

THE JAPANESE STYLE OF MANAGEMENT COMPARED TO ITS 'PRECURSOR', FORDISM

11.1 Introduction

Is Fordism "a new mechanism of accumulation and distribution of finance capital, based directly on industrial production"? Does Americanism then constitute a distinct phase, a new epoch, in the history of capitalist production? These questions were posed by the Italian revolutionary thinker Antonio Gramsci in his well known '*Prison Notebooks*', drafted while in prolonged detention under fascism. At the time when Gramsci wrote down his views, the new American production methods - the workers enchained to the assembly line, and the stopwatch as means to closely regulate their movements - were rapidly gaining prominence. Outside the prison walls, these methods formed the object of fierce debate between academicians belonging to various currents of thought. Ultra rightist Italian intellectuals, for instance, discussed how Fordism could be adapted to Italian conditions; they propagated a marriage between American style, organised mass production and the corporatist state.

Gramsci's views, formulated in the desolation of his prison cell, are an eloquent testimony to his sharpness of mind. They do not merely prove that he was a keen observer of social trends in his own days. In fact, some of his views retain their value even today, sixty years later, and help explain why Fordist methods are now being superseded. Gramsci, for instance, dwelled on the dilemma which the introduction of the conveyor belt posed for entrepreneurs. The capitalist, so he argued, can mechanise the physical movements of the labourer, but this does not prevent the latter from using his brains. "One walks automatically, and at the same time thinks about whatever one chooses." (1) American industrialists, according to Gramsci, were conscious of this 'dialectic' underlying the mechanised mode of production and its possible consequences. Notwithstanding the spread of Fordism, assembly line workers in the United States and (Western) Europe have continued putting up resistance against the despotism of the factory system. Consequently, multinationals have continued searching for ways to obtain absolute control over the factory workers' thinking processes.

Roughly eighty years have passed since the American company owner Ford introduced the conveyor belt system and concomitant management-techniques (derived from Taylor) in his automobile factories. These methods enabled Ford and other American enterprises to temporarily gain hegemony within the world economy. Today, a new production model has risen to prominence, - a model which stipulates 'quality circles' and 'subcontracting' as its key concepts. The model is closely identified with one Japanese corporation, Toyota - like Ford a giant company belonging to the automobile sector. Throughout the industrialised North, as well as in Third World countries like India (2), multinationals and even smaller, local companies are frantically studying the Japanese model. They feel compelled to re-adapt the organisational structure of their companies in the worldwide rush for super-profits. (3)

Analogous to Gramsci's initial conceptualisation of the previous phase of world capitalism, Japanisation can be understood as a new phase in the history of capitalism, for the present phase is distinct from the period when the views of Ford and Taylor held sway. Further, the emergence of specifically Japanese management techniques invites a re-examination of the fundamental critique of the capitalist system. Today's developments should encourage us to critically re-assess the relevance of the views put forward by capitalism's most powerful critic, Karl Marx. In order to grasp the reasons for the international trend towards Japanisation, we need to adopt a creative Marxist approach.

11.2 The History of Japanese Capital: From Commercial to Industrial Subcontracting

To start, let's briefly highlight an important aspect in the history of Japanese industrialisation: the more or less direct transition from commercial subcontracting to vertically organised, industrial subcontracting, as was imposed by fascism. In the middle of the nineteenth century Japanese society, as is well known, was still largely characterised by feudal relations. There existed a rising commercial bourgeoisie which was composed of intermediaries, called '*tonyas*', who increasingly operated as entrepreneurs, since they had started regulating the production of craftsmen. The *tonyas* distributed raw materials, and sometimes equipment, to self-employed craftsmen and homeworkers, and they brought the final products to the market. Under these conditions of infant capitalism, the Meiji Restoration was launched from the year 1868 onwards. The process of the modernisation of society was facilitated by the fact that it was favoured by members of the traditional elite of *samurai* warriors. Delegations were sent to Europe and the U.S. 'to learn from foreign countries'. Machinery and expertise were imported so as to prepare the founding of the first silk-spinneries and textile factories, a development which will be discussed more elaborately in the next Chapter. Thus, from the later part of the nineteenth century onwards, the factory system of production rapidly superseded craft production dominated by the *tonyas*.(4)

Yet it would be wrong to believe that the Meiji Restoration ended the role of home-based industries and of traditional intermediaries. They were only partly supplanted by the factory system. Many small producers adapted to the new conditions, by installing electrical motors in their own workshops - mechanisation reached the drawing room of the craftsmen -, and by taking to the manufacturing of modern goods like bulbs, rubber products and western umbrellas. In the footsteps of the *samurai*, the *tonyas* too transformed themselves. Instead of continuing to function as the link between craftsmen and the market, they now became suppliers of half finished goods. They henceforth chose to fulfil the task of subcontracting for industrial enterprises, to act as intermediaries between home workers and the factory. It is only when the fascist regime enforced 'rationalisation' of production, during the 1930s, that their role came under serious threat. Those *tonyas* who failed to provide technological guidance to the small producers were eliminated, under the joint pressure of the fascist government and monopoly companies.

During this period, from 1935 to 1945, the system of subcontracting was built which, more recently, has enhanced Japan's reputation amongst entrepreneurs worldwide.

Partly in consequence of the brutal wars fought, the country suffered from a severe lack of raw materials. The government introduced a system of rationing industrial raw materials and imposed price-regulation upon intermediaries. Most far reaching was the government's attempt to unify the subcontractors of major companies, via horizontal cooperation. When the desired result was not obtained, corporate enterprises themselves streamlined the structure of subcontracting. They selected the most efficient clients and brought them under corporate control. Small supplier firms were patronised through instructors and by providing them with instruments to improve product quality. Moreover, a mutual division of labour was promoted between the subcontractors. Thus arose the typically Japanese, pyramid-shaped structure of production.

The period after the Second World War merely brought a further refining in methods of control over subcontractors. Thus, the transfer of knowledge regarding financial accounting, and that regarding management techniques, were added to the range of regulatory mechanisms. In recent decades, the proportion of production which is subcontracted has greatly expanded. This is true in particular for the automobile sector, where the share of production that is subcontracted amounts to seventy percent at least. In short, and contrary to Marx' expectation (5), the factory system of production has not completely replaced the network of small producers, but has rather subordinated them, has adapted this network to the needs of corporate capital.

11.3 Features of Toyotism - Quality Circles or Internal Decentralisation

Before discussing the effects of this elaborate system of subcontracting on labour, I wish first to comment on the second central aspect of Japanese style company-management: the 'labour groups' or 'quality circles'. Once more a historical review is helpful, for Japanese companies have employed labour groups for the purpose of enhancing productivity for many decades. Examples can be traced in reports regarding working conditions in the spinneries and weaving mills, where women, a century ago, worked to lay the foundations of Japan's industrialisation. Thus, groups of female labourers, employed in textile companies and organised by their district background, in the beginning of the twentieth century engaged in sports' competition initiated by management. The same groups were encouraged to undertake production competition by offering them little prizes in reward. As early as then, in the late nineteenth Century, entrepreneurs tried to devise clever means to influence the thought processes of the overwhelmingly female workforce.

Today the system of labour groups, now termed 'quality circles', has become a common phenomenon in almost all Japanese factories. They are to be found in the large enterprises of key industrial sectors, such as automobiles and electronics, but also in the smaller subcontracted firms. During my visit, together with a colleague, to Japan in 1990, a woman employed in a company producing temperature-regulators for Toyota-trucks, described how the women workers during off-time are forced to jointly ponder over possibilities for raising productivity. For individual women there simply is no escape: the company manager does not just own the wage-workers' labour-time, but a part of their 'free time' as well. And when visiting the multinational chips-producer Fujitsu Electronics, managers in blue uniforms self-confidently stated that the factory's labour groups provide a guarantee for production without an undue number of errors.

Thanks to the quality circles the workers are perfectly disciplined. In other words: the ideal of the 'trained gorilla', which American corporations earlier tried to approximate through the use of the stopwatch, has to a frightening extent been realised in contemporary Japan.

In Western countries, the discussion about labour groups is not completely new either, as is evident e.g. from the postscript to Benjamin Coriat's book on the history and significance of Fordism, *'The Workshop and the Stopwatch'*. In many enterprises such groups were introduced in the late 1970s or early 1980s, in name of 'the humanisation of labour'. The significance of the system, according to the mentioned postscript, is as follows: "Place him, or the migrant worker or the female labourer, in a team or 'collective' which itself decides on speed and working rhythm. 'Time-and-motion'-experts with their stopwatches in their pockets are no longer required, nor are foremen who watch you, the worker, from behind. You yourself can decide how you want to work and how fast."(6) In other words: the formation of labour groups eliminates the need for detailed supervision. Contrary to the Fordist/Taylorist approach, the individual is no longer the basis of the labour process; it is the group that is considered its foundation. Moreover, "since the income of the team, i.e. of all its individual members, is dependent on the productivity of each separate member, there is little chance that the group will show benevolence towards a 'lazy' worker." (6) The structure of the quality circles, in other words, ensures strict self-discipline on the part of the exploited workers.

The new method which Japanese companies are teaching to their competitors, however, consists of more than the above sketched trend towards (what can schematically be termed) 'internal decentralisation'. At issue is a phenomenon on the borderline between internal and external decentralisation: various powers are transferred to smaller production units within the factory complex. Such units tend to be granted a close-to-independent status. Responsibilities are delegated, flexibility is promoted, while profits continue to flow towards the corporation itself. The extent of influence the model has developed internationally can be illustrated by citing the example of the Dutch steel-foundry 'Hoogovens'. The territorial size of this foundry's complex - its production structure, until recently was an integrated one, is equal to a whole town. According to the Master Plan formulated by 'Hoogovens' management, some years ago, the factory complex is to be restructured along the model of the Japanese company Nippon Steel: which means the granting of far reaching autonomy for the various sections/departments, and the devolution of tasks even with regard to marketing and the sale of steel products.

The key question remains, of course, whether such decentralisation really leads to 'the humanisation' of labour-relations. According to a trade union researcher interviewed in 1990 about the consequences of the trend described, - the splitting-up of production into smaller units, aspired to by many Dutch companies outside the steel sector as well, leads to the sidetracking of trade unions. Relations between management and trade unions become increasingly nebulous, as trade union officials are in doubt at what level negotiations about labour conditions should take place, which trade union a specific group of workers should join, etcetera. In short - the major danger is decreasing solidarity between the workers, and the further weakening of their collective power.

11.4 Subcontracting, or 'External Decentralisation'

Above I have already given an outline of the historical evolution of Japanese subcontracting, i.e. the elimination of traditional middlemen and the vertical integration of subcontractors under the modern, industrial corporation. The corporation's relation with small supplier firms at present is primarily regulated via the principle of '*kanban*', which means delivery of components or product parts **just-in-time**. This principle, as I will explain later in this Chapter, can be wholly understood within the framework of classical, Marxist economic theory. What I wish to elaborate on first, are the immediate social and economic consequences of subcontracting organised on Japanese lines. We should realise above all that a large degree of dependence is engendered by the system. In the typical Japanese company, the so called '*keiretsu*', only the first line of subcontractors is directly owned by the mother company. Smaller supplier firms, on the contrary, are formally independent. Yet since in practice they generally are up to one hundred percent dependent on the orders of one particular corporation, they are virtually subject to the latter's arbitrary rule.

Subcontracting of product components, in essence, means that Japanese automobile corporations and electronic companies are exempted from the fluctuations of the domestic and international market. Because small subcontractors are independent, the corporations are in a position to transfer market risks: in times of crisis not they, but the smaller companies are made to pay the price. Thus, many Japanese industrial enterprises during the oil crisis of the 1970s demanded delivery on credit from their supplier firms, by simply delaying the payment of components obtained. And when the *yen* suddenly rose in value in relation to other currencies, raising the price of crucial Japanese export products like automobiles and electronic gadgets, - a price reduction was imposed upon the dependent and rather powerless firms supplying components. In the Tokyo area a reported 45 percent of all firms were made to face these consequences of the '*yen-spiral*'. (7)

Yet the ultimate victims, having to face the brunt, are the male and female labourers employed in the subcontracted firms. They are forced to make many hours of overtime, and in times of crisis are the first to be threatened with lay-offs. The secondary status faced by the majority of the Japanese labour force is well illustrated by the working conditions applying to part-time labourers in Japan. From interviews taken of women workers in Japan it clearly emerges that many subcontracting companies, employing one hundred persons or less, make extensive use of 'part-time labourers'. Such women perform wage labourer up to 7 and a half hours per day, earn wages calculated on an hourly basis, and are paid less than half the amount earned by male employees in fixed service. The wage-rate of part-time women workers is 5 to 6 hundred *Yen* per hour at most. Many middle aged women, in particular, belong to this vast labour reserve. Since they can be dismissed at any time, they are termed 'throw-away-articles' in the Japanese press, - analogous to the throw-away-sticks used by Japanese consumers to eat their meals. (8)

Both the Japanese government, major corporations and rightwing trade unions, actively work to maintain these deplorable labouring conditions in subcontracted firms.

They jointly ensure that the method of transferring risks to the workers remains firmly entrenched. The corporations themselves transmit knowledge about the labour groups, i.e. the quality circles, and they put pressure on the 'independent' suppliers to ban any trade union activities. The government contributes its share by issuing laws in favour of part-time work, and by promoting the growth of a system of 'manpower agencies'. Similarly, the powerful trade union federation *Rengo*, has implicitly accepted the prohibition on trade union work in small supplier firms. This is confirmed by functionaries representing *Rengo*. A regional secretary, met in Japan in 1990, defended the fact that *Rengo* only protects the interests of the relatively privileged layer of fixed employees, by citing as argument that the undertaking of organisational work in subcontracted firms would lead to the loss of orders for such firms. In other words: the decentralisation of production and the silencing of the most severely exploited groups in society, are part and parcel of the very same Japanese 'model'. (9)

11.5 From Americanism to Japanisation: Appropriation of Workers' Independent Knowledge

During the sixties and seventies, progressive authors ardently studied and analysed the Taylorist/Fordist system, the management methods which, as explained above, were introduced in the early part of this century in order to promote the mass production of commodities. The French author, Benjamin Coriat, for instance has given a lively description of the features and advantages (to capital) of the Fordist/Taylorist system. One of the key advantages he ascribes to the assembly line and the stopwatch, is the "breakdown of the independent knowledge of the trained craftsmen over the production process." In the period of capitalism's ascendance, entrepreneurs realised that the independent knowledge of the workers over their own production provided them with considerable power. This power limited, Coriat argues, the control entrepreneurs could exercise in the historical, first phase of capitalist production. It made them dependent on the physical presence, in the locality of their operation, of people knowing the ins and outs of the given trade.

This dependence on the craftsmen's knowledge forms the background to the struggle, waged in England during the nineteenth century, over the (proposed) lifting of the ban on emigrations. Many skilled cotton workers in the Lancashire region wished to leave in the second half of the century, since they were famished due to (temporary) unemployment. Their impending exodus was fiercely resisted by manufacturers, and triggered a debate in the British Lower House, - a debate which was won by those advocating that the emigration ban be maintained, for the owners of British textile factories could not dispense with a skilled workforce. Manufactures are quoted as having stated: "Could one imagine a more disastrous plan for all classes of the country than to weaken the Nation by exporting its best labourers?" The presence of many unskilled workers in the United States, on the other hand, facilitated the introduction of the methods propagated by Taylor and Ford, - the chronometer and the assembly line. During the period 1885-1915 alone, 15 millions people migrated to the United States, - most of them semi- or unskilled workers. Thus, American entrepreneurs could rather easily launch an offensive against skilled workers who temporarily tried to defend their jobs by relying on the principle of the exclusive workshops ('closed shops'), and on labels which in name guaranteed the quality of the commodities ('blue labels'). (10)

The Taylorist phase of mass production has caused a fragmentation of production tasks and an accompanying breakdown of skills, - changes which enhanced the power of entrepreneurs over the whole production process. According to Coriat, the time and motion studies of experts used to discipline the workforce were explicitly aimed at facilitating the massive integration of unskilled immigrants into the industrial production process. They were aimed at making craft-workers superfluous. The system, however, was not bereft of disadvantages. Its main drawback was that the remaining knowledge possessed by the workers, their creativity, could not be optimally used. 'Japanisation' in my view signifies that a solution has been found to this drawback of Fordism. Male and female workers organised in labour groups, both in the large corporations and in subcontracted companies, are forced to concentrate on production problems. They are made to constantly ponder over ways to increase production efficiency. It is often said in Japan that workers, employed by Toyota, think 24 hours a day about production. Japanisation thus signifies the effective appropriation of the remaining knowledge and insights of the workers. 'Their knowledge is permanently tapped'.

11.6 Toyotism: *The Aim of a Monopoly over Knowledge Abandoned?*

Since both Taylorism/Fordism and Japanisation are crucially concerned with the effective use of and control over human knowledge and behaviour, it is useful to further elaborate on this theme. Harry Braverman, the American author of a classical study regarding the work processes under monopoly capitalism, has minutely analysed the evolution of technical knowledge and its application by capitalist corporations up to the seventies of this century. Just like the Frenchman Coriat, he stresses that at the dawn of capitalism the skilled worker was the repository of human techniques required in the labour process of his/her particular branch. The craftsman/woman - the potter, the tanner, the smith, etc. - combined in mind and body "the concepts and physical dexterities of the speciality", and his/her technique was "the predecessor and progenitor of science." (11)

Now, the history of the conquest of technical knowledge, its appropriation by the capitalist from the skilled worker, has long been buried by modern science. Yet the aim of this conquest, and the methods to achieve it, were quite explicitly stated by Frederick Taylor. Taylor's crusade was aimed at convincing the American entrepreneurs of his day that they should develop a complete 'monopoly' over knowledge, so as to "control each step of the labour process and its mode of execution". He advised that, first, the managers should "assume the burden of gathering together all of the traditional knowledge which in the past had been possessed by the workmen", and, second, that "all possible brain work should be removed from the shop and centred in the planning and pay-out department." (12) Indeed, Gramsci's interpretation, referred to in the introduction to this Chapter, was very precise: the purpose of Americanism was to break up the old psycho-physical nexus of qualified, professional work. (13)

The separation between conception and execution, proclaimed by Taylor as a cardinal principle of capitalist control, has historically given rise to the creation of a new profession, the profession of the technical engineer. In the United States, so

Braverman records, there existed as few as 30 engineers or quasi-engineers in the year 1816. The first census which mentioned the profession as a distinct one showed a number of about two thousand engineers, "few of whom had gained their titles through academic training, and most of whom were engaged in canal and railroad construction." It is only in the last two decades of the nineteenth century that the number of engineers rapidly expanded, only in the twentieth century did theirs become a mass occupation: there were some 1.2 million technical engineers bearing responsibility for conceptualisation and planning of production in the year 1970.(14)

Seen against this background it is more than ironic that in the last quarter of the twentieth century, monopoly capitalist corporations have abandoned Taylor's insistence on the strict separation between conception and execution, his open advocacy of dehumanised labour. Whereas, on the one hand, the engineering profession is being undermined partly by the development of computer technology and the growth of an army of data-workers, engaged, like engineers, in the task of conception and planning, - on the other hand Japanese companies have commonly instituted 'quality control circles' of shop workers engaged in studying work processes and potential improvements in work methods. Yet before concluding, as monopoly capital would like us to, that what is at stake is the 'humanisation of labour', we should have a closer look at the functioning of Japanese quality circles.

11.7 Once More on the System of Quality Control Circles

The spread of the quality control circles - a system that has greatly contributed to the superiority of Japanese automobile concerns and other multinationals over their European and American competitors - is a rather recent development. It is true, as argued above, that 'labour groups' engaged in production competition, have existed in Japan since the founding period of industrialisation. In the late nineteenth and early twentieth century, textile companies organised speed-up campaigns, i.e. they sought to intensify exploitation through competition between groups of women workers. Yet the idea of quality control, in the form of zero defect drives, has reportedly originated in the US missile industry. It was brought to Japan in the late nineteen fifties, by the Japan Productivity Center. According to Muto Ichiyo, who has specialised in Japanese industrial relations since World War Two, the idea was "wedded" to the pre-existing "small group concept".(15)

As Ichiyo and other sources confirm, the quality control circles mushroomed during the sixties and seventies. In the year 1962, there existed just 23 such circles. By 1980 the number had increased to well over 100 thousand! The Japan Productivity Center held a survey in 1976 which brought out that 71 percent of the country's companies had instituted quality control circles. In big enterprises, employing 10 thousand workers or more, the figure for workers' participation in the given groups reportedly was as high as 91.3 percent. One sector where quality control circles gained early ascendance was the sector of steel: the Kawasaki plant of Nippon Kokan Steel implemented quality control drives already in 1963. By the eighties, the same plant, then reportedly employing 8 thousand persons, counted 1.320 quality control circles, indicating that the company's whole workforce had been mobilised to participate. (16)

Through the quality circles, Japanese companies have in a sense broken with the tradition of Taylorism, which had hoped to reduce workers to virtual animal extensions of the machine. To a very limited extent, and in a distorted manner, Japanese companies have restored the nexus between the workers' physical and mental activity: once again, as in pre-Taylorist days, workers are permitted to hold some knowledge over their immediate labour process. Still, it would be very wrong to conclude that capitalism is bent on restoring the workers' original craft knowledge, for the workers' domain of knowledge is carefully delineated by the enterprise. It remains confined to his dehumanizing, fragmentary production activity. And whereas the quality circles are forced to provide management with scores of suggestions on how to cut production costs, on how to reduce production errors to the barest minimum, - the power to decide, to use the workers' knowledge, remains entirely management's.

Lastly, let us note the following contradiction between the ideology and the practice of Japanisation. Proponents of Japanese management styles argue that the quality control circles represent a form of "participation by the workers in management", a form of "self-management" (*jishu kanri*). The stark reality is that the quality circles help to further undermine whatever workers' autonomy formerly had existed in Japan. The groups are instructed to convene and discuss problems of production-efficiency after the official working times. In general, the labourers are not paid any overtime for participating in the groups. In other words, the quality circles represent an unpaid extension of the labour day, a form of intensification of exploitation. Most alarming is, as Muto Ichiyo notes, that the quality control circles have usurped the role of workers' activism. "There is no room left for union activity to intervene, since all available time and energy of workers are absorbed by the company." (17)

11.8 Fordism and Toyotism: Decreasing Need to Pay 'High Wages'

One purpose of the Fordist/Taylorist system was to ensure workers' loyalty to large corporations by paying them relatively high wages, and by introducing various additional benefits such as pensions and social security. Ford, owner of the American automobile company, was an outspoken proponent of making economic concessions to a select group of workers in order to suppress the tendency towards resistance in key sectors of the capitalist system. In his book *The Workshop and the Stopwatch*, Coriat concretely depicts how Ford conceived of his 'high wages'-idea. In 1915 he announced a big increment in the nominal level of wages; the pay rise involved no less than a doubling of wage-rates, up to 5 dollars per day (hence the slogan of the 'Five Dollar Day'). The immediate background to this policy change was a huge turn-over in workers at Ford and other companies in the automobile city of Detroit. In 1913 alone 53 thousand persons were recruited to fill a number of 15 thousand jobs. Moreover, the city was beset with a mood of rebelliousness which Ford decided to counter by increasing the level of wages.

This last mentioned motive of Ford's was well understood by Gramsci in the loneliness of his prison cell. In his *Prison Notebooks* he amongst others discusses the Fordist 'ideology of high wages'. He argues that the American companies could only pay their high wages because they held a position of monopoly, which was not to last for ever; high wages, besides, were not being paid to all American workers, but only to

those belonging to the 'labour aristocracy'; and the high wages were paid with the sole motive of keeping the workers in line. Though the entrepreneurs, according to Gramsci, purposely strived to transform the workers into 'trained gorillas', into a species without workers' consciousness, they nevertheless continued functioning as thinking human beings, which the entrepreneurs understood. "And not only does the worker think, but the fact that he gets no immediate satisfaction from his work and realises that they are trying to reduce him to a trained gorilla can lead him into a train of thought that is far from conformist."(18)

In a 'Japanised' production structure the need for a labour aristocracy remains. Thus, there exists, as said, in Japan a sharp divide between the male workers in lifelong employment, and the mass of 'throw-away' female labourers. However, in a structure with extensive subcontracting relations the individual responsibility of industrialists to maintain a reasonable standard of living is greatly reduced. The payment of a 'high wage' after all only applies to a very select group of fixed workers who undertake final assembly tasks in the main factory hall. All remaining categories of workers, in particular female workers, are paid low wages, and like the automobile workers in Detroit at the beginning of this century, they can be laid off at any time. Ford added numerous conditions to his spectacular wage offer. Toyota and other mammoth corporations in Japan have similarly ensured that the financial concessions they need to make to the working class, remain confined within narrow limits. (19)

11.9 Fordism and Toyotism - The Question of the Turn-Over Time of Capital

One of the advantages of Ford's system of the assembly line which is frequently overlooked, is that in such a system the turn-over time of capital is accelerated. Surely, an entrepreneur's chances of reaping super profits are enhanced by the speed with which his money is re-invested. Marx had underlined the importance of the theme of the turn over time of capital, by devoting a whole series of chapters to this theme in his '*Capital*'. (20) In connection with capital's turn-over time, he made a distinction between **production-** and **working time**: the first one is generally longer than the second. If wood, for instance, first needs to be laid to dry before being used; or in case the production time comprises a period of fermentation of grapes, it means that a part of capital is temporarily stored and that the turn-over time of capital is extended. A similar phenomenon I observed in Japan when visiting a tobacco company, in 1990. We passed huge cauldrons in which tobacco leaves, as we were told, remained stored for one year before being considered suitable for the production of cigarettes. A part of the company's capital thus was 'stored' in the form of tobacco leaves.

Like the production time, the **circulation time** of capital - the time required for the purchasing of raw materials and for sale of the commodities produced - can pose complications for the entrepreneur. The more time it takes to find buyers for the goods, the more expenses are incurred as a consequence of the storage of these goods after the completion of production. Marx called the period of sale the decisive part of the circulation time. On the other hand - the entrepreneur may require extra financial resources since certain raw materials are auctioned only at a few occasions in a year. What is involved here is the lengthening of the purchasing time, the starting period of capital. According to Marx, entrepreneurs in capitalist countries wage a perennial

struggle to reduce the turn-over time of their capital, to accelerate capital's circulation. Not coincidentally, Fordism and Toyotism are both systems aimed at shortening the turn-over time of capital.

However, in the two systems the acceleration in the turn-over time is realised differently. Let's once again refer to the French author Coriat: "Ford introduced the production without stocks", he wished to "counter the loafing of production materials" through a well regulated supply and conveyance of all necessary materials. Ford himself is reported to have used the image of the river and its branches: the assembly line in his view served to promote a 'well coordinated flow' of goods in course of the process of production. He was concerned primarily with reducing 'losses' in terms of money, capital, as a consequence of the storage of goods in-between various phases of production. By adopting his system of the conveyor belt, many costs in connection with transport-labour were eliminated, as well as expenses made for storage of products: i.e. the maintenance of stocks of goods in between the various phases of production in the factory. (21)

The same aim of reducing storage costs is also pursued in the Japanese structure of decentralised production. Here, however, the reduction/savings are not realised by pressing down the costs of storage during the production process itself, but by cutting down on expenses for holding stocks before and after the whole production time in the factory. The target of Toyotism is precisely the circulation time of capital. A concept which as mentioned above is wholly identified with the Japanese style of management is '*kanban*': delivery just-in-time. Since it is demanded from supplier firms that they deliver precisely on the minute, the second, stipulated by the company issuing the order, the corporation is no longer burdened with the necessity of maintaining stocks of product components. In short, '*kanban*' is a contemporary, Japanese concept that can easily be understood on the basis of Marx' classical '*Capital*'.

11.10 Marx' Grundrisse and the Analysis of the Turn-Over Time of Capital

In this section I wish to further underline the extraordinary, actual relevance of Marx' analysis regarding the problem of the turn-over time of capital. When preparing for his theoretical and practical analysis which he was to present in his Magnum Opus '*Capital*', Marx during the winter of 1857-58 wrote a series of notebooks for self clarification. These notebooks were to be published only a century later. Now known as the '*Grundrisse*', they have justly been termed a "source-book of inestimable value for the study of Marx' method of inquiry" (22).

Two of the notebooks comprising the '*Grundrisse* - i.e. Notebook V and Notebook VI - contain extensive passages on the theme of the turn-over time of capital. First, how did Marx define the term? For Marx, the turn-over time of capital refers to the whole cycle which capital completes, it refers to the **composite of production time and circulation time**, i.e. to the various phases capital passes through before, during and after the end of the production of a commodity. (23) Preceding the initiation of production, for instance, raw materials have to be procured, and after the commodity

has been readied it has to be brought to the market. The time to cover these steps belongs to the circulation time of capital.

Now, the key question which Marx asks himself is the following. What influence does circulation time exert on the creation of value? "The question which interests us here is this: Does a moment of value determination enter in **independent of labour**, not arising directly from it, but originating in circulation itself?" (24) Marx' answer is squarely positive - circulation time does exert an independent influence, and in order to illustrate the point, Marx draws a comparison. If a value 4 times smaller realises itself as capital 4 times in the same period in which a 4 times greater value realises itself as capital only once, then the smaller capital's gain - production of surplus value - is at least as great as the larger one's. (25) It can even be greater, Marx says, because the surplus value can itself again be employed as surplus capital!

Thus, the calculation of circulation time proper, and of the total turn-over time of capital, requires specific analysis. In order to understand an entrepreneur's capacity to accumulate, it does not suffice to know the rate of exploitation of his workforce, the surplus time extracted from his male and female labourers (26). We also need to take a look at the turn-over time of his capital. "The sum total of values produced or the total realisation of capital in a given epoch is determined not simply by the surplus time realised in the production process, but rather by this surplus time (surplus value) multiplied by the number which expresses how often the production process of capital can be repeated within a given period of time. (27)

Marx further discusses whether circulation time is a **positive** or a **negative** value creating element. Given that a moment enters into value determination, circulation time, which does not come out of the direct relation of labour to capital - what influence precisely does circulation time exert? Marx considers circulation time to be a 'natural barrier', it is a time of devaluation. The more the circulation of capital can be speeded up, the greater the speed with which the production process can be repeated, the better this is for the owner of capital. In other words, "circulation time in itself is not a productive force of capital. All that can happen through the acceleration and abbreviation of circulation time - of the circulation process - is the reduction of the barrier posited by the nature of capital. (28)

The above helps explain several major contemporary trends of international capital, in particular the specific mode of operation of Japanese companies ('*kanban*'), and capitalism's drive to further develop the means of communication. The time needed to maintain stocks of commodities produced, for instance, is influenced by the time required to transmit orders. Whereas originally these needed to be conveyed by couriers or letters, with a transmission time of several days or more, the invention of the telegraphic system, and more recently of the fax system, have brought transmission time down to nearly zero. Thus, the development of telecommunications serves capital's need to reduce circulation time to the barest minimum. To once more quote Marx himself: "Capital by its nature drives beyond spatial barriers. Thus the creation of physical conditions of exchange - of the means of communication and transport - the **annihilation of space by time** - becomes an extraordinary necessity for it." (29)

Marx' analysis also helps us understand the enormous popularity - among entrepreneurs - of the Japanese principle of '*kanban*'. Capital is interested in limiting to a minimum both the time capital lies idle before the start of production, in the form of raw materials and product components, and in limiting the period that stocks of commodities have to be held after their production has been completed. One of the ways in which the circulation of capital can be accelerated is precisely by forcing subcontracted firms to deliver components strictly on time. The managers of Japanese corporations, and their international competitors, know fully well that the time needed for circulation of commodities exerts an influence on the mass of values they can produce. '*Kanban*' serves to eliminate barriers to the realisation of capital, - at least for those who can impose this rule. Here as in the case of the development of communications, capital's target is to bring down circulation time as close as possible to zero.

11.11 The Need to Extend Marx' Theory Reconfirmed

The era of Japanisation forces academicians and activists to seriously re-analyse the capitalist system, it even compels us to re-appraise our fundamental understanding of this social system. In '*Capital*' Marx presumed that industrial entrepreneurs would unwillingly dig their own grave, by bringing together thousands of workers under one roof, in one factory complex. Marx argued, as is well known, that capitalism itself created the collective worker who, more or less spontaneously, would strive to overthrow the capitalist system and build a socialist society. In one passage Marx did not hesitate to equate the very gathering together of workers in one and the same building or space with the new mode of production: "A greater number of labourers working together, at the same time, in one place (or, if you will, in the same field of labour), in order to produce the same sort of commodity under the mastership of one capitalist, constitutes, both historically and logically, the starting point of capitalist production."(30)

Yet in the modern Japanese model which has heralded a new phase in late capitalism, the number of workers corresponding to Marx' ideal, the collective worker, is brought back to a minority of the working class, to a minority also of the industrial labourers. Moreover, Japanese capitalists have upset Marx' very conceptualisation of stages in capitalist production. Marx, it may be recalled, conceptualised three stages. The historical phase of home-industries with its small, 'independent', producers working under the putting out system, was followed by the phase of manufacturing, in which specialised craft workers under the leadership of one boss would labour in the same workshop. This system of manufacturing according to Marx would be replaced by the industrial system where workers would be reduced to a mere extension of the machinery. Marx realised that home-industries and manufacturing would not be immediately abolished by the capitalist system, would temporarily survive. Thus, the production of clothing in England was characterised by "a medly of transitional forms". Yet history would favour the factory: "the variety of transitional forms, however, does not conceal the tendency to conversion into the factory system proper." (31)

Today's reality, i.e. conditions more than hundred years later, do not support the

schematic view propounded by Marx. Home-industries and mini-enterprises have not disappeared in the economically most powerful, over-industrialised country of the world, Japan. In fact, the continued existence of small subcontractors is purposefully aimed at by this country's large corporations. And although the mode of production in subcontracted firms admittedly cannot be equated with the one that prevailed in sweatshops in the earliest phase of industrial development, - any profound understanding of Japanisation cannot be acquired without analysing the comprehensive network of subcontractors which is profitably maintained by Japanese and other multinational companies. It indeed is a crucial task for political economists today.

Should one then conclude that Marx is outdated, that his understanding of capitalism was wrong? The tendency to reject Marxist economics is large at a time when the 'death' of Marxism is proclaimed in the western press. Anybody who continues upholding such ideas is branded an 'anachronistic'. I nevertheless hold, that the outright rejection of Marxism merely leads to intellectual disarmament, it leads to subordination under a system producing 'trained gorillas' and 'throw-away-labourers', instead of producing liberated human beings. As illustrated through the cited example of Marx' analysis of the turn-over time of capital, - his conceptualisation provides essential attributes for grasping recent developments in world capitalism. In fact, we can apply to the system of subcontracting the same analytical approach, as I have done in this study regarding women's labour: in order to fill blind spots in Marxism the inheritance of Marxism should rather be extended. (32)

11.12 The Mass Production of Consumer Goods and the Position of Women

So far scant references have been made in this Chapter to the impact of Fordism and Toyotism on women. Yet these two methods for the mass production of consumer goods have not left women unaffected. On the contrary. As we will see below, since the introduction of the assembly line and the conveyor belt in modern industries, women workers in fact have occupied a **central place** in the process of capital accumulation. They have crucially been affected by the two approaches of industrial enterprises to accelerate the turn-over of capital. Still, the literature on mass production methods has for long failed to differentiate between consequences for male and female workers. Only recently have feminists started to investigate the sexual division of labour in factories producing mass consumer goods.

One author who has undertaken a remarkable study on women assemblers is Miriam Glucksmann. As recorded in Chapter Four, Glucksmann has interviewed women who, during the 1930s, were employed in British factories producing household appliances and processed food. According to her, the introduction of 'continuous flow' process of production in Great Britain differed significantly from the USA. Whereas in the latter country, the use of assembly-lines in the motor industry "preceded their widespread adoption in the light consumer goods industries" (33), in Britain this was not the case. Here women were the first to be subjected to assembly lines and to machine-pacing through the conveyor belt system, namely in the sectors of electrical engineering and food processing. Thus, "women were the first to pioneer the class relations of assembly lines". According to Glucksmann, it was only after the Second World war "that male

workers in the British motor industry were subjected to the class relations of assembly-line work on a large scale." (34)

Moreover, even in the automobile sector women from early onwards occupied a key position which too has been overlooked by male researchers of the Fordist and Toyotist production methods. According to Glucksmann, during the 1930s women workers formed the bulk of the manual workforce in the manufacture of components and accessories in the automobile sector, and component industries "were often further ahead than the assembly firms" in their use of mass production methods. (35) Yet the literature on twentieth century management methods has for long tended to concentrate attention one-sidedly on the final assembly of cars in factory halls. Since final assembly has always been a male preserve, the literature has one-sidedly focused on men. Thus, Glucksmann, along with other feminist authors (36), has criticised the trend set by Braverman: ..ever since Braverman's *'Labour and Monopoly Capital'* was published in 1974, the central preoccupations of his followers have been firmly fixed on men. Not only have women workers been made no more visible than they were in traditional labour history, but the one-sided portrayal of the labour process distorts history by obscuring some of its most significant developments." (37)

11.13 Continuous Flow Processes to Produce Household Appliances and Packaged Foods

Glucksmann studied the evolution in five factories in detail. These included: two producers of packaged food (Peak Frean - biscuits; and Lyons and Co - cakes, bread and ice cream); a producer of gramophones (Electrical and Musical Instruments, EMI); a manufacturer of electrical irons (Morphy Richards); and, lastly, a producer of vacuum cleaners (Hoover). (38) Each of them adopted Fordist principles. In some cases, the rudimentary type of assembly-line work, where operators sat in a row, attached components and passed them on by hand, were introduced well before the 1930s. An intermediate stage could consist of the transportation of the product, still by hand, from operator to operator via a belt or band. But the "ultimate goal" to which employers in mass production industries aspired was the introduction of the moving conveyor belt, the speed of which could 'externally' be controlled, i.e. by management.(39)

Further, as in the case of the assembly of automobiles, the aim of introducing this form of mechanisation was quite clearly to shorten the turn-over time of capital. The moving belt system and the control of its speed, as Glucksmann states, gave the owners total control over production and permitted planned output to be automatically achieved.(40) Glucksmann consistently refers to the 'continuous flow process' of production to pinpoint the essence of the new system: "all impediments to the smooth and uninterrupted through-flow of work from beginning to end of the production process were to be eliminated along with all sources of waste (time, labour, physical effort)." (41) Clearly, as was the case in Ford's factories turning out cars, entrepreneurs in British factories turning out light consumer goods sought to eliminate "any potential source of lost seconds or minutes" (42) in between the various stages of the production process.

Moreover, Glucksmann's account brings out well that it was women, and not men, who in the given mass production of electric apparatus and packaged foods were

subjected to time-and-motion studies and machine-pacing, so characteristic of Taylorist management. Although the mentioned companies did employ male workers, none were subjected to the given methods of control, for in all the cases of mass production of consumer goods recorded by Glucksmann, the assembly-work was exclusively performed by female operators. Through time-and-motion studies production targets were set, and bonus schemes were devised to encourage women to work at maximum speed. Women who were employed in the packing section of the Peek Frean biscuit factory, interviewed by Glucksmann, for instance, recalled how the '*Bedaux* system' was introduced in the early 1930s. Under the system, a basic rate had to be achieved and all work in excess was paid at an extra rate, in the form of a group bonus. "This meant that the faster the belt moved and the more tins were packed, the more the group earned as a whole, since the each received the same bonus." (43) In Lions and Co, a time-and-motion bonus system was similarly imposed after '*Bedaux*' time-study engineers had been brought in.(44) .

11.14 The Sexual Division of Labour in the Production of Mass Consumer Goods

In the Chapter on garments' production in West Bengal it has been brought out, for a sector at a low level of technical development, that the sexual division of labour intersects with the detailed division of labour.(45) To understand the process for the production of *punjabis*, for instance, we had to scrutinize both the detailed division of labour, and the allocation of product tasks to women and men. This same point is brought out by Glucksmann for highly mechanized industries. The author not only sheds light on the hitherto ignored role of women in the production of mass consumer goods; she specifically analyses the sexual division of labour in these industries. According to the British author, "in practice the sexual division is always embedded in and interlocked with the prevailing technical division of labour." (46)

The pre-existing situation on which the Fordist methods of production were grafted differed from sector to sector. Electrical engineering had been a male preserve, but sectors like clothing and food processing had had a mixed labour force. Yet according to Glucksmann, the outcome of the transformation that took place in the 1920 and 1930s was in all cases quite similar: women ended up being the **direct producers** on assembly lines, whereas men were given responsibility for all **indirect**, i.e. servicing tasks, such as the arranging for the supply of components, the setting and repairing of machinery, and the inspecting of the final product. Whereas the new system did engender new jobs, such as the 'progress chaser', which jobs were allocated to men, all assembly tasks were exclusively allocated to women who held no other responsibilities. Thus, the first characteristic of the new sexual division of labour, according to Glucksmann, was that it coincided with that between direct and indirect producers in the factories.(47)

Two other features of the sexual division of labour are noted by the British author. First, women workers constituted a **homogeneous** group, whereas the male part of the workforce was **heterogeneous**. "Women formed a homogeneous group who were all in the same grade, with the same level of skill, all performing similar tasks and all receiving the same level of wages. Men, in sharp contrast, were in a much more heterogeneous position, spread throughout all the occupations and all the levels in the

division of labour, possessing various degrees of skill, engaged in many different kinds of work and being paid accordingly more or less." (48) Glucksmann uses the phrase 'women assembled' to transmit the fact that women held similar positions in the production process. Women were assembled as 'collective worker', they shared interests as a group, whereas men were divided by their position in the division of labour in the factory.

Lastly, the system of the conveyor belt also affected the patriarchal control which men as foremen and supervisors exerted over women. As Glucksmann recalls and is confirmed by other feminist studies on British industrial history, "in traditional manufacturing industry women machine operators had worked directly under the supervision of a male setter who held individual authority over her." (49) Under the assembly-line industries of the new era, women were still in a subordinate position, but the form of their subordination changed. Rate fixers, quality controllers and other men acted as agents of the control exerted through the conveyor belt. Thus, women "were much more directly subordinate to technical control than had been the case in earlier or other systems of production." (50)

Glucksmann's study is, as stated, a historical one and is not concerned with the evolution of the sexual division of labour under the latest, i.e. Japanese style of management. Yet her analysis could form a starting point for a comparative analysis of the sexual division of labour under the two mass production systems, Fordism and Toyotism. In the next Chapter I will briefly refer to the sexual division of labour in Japanese electronic companies today. As in the case of the British factories analysed by Glucksmann, women here continue to be relegated to tasks defined as 'semi-skilled'. It remains to be assessed whether other aspects of the sexual division of labour, mentioned by Glucksmann - i.e. the divide between direct and indirect producers, and between a homogeneous female and a heterogeneous male workforce -, apply to companies run along Japanese principles.

11.15 Summing Up - Need for an Innovative Trade Union Strategy

In this Chapter I have tried to provide a description and analysis of Japanisation/Toyotism, and have drawn comparisons with the Fordist system of mass production which emerged in the United States in the early part of this century. I have argued that the Japanese style of management possesses two decisive characteristics: the quality control circles of male and female labourers, intended to mentally subject them to the corporation's rule; and the structure of subcontracting which entails the transfer of production risks to the manufacturers of product components and the workforce employed by them. Those two elements are just as characteristic for Toyotism as were the conveyor belt and the stopwatch for Fordism/Taylorism.

A comparison with Fordism further teaches that some 'bottlenecks' which entrepreneurs have been trying to solve ever since the Industrial Revolution, under the system of Toyotism are 'solved' in an original manner. Ford and Taylor hoped to once and for all do away with the rebelliousness, the spirit of resistance of the working class, through introduction of the chronometer and the assembly line. They were out to regu-

late factory production in a way that would help uproot from the factory the struggle against capital, the struggle for a humane world. They succeeded only partly, - witness for instance the wave of socialist inspired class struggles which engulfed western European countries like France and Italy during the 1960s and 1970s. Hence the attraction exerted by the Japanese style of management: the physical expulsion of the bulk of the male/female labourers from the factory halls and the splitting up of the collective workers in numerous small, geographically separated units.

The Japanese regime, and its application by multinationals worldwide, has already heralded a new phase in the process of capital accumulation. For the future of the struggle for a viable world it is of crucial importance that this be fully recognised. The serial production of mass commodities is not abolished in a Japanised structure; on the contrary. The Japanese automobile and electronic companies - like just their American competitors - aim at standardised manufacture of mass products on the largest possible scale. (51) But in order to reach this goal the internal, hierarchical relations within enterprises, and external relations, are being profoundly restructured. "The terrible strength of Fordism", Benjamin Coriat wrote, "lies in its enormous speed". In a companies that are ruled by the norms of '*kanban*' , speed and inhuman pressure, are raised to unprecedented levels.

For the trade union movement of industrial workers - and here I not only have in mind the over-industrialised countries, but Third World countries like Mexico, Brasil and India as well - Japanisation has far reaching consequences. "Trade unions could be completely outmanoeuvred", a Dutch trade union official states. A exclusive orientation towards the labour aristocracy, or the collective worker, as trade unions, including progressive ones, have traditionally done, is not tenable. In such a strategy, the interests of only the most privileged section of male employees in fixed service are defended, while those of seasonal labourers, of temporary workers - and in particular of 's world's largest industrial reserve army, women, remain structurally neglected. This strategy is self defeating, for through external decentralisation entrepreneurs succeed in undermining the power of the whole working class. In short - the capitalist strategy of '*kanban*', of quality circles and subcontracting, poses the need to fundamentally reconsider trade union strategies, as is happening in several Asian countries. (52)