor types (in terms of capacity and performance) as drives for everything ranging from hand-held tools, typewriters, vacuum cleaners and other domestic appliances to machine tools and multi-drive heavy machinery (pp. 432–440) constituted an obstacle to standardized mass production. The varied product range also offered the opportunity of switching from one line to another in case of a drop in demand. Thus the impact of the world economic crisis was tempered by increasing production of electric motors for domestic appliances. Diversification thus to some extent contributed to the consolidation of rationalization processes in production (p. 439). The author's subsequent analyses of more or less successful attempts to rationalize the production processes for electric motors while maintaining a balance between technical sophistication and cost-effectiveness – for instance in the use of carbides and high-speed steel in the cutting of metals (pp. 461–471), the introduction of multi-machine operation (pp. 472–479), or the mechanization or belt production of spooling, transport and assembly work (pp. 480–520) – are not only interesting from the point of view of the history of technology. They also show clearly the impetus which the steadily growing demand for electric motors under the rearmament policies from 1934/35 and the accompanying labour shortage gave to rationalization and the impact on the organization of production and the composition of the workforce. And this rationalization push owed less to the development of new technologies than to the massive and continual application of already existing technologies (pp. 469–470, 477–479, 490–492, 520, 527).

The findings of this study present a new challenge to the debate on the relationship between social continuity and political upheavals in Germany as well as to the one on the interdependence of technological and social history.

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