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## Book Reviews

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*Nihon no Shokuba to Seisan Shisutemu* (Japan's Production System and the Organization of Work), by Nakamura Keisuke. Tokyo: Tokyo Daigaku Shuppankai, 1996, v + 268 pp., 8,500 yen (ISBN 4-13-056051-4)

By closely observing work practices on the shopfloor of Japanese manufacturing firms, Nakamura Keisuke, a scholar of labour economics and industrial relations, has attempted to 'reconstruct the overall picture of the Japanese production system'. What does this mean? For him, it means integrating the main currents of research from his point of view. He begins this task by critically reviewing four strands of research on the Japanese production system that stress: the good performance of Japanese production administration (Ishikawa Kaoru and Takamiya Makoto); the efficiency of product innovation (Aoki Masahiko); the rationality of the *shitauke* (subcontracting) division of labour between firms (Asanuma Banri); and the 'intellectual skill' of blue collar workers (Koike Kazuo).

His main focus is Koike's theory, which emphasizes the capabilities of (Japanese) workers to cope with 'uncertainty' or 'problems and changes' in production. Nakamura declares the 'intellectual skill' thesis insufficient on the following grounds. First, it is not always linked to product innovation or production administration. Second, it does not explain the rise of intellectual skills. In other words, the thesis should be supplemented spatially and temporally. Third, it fails to recognize the difficulty of transferring these intellectual skills abroad without basic reforms in administrative concepts and systems. In other words, without an appropriate seedbed, it will be difficult to transplant them. Fourth, the thesis has not been connected to theories such as the socio-technical systems approach. Instead of developing his argument further along these lines, however, Nakamura explores worker involvement in product innovation and production administration by stepping into the workplace of Japanese manufacturing and software firms.

In Chapter 1 on the 'Involvement in Product Development and Production Administration', he provides an interesting description of the work organization of a VCR final assembly line of a large, well-known Japanese firm. There he observed nine working groups, from assembly to testing and maintenance, and found two conspicuously different types of work organization. The first was mainly committed to new product development. The six male workers were all senior skilled workers promoted internally from lower status after long years of service. The other contrasted sharply with this. Here the work groups actually assembling the unit parts were comprised mostly of female and part-time workers. Their jobs were rather simple, and they were not involved at all in the process of product innovation. In Chapter 1, Nakamura describes clear-cut differences between the career patterns of workers in the assembly section. One is the difference between full-time and part-time workers. Another is the difference between the sexes. Regrettably, he does not pursue the implications of these further.

As for the former type of work organization, in which all workers display 'intellectual skills', Nakamura argues that it is characterized by 'integration based on the separation of conception and execution', which is fundamentally different from the principles of Taylorism. Here 'separation' means that the role of highly skilled workers—the six male workers mentioned above—in the 'quality

group' is supplementary or secondary in terms of product innovation itself because they cannot replace the pivotal role of the engineers of the production department. On the other hand, 'integration' means that these highly skilled workers are none the less deeply involved in a significant way in the process of product development. This distinction helps define more precisely the limited meaning of intellectual skills. Through Chapter 1, then, Nakamura clearly demonstrates that there are at least two different types of work organization in the same workplace, the VCR final assembly line. Implicitly, Nakamura is suggesting that Koike has overlooked the existence of this second type of work organization, which requires a much lower level of intellectual skills.

In Chapter 2 on the 'Hierarchy of Work Organization and Networks', he focuses on the *shitauke* or subcontracting structure of the automobile industry. He closely observes the representative organization of the primary parts supplier, the secondary supplier supplying parts to the primary supplier, and the tertiary or 'bottom' firm in the production hierarchy. He analyses what kinds of jobs are done in each workplace by what sort of workers, paying particular attention to their involvement in product development. Among his many findings, he finds three heterogeneous types of work organization throughout the interfirm network, or a division of labour between firms in the industry. Second, by weaving this into the *shitauke* structure itself, a certain type of efficiency is obtained.

What are the three types of work organization, and where are they to be found? His description may be summarized as follows. First, 'intellectual skills' (to use Koike's term) are located mainly on the shopfloor of the final assembly plant. The second or intermediate type of work organization is based on 'traditional' skills found in the middle stratum of the interfirm network. The third work organization is based on simple or unskilled workers at the bottom of the industrial hierarchy. For me, this picture is partial and simplistic, but also important and provocative.

In order to clarify when and how 'intellectual skills' and the principle of 'integration based on the separation of conception and execution' came to be implemented in Japanese firms, Nakamura looks in Chapter 3 at 'The Birth of QC Circles: a Self-Inspection System in the Iron and Steel Industry', describing the rise and diffusion of QC circles at the Kawasaki plant of NKK in the 1950s and 1960s. He concludes that first, QC circle activities spread from shopfloor engineers to foremen and rank and file members without difficulty. Second, behind this, there was a rapidly growing shortage of production engineers because of their transfer to R&D and other related departments to cope with the huge investments made to modernize the old facilities. Third, significantly, QC circles were not enforced from above, but sprang up spontaneously to tackle the difficulties of the self-inspection system. At the same time, however, he points out that it is not enough to account for the reasons why foremen and rank and file workers in general positively accepted involvement in QC circle activities. To give a full explanation, we would have to know more about not only the pre-war implementation of industrial engineering techniques at NKK, but also the various effects of 'harmonization' (of blue collar and white collar workers) in the post-war period, which he does not address.

Chapter 4 is devoted to an analysis of the 'responsible autonomy' of software development engineers. In contrast to blue collar workers in large firms, they work more autonomously in terms of production planning, quality administration, working time and so forth. He characterizes their working practices as 'responsible autonomy' after the socio-technical systems approach. In addition, he notes that they frequently move among project teams.

Chapter 5 presents conclusions. First, Nakamura repeatedly declares that the organization of manual labour in large Japanese manufacturing firms is distinguished by 'integration based on the separation of conception and execution', which is in sharp contrast to the work organization of software engineers. To be sure, highly qualified blue collar workers of large firms are deeply committed to

product development; in that sense, their skills are 'intellectual' and incorporate some of the functions of engineers, thereby demonstrating their 'white collarization', but they are not as autonomous as engineers. This suggests limitations in Koike's well-known 'intellectual skills' thesis. For Nakamura, this is the essence of 'Japanese-style' work organization.

Second, even in large firms, three types of work organization may be found, one based on 'intellectual skills', one based on 'traditional skills' and one based on 'simple work' or 'unskilled' workers. Third, and more interestingly, this heterogeneity is observable throughout an industry such as automobiles. According to Nakamura's (rather simplistic) description, the first type of organization is found mostly in the final assembly car maker, the second in parts suppliers in the middle tier of the industrial hierarchy, and the last in the lowest tier.

Fourth, as for his overall evaluation, Nakamura notes that 'Japanese style' work organization is associated with the intensification of work. Speed-up often accompanies radical reforms or the abandonment of existing work practices through a (rather spontaneous) commitment to 'integration based on separation of conception and execution' and 'intellectual skills'. The author basically concurs here with criticisms from abroad that an accumulation of 'intellectual skills' often results in the intensification of ordinary work, a point overlooked by Koike. Fifth, regarding the important question of when and how this 'Japanese style' work organization was introduced and implemented, the author suggests that 'what is crucially significant in terms of environmental conditions is the new investment and related rationalization efforts of the 1950s because they strongly stimulated the rise and evolution of "Japanese-style" work organization' (p. 242). But what elements can explain the 'basic change in thought regarding quality management' itself? Unfortunately, this is left as a question to be answered in the future, despite the detailed description of the early development of QC circle activities in a representative iron and steel works in the 1950s.

In sum, Nakamura's attempt to 'reconstruct the overall picture of the Japanese production system' by analysing central features of 'Japanese-style' work organization succeeds to a certain extent. He argues that it is clearly distinguishable from Taylorism in that it depends on the rule of 'integration based on the separation of conception and execution'. Moreover, despite such 'separation', it basically grew from the efforts of foremen and workers themselves, as seen in the early story of QC circles. However, it is apt to be a major cause of work intensification. Thus, he effectively integrates conflicting views of the Japanese production system by sketching both sides of the coin. In addition, he differentiates between three types of work organization, and argues that 'Japanese-style' work organization has to be supported from within or below by other types, sometimes in the same firm.

This analysis is both attractive and persuasive. On the other hand, it has some problems, including the author's insistence on an industry-wide configuration of work organization which is simplistic and somewhat misleading as an overall picture of the Japanese production system. Moreover, although he mentions skilled workers engaged in die and mould production at a parts maker, Nakamura does little to pursue further work organization based on 'traditional' skills. And it is not very convincing to equate the jobs of young blue collar workers operating CNC machines or machining centres in the lowest hierarchy of the automobile industry with 'simple work' or 'unskilled' labour. Finally, his quest to ascertain the origin of 'Japanese style' work organization is not fully realized. Nakamura has, however, achieved a lot and greatly improved our understanding of the Japanese production system.