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Sociology of Work in India

Sharit K. Bhowmik

This paper attempts to examine the development of sociology of work in India.¹ It will lay greater stress on current research and will try to assess the discipline's position in academia and other fields. A brief background on the nature of Indian society, the process of industrialization in India and the subsequent emergence of studies relating to work will help in understanding the changing nature of the studies. This paper will concentrate mainly on researches related to the urban-industrial sector.

Nature of the Labor Force

India is the second largest country in the world in terms of population and has recently crossed the one billion mark. The last census, held in 1991, showed that around 25 percent of the population resided in urban areas and the rest in rural areas. The labor force in the country numbered 317 million in 1991. Of this a mere 8.5 percent (27 million) was engaged in the formal sector while 270 million were engaged in the informal sector. Women constituted one-third of those engaged in the informal sector and one-seventh of those employed in the formal sector. Around 185 million workers were engaged in the rural informal sector. The urban informal sector comprised around 95 million workers.

The distinction between the formal and informal sectors is crucial for understanding employment relationship. Workers in the formal sector are engaged in factories, commercial and service establishments. Around 70 percent of the workers in this sector are employed in government, quasi-government and public sector enterprises. The private sector provides employment to only 30 percent of the labor in the formal sector. The wages of formal sector workers are substantially higher

¹ Published as »India« (Chapter 7) in Daniel B. Cornfield and Randy Hodson (eds.), *Worlds of Work: Building an International Sociology of Work*, Kluwer Academic/Plenum Publishers, New York, 2002, pp. 131–151.

than those engaged in the urban informal sector. Moreover, a range of labor laws, guaranteeing permanency of employment and provision for retirement benefits, protect their jobs.

Though in principle labor laws in India are expected to apply to all sections of industrial labor, there are in-built provisions in these laws which exclude large sections of the labor force. The most important law regulating work in industries is the Factories Act. All other laws such as Employees State Insurance Act, Workmen's Compensation Act, Provident Fund and Family Pension Act, Payment of Gratuity Act, apply only to establishments covered by the Factories Act. This Act is applicable only to manufacturing units, which employ a minimum of 10 workers and which use power in manufacturing and a minimum of 20 workers if the unit does not use power. Hence a large section of industrial workers employed in small industries do not have legal protection in their work. We can thus see that the composition of the labor force in India shows wide contrasts.

Features of Society in India

A word on the nature of Indian society is necessary before we proceed further. India is a land comprising ethnic, religious and linguistic differences. These identities at times cause strain to the integrity of the country. Indeed, one of the main problems of the state is to integrate these various differences into the democratic fabric of the nation. A more important divide among the people is the specific nature of social hierarchy that exists in the country, which is known as the caste system. Caste as a form of social hierarchy is peculiar to Indian society. The gradation of castes is based on the degree of ritual purity a caste has in comparison to others. At the upper end of the system are the Brahmins who were scholars of the religious texts or priests. At the lowest end are those castes performing manual labor and activities regarded as unclean (scavenging, cremation of the dead, tanning and leather work etc.). These castes were regarded as untouchables.

The practice of untouchability is not very prevalent, as the Constitution of India has banned it. Moreover the Constitution grants positive discrimination to protect the interests of the former untouchable castes. These include special provisions for education and reservation of jobs in the government and public sector undertakings. Nonetheless other forms of caste discrimination persist.

Industrialization in India

Factory production started in India in the early part of the 1850s. The objective then was to export manufactured goods to markets in Britain. Factories were thus established in the port towns of Calcutta and Bombay (now known as Mumbai) to facilitate export. Cotton textile mills were established in Bombay and jute mills in Calcutta. Later, factories were established in Madras (now known as Chennai), another port town. One of the reasons for setting up industries was that costs of production were much lower in India as labor was available at very cheap rates. A couple of decades earlier, in 1839, tea plantations came up in the northeastern province of Assam. The tea produced was again for consumption in Britain.

The existence of cheap labor was mainly due to two reasons. First, the indigenous economy had been devastated with the introduction of colonial rule of the East India Company a hundred years earlier. During this period the local crafts were replaced by cheaper imports of factory produced goods from Britain. This led to the gradual rout of the rural artisans in the country. The peasants were no better off as in many parts of the country they were forced to cultivate cash crops, in the place of food crops, which were needed as raw materials for factories in Britain. Besides, the cultivators paid higher taxes due to the new types of land settlements and land revenue imposed by the colonial rulers. As a result, there was a general impoverishment of the rural population. These people served as pools of cheap labor when the factories came up.

The other reason for labor being cheap was that at the initial stages of industrialization the colonial government did not regulate work or wages. The workers were unorganized and the industrialists were able to make them work for long hours at low wages. Women and children were most affected in this system, as their wages were even lower.

The industrial base in India remained narrow during the initial years. The census of 1911 showed that there were around 800,000 engaged in the secondary and tertiary sectors. Of these 524,000 were employed in factories and plantations. In fact the jute industry and tea plantations employed 400,000 workers, namely, half the total labor force. The situation improved with the onset of the First World War in 1914. The war created a need for industrial goods and the colonial government sought to meet this by expanding the engineering goods sector in India. During this period the first steel mill was set up in Bihar in northern India. This region has an abundance of mineral wealth. The railways, introduced in 1860s primarily to carry raw materials to the cotton textile mills in Mumbai and the jute mills in Calcutta, increased its network (Gadgil 1982). These features led to the expansion of the working class. Moreover this gave an opportunity for the existing factory workers to be promoted to the ranks of skilled workers and supervisors, positions, which were

formerly held by Europeans (Mukherji 1945: 240). Hence changes occurred in the composition of the working class, which till then was composed mainly of unskilled workers. The inclusion of skilled and literate workers provided conditions for starting trade unions.

Studies on Work in Colonial India

Studies on the early phase of industrialization have been carried out mainly by economic historians. A significant study on the working class in Mumbai was done by Morris D. Morris (1965). Morris constructed the nature of work in the mills from their inception till the time of independence (i.e. 1947) from the various records of the employers associations and the government. His findings show that the Factories Acts of 1881 and 1891 were ineffective in regulating the work of women and children who remained the most exploited in the work force.

Workers were drawn from different castes and they formed themselves into clusters of similar status groups. Morris found that caste divisions among the workers were not exclusive and did not prevent members of different castes from working side by side with one another. In other words: recruitment to the work force was not inhibited by the traditional division of castes in the countryside and neither did this affect the functioning of the mill.

At the same time Morris' study shows that the attitude of the other castes towards the untouchable castes were radically different. Workers belonging to the untouchable castes were systematically excluded from the spinning section of the mill as neither Hindu nor Muslim workers were willing to work with them. The reason being that the worker has to wet the thread with his spit before threading it in the spindle. If a worker belonging to an untouchable caste did this he would pollute the cloth and no other worker would be willing to touch it. Morris however notes that there may be other reasons for this practice. Workers in the weaving section were paid the highest and they would like to consolidate this preserve for their kinsfolk or caste members. The inclusion of untouchable castes in this section would upset this monopoly. Hence they raised the issue of untouchability to exclude these people. Another major finding of Morris is that during the initial phase untouchables did not migrate to the mills. The shops with higher wages in the factories were dominated by the other castes. This also disproves Max Weber's suggestion that the labor force in India comprised »declassed and pariah castes« of the countryside.

A later study by Rajnarain Chandavarkar (1994) is equally significant. Chandavarkar has covered the period 1900–1940 but the scope of his study is broader than that of Morris. Though his focus is on the textile industry he also covers the small-

scale manufacturing enterprises, which mushroomed due to the growth of the large factories, the docks and the railways. Moreover, Morris deals mainly with the conditions of industrial workers and industrial relations within the factory while Chandavarkar included the living conditions, housing and settlement patterns in the working class areas of the city in his study. These two studies compliment each other in several ways. Morris has dealt with the issue of caste at the workplace and Chandavarkar's study lays considerable stress on the housing pattern of the different castes though the residences were similar in size. These were one-roomed tenements in large buildings, which were called *chamls* in local parlance. Chandavarkar's study shows that the different caste groups preferred to cluster in common buildings. This limited social intercourse among workers of different castes outside their workplace.

Historical studies on jute workers in Calcutta do not have the same sociological depth as the above two studies on Mumbai. The more important studies have concentrated on the working class movement in the early twentieth century when labor unrest was particularly high. A comprehensive study on the formation of the working class was done by Ranajit Dasgupta (1994). This study deals extensively with labor struggles and the trade union movement in the industry.

A significant but controversial work on this aspect is by Dipesh Chakravarty (1989). This work is identified with the subaltern school of Indian history. This school ostensibly bases its analysis on Antonio Gramsci's work on the role of subalterns. However this concept is used to counter the conventional Marxist approach of analyzing conflicts through class categories with an emphasis on political consciousness and collective action. The subaltern historians have tried to use an ideology based on Marxist thought (Gramsci) to counter traditional Marxist analysis. Marxist historians have used the materialist conception of history stressing on class struggle in relation to the socio-economic formation. The subaltern historians lay greater stress on cultural factors in analyzing struggles of the marginalized. They also tend to stress more on the specific nature of local events while minimizing the role of collective action at a larger plane.

The subaltern historians have concentrated mainly on analyzing peasant movements but Chakravarty is the first among them to extend this to the working class. In analyzing consciousness of the subaltern groups in the jute factories he stresses on the role of religion (of the workers), caste affiliations and cultural practices. A strong criticism of the subaltern approach can be found in a volume edited by Samita Sen and Arjan de Haan (1999). This volume, containing papers relating to the social history of labor in the jute industry, has an excellent introduction on the need for studying labor history. It stresses the fact that merely studying cultural processes without giving sufficient importance to the socio-economic formation can lead to one-dimensional and misleading research. Ranajit Dasgupta's paper in the volume

points out several wrong conclusions in Dipesh Chakravarty's work as he tends to misunderstand the cultural processes, which he has based his study on. The editors stress that besides the peasantry, the urban working class too played a decisive role in shaping the nature of politics expressed in the struggle for freedom from colonial rule.

The above proposition is in fact an important issue in social sciences in the country. It can be seen that a majority of works in contemporary history, sociology and politics concentrate on India's rural society. Studies on the urban-industrial sector are comparatively fewer. In sociology particularly, as we will see, one finds very few significant studies on the industrial sector. Whereas in reality though social problems in rural society affect urban society it is equally true that industrialization, however scanty and diffused it may be, has had a greater effect in transforming society in India. We shall discuss this aspect in more details when we take up contemporary issues.

An important section of the labor force in colonial India was in plantations and mines. The labor in these industries was different from those in urban-industrial areas as they belonged to the more impoverished sections of the peasantry. The work was strenuous and under difficult natural conditions. Bhowmik's (1981) study of tea plantation workers in North Eastern India (Assam and the northern districts of West Bengal) shows that these workers were largely drawn from tribal communities in Central India. Assam, the largest and oldest tea growing area in the country, used indentured labor in the early phase. In West Bengal the indenture system was not prevalent but, once recruited, labor was not free to leave the plantations. Wages were low and the living and working conditions poor. A tea plantation worker was paid half the wage of a textile worker.

Janaki Nair's (1998) study of workers in Kolar Gold Fields, the only gold mine in the country, elaborates on living and working conditions of mine workers. A large section of the workers were drawn from the untouchable communities in the region. These people initially saw work in the mines as an alternative from their exploited existence in the villages. However after working in the mines they were unable to leave because of several mechanisms, which tied them down. The most common of these was indebtedness to the moneylenders who charged exorbitant interests. The employers did nothing to ease this situation as indebtedness ensured that the worker continues to work till his debt was repaid. Nair also explores the role of caste in union formation. The socially conscious lower castes insisted that issues of untouchability should be tackled by the trade unions along with other problems concerning work.

During the colonial rule, Jamshedpur, a town in the north Indian state of Bihar gained importance as an industrial center as a large steel plant was established there in the early twentieth century. The region is mineral rich and has iron ore, and coal

mines. Two recent studies on this area (Bahal 1995; Simeon 1995) detail different aspects of the labor movement. Bahal's study is a scholarly documentation of labor recruitment policies and the growth of unionization. Simeon's study is similar but it lays greater stress on trade unions and nationalist politics.

The Post-Colonial Situation

After India attained independence on 15 August 1947, changes occurred in the industrial policy. India adopted a socialist model of development and accordingly tried to regulate the growth of industries to those sectors, which would lead to a growth of the country's infrastructure. India also adopted the idea of central planning from the Soviet Union and placed emphasis on heavy industries. This led to the growth of the public sector as the new large industries were initiated through the government and, in most cases, with foreign collaboration. After 1956 large-scale industries for the manufacture of steel and heavy electrical equipment were established through the public sector. Mining, especially coal, iron ore and mica, was expanded. These were expected to give a boost to other industries.

Major changes in industrial policies occurred since 1985. The Prime Minister then was Rajeev Gandhi, the son of Indira Gandhi and the grandson of Jawarharlal Nehru. Soon after assuming office he announced that India had to »march to the twenty-first century« and radical changes needed to be made in the industrial policy. The first measure was of reducing bureaucratic controls on expansion of industries in the private sector. Restrictions on foreign collaborations in private enterprise were reduced. The culmination of this approach was on 21 July 1991 (after the assassination of Rajeev Gandhi) when the new government laid down its Industrial Policy Statement before Parliament which was a major departure from the past policies of the earlier governments. This marked the beginning of structural adjustment and liberalization of the economy.

Studies on Work after Independence

During the first decade or so after independence there were hardly any sociological studies on industry or labor. Sociologists – Indian and foreign – concentrated more on studying villages. It was only in the late 1950s that a few sociologists turned their attention to studying industrial labor. During the same time the issue of labor commitment was raised by some American sociologists. It was believed, that the growth

of industrialization in developing countries was hampered by a labor force, which was unused to an industrial way of life. Two major publications, one edited by Wilbert Moore and Arnold S. Feldman (1960) and the other by Clarke Kerr et al. (1960), put forth this view. These writers argued that non-industrialized countries, like India, had features in their social structure, which impeded commitment of labour to industry. These features include a closed system of stratification, emphasis on primordial loyalties, religious values, strong attachment to land etc. Moore and Feldman (1960: 1) noted that »commitment involves both performance and acceptance of the behavior appropriate to an industrial way of life.« Kerr observed that a committed worker is one who stays on the job and who has severed major connections with land. These studies tried to compare the situation in developing countries with those of the developed industrialized countries, using the features of the labor force in the latter as the model.

The above propositions were general observations and were not specifically related to the labor force in India. They could apply as well to countries in Africa, Indonesia or any other industrializing country. The implications were quite clear: labor in developing countries was not committed to industry because it had strong attachment to agriculture and because there existed social institutions, which were particularistic and not universalistic.

A number of studies carried out in the 1960s, mainly by sociologists and social anthropologists, proved the contrary. These were all micro studies providing intensive qualitative data on the subjects studied. Richard D. Lambert (1963) studied workers in five factories in Poona (now known as Pune) in Western India. While studying the general situation in Poona, he found that workers engaged in small factories where wages were low and there was hardly any social security were apt to change their jobs. When these workers secured employment in large factories where employment was secure and wages higher, they seldom left their jobs. For these workers factory employment implied lifetime commitment. In fact the workers were over-committed. At the same time they showed no signs of transforming their attitudes and social relations. They viewed their jobs in the same way as they viewed their traditional caste occupations where the specialist (the worker in this case) serves the patron (the industrialist). Lambert thus found that traditional culture was consistent with industrialization.

A study by N. R. Sheth (1958) of a factory in the early 1960s is regarded as an important contribution to industrial sociology in India. This was an anthropological work, which viewed the factory as a composite (functional) unit. His findings were based on observation. Sheth found that rather than impede commitment, traditional culture could in fact promote commitment. Recruitment of the labor force was based on particularistic norms of obligation to caste and kin that were bound by ties of personal obligation. Workers accepted obligation to their supervisors as religious

duty. He also found that the functional stability of the system was re-enforced by the caste system. Sheth concluded that there was no contradiction between traditional values and industrialism.

There were other studies, which explained the problem differently. Mark Holmstrom (1976), in his study of workers in three factories in Bangalore, argued that the attitudes of factory workers in India are not very different from workers in developed countries. Over-commitment can be interpreted as a result of the general insecurity of getting permanent employment outside the formal sector rather than a carry over of traditional attitudes. Morris David Morris (1965) in his historical study of textile workers quoted earlier had found that the turnover in the factories was very high indicating that the labor force was unstable. However, Morris noted that this instability was mainly due to better wages in offered in some of the mills and other employment opportunities in the city and not due to the pull of the countryside. Charles A. Myers (1958) suggested that managerial policies were equally responsible for promoting or impeding labor commitment. When management adopted short-term policies of increasing profits through low wages and exploitation at work, labor turn over was high. His study of a cotton mill in South India showed that labor turn over and absenteeism dropped sharply after management introduced welfare measures. B. R. Sharma's (1971) study of an automobile factory in Mumbai found that workers who were engaged in monotonous, short cycle work were less committed while skilled workers engaged in maintenance and tool making showed greater commitment to their work. In either case, traditional culture was not a barrier to commitment.

The studies dealing with the problem of labor commitment were important contributions to understanding attitudes of workers towards work. Most of these studies became important texts for students in management institutes and industrial sociology in the country. Another important contribution to the sociology of work was the study of trade unions and industrial relations. We shall discuss some of these studies in the following section.

Studies on Trade Unions and Industrial Relations

Though factory production started in 1850s trade unions made their appearance at a much later stage – in 1918, after the First World War. The first federation of trade unions was founded on 31 October 1920 and was called the All India Trade Union Congress (AITUC). After its formation the colonial government became more cautious in dealing with labor and attempted to grant some concessions. The government passed the fourth Factories Act in 1922, which reduced the working day to

ten hours and in 1926 the Trade Union Act was passed which provided for registration of trade unions. Till the time of independence the divisions in the movement were mainly concerned with its role in the freedom struggle.

After independence the movement started splitting on ideological, particularly political, lines. Almost all trade unions in the country are linked with political parties. When the political parties split their trade union fronts also are split, thus fragmenting them further. There are at present seven recognized national trade union federations. A federation gains recognition as a national federation if its constituent units have a collective membership of 500,000 or more and this membership is spread over at least four states and in four industries. Each of these seven national federations, with the exception of one, namely, Hind Mazdur Sabha (Indian Workers' Council), is linked with a national political party. Besides there are several other federations, numbering over a hundred, which operate at the national and regional (state) levels or in specific industries. Multiplicity of trade unions and involvement of political parties in the union are considered the two main weaknesses of the trade union movement in India. Another significant feature of trade unions is that the leadership (*viz.* the important office bearers) consists not of workers. In most cases they are whole-time activists of the political party to which the union is aligned with. This has its advantages in the sense that the outside leader cannot be victimised by management in the manner which an internal leader can be. At the same time the disadvantages are that these leaders may not be able to assess the real problems of the workers.

Two major publications on the growth of trade unions were by Chaman Revri (1958) and Sukomal Sen (1979). Both publications are well researched and can be regarded as important starting points for studies on trade unions. The earlier studies had linked them with the problems of industrialization and industrial relations in independence India. One such study was by Oscar Ornati (1955). This was a comprehensive study of labor and industrial relations. It included analysis of the framework of industrial relations and wage legislation among other issues. Three studies on trade unions are regarded as important contributions. These are by V. B. Karnik (1966) who was a trade union leader belonging to the HMS, V. D. Kennedy (1966) and H. Crouch (1966). The latter two were Fulbright scholars from USA. All three works were published in the same year by the same publisher (which no longer exists) and they stressed on the need for independent trade unions. Independence, in this case, was of political parties. These studies argued that involvement of political leaders (especially from the Communist Party) were diverting trade unions from their original goals of defending workers' interests. Instead political leaders manipulated workers to back their political ambitions. The studies provided insights into the working of trade unions, their involvement in politics and their relations with government.

The above studies on trade unions and industrial relations were mainly based on secondary sources or on surveys and were done by labor economists. E. A. Ramaswamy's work on the textile industry in Coimbatore (Ramaswamy 1977) was a pioneering study in sociology. This was an in-depth analysis on the functioning of trade unions and was based on intensive fieldwork. It explored the relations between the trade union and its members and it contradicted some of the current beliefs on trade unions.

Ramaswamy found that trade union unity cuts across caste loyalties. In times of industrial conflict workers supported their trade union even in factories where the majority of the workers belonged to the same caste as their employers. This was different from N. R. Sheth's position, noted earlier, as he found that caste was an important factor in maintaining stability. Another important finding related to trade unions and political parties. Ramaswamy found that the influence of the political party on the trade union was restricted to the general elections where the supporters of the trade union were expected to vote for their political candidate. Political influence was not felt in the day-to-day functioning of the trade union, especially while tackling work related issues. The union leaders adopted a pragmatic stand in tackling problems between workers and the management. The political affiliation of the union leader did not influence his decisions. Mark Holmstrom's (1976) study of workers in Bangalore, quoted earlier, though not focussed on trade unions, found that workers loyalties to their union was stronger than their caste ties. Both studies used social anthropological method of observation for data collection.

Ramaswamy's contribution to the sociology of work is not restricted to trade unions. He later conducted a study on industrial relations by analyzing two major strikes in Madras (Ramaswamy 1986). He found that the power exercised by the state overrides objectivity in industrial relations. He noted that though the state has tried to protect the interests of labor through a series of legislations, in times of conflict between labor and capital, the state invariably supports capital.

This view is re-enforced in the case of the Bombay Textile Strike in 1982–1983. In this strike, over 250,000 textile workers in the metropolis struck work for 18 months, which made it the longest strike involving the largest number of workers. It ended in failure mainly because the state firmly backed the textile mill owners. This strike has been documented by Rajani Bakshi (1987) and Hubert Willem Maria van Wersch (1992). The former is a journalist who reported extensively on the strike for a Calcutta based newspaper and the latter is a social anthropologist who collected his data through observation, by living among the workers.

One of the major problems of the trade unions is that they are unable, or unwilling, to expand their base to sectors outside the formal sector. For example, within the formal sector there is an informal sector comprising casual and contract labor which is not covered by the laws granting protection and job security to

workers. A study conducted in 1992 (Davala 1993) found that in eight major industries in the country the casual and contract labor outnumbered the permanent workers. Yet, in most cases, these workers were not unionized. In fact in some cases the trade unions viewed these workers with suspicion and as potential threats, as management could manipulate them easily and counteract work stoppages through them.

The trade unions affiliated to the national federations do not appear to be interested in unionizing workers in the informal sector. A study by Davala (1995) based on data from secondary sources showed that workers in the informal sector constituted less than one percent of the total membership of the seven national federations. This is despite the fact that employment in the informal sector has been growing while it is declining in the formal sector due to the strategies adopted by large firms. Most of these firms use the putting-out system to save costs. Instead of manufacturing the entire product in their own factories, these firms prefer to farm out products to the informal sector.

Mark Holmstrom (1986) did a detailed analysis of the links between the two sectors. He saw this as a complimentary division of labor between the large-scale and small-scale industries. The small-scale sector finds its market within the large-scale sector. Labor and factory laws are not applicable to the small scale sector which reduces costs of production. Labor productivity in the small enterprises is low, but costs are reduced due to the low level of wages. The larger firms are thus able to procure their products cheaply.

The growth of heavy industries with a higher level of technology, since the 1960s created a new section of workers, who were in many ways different from workers in the traditional industries such as textiles, jute, plantations and mines. They had higher levels of skills, which were acquired through technical institutes, their wages were higher and they did not come from traditional working class backgrounds. A study of workers in the Bokaro Steel Plant, a large public sector enterprise, showed that the workers were drawn from the rural middle classes (Bhowmik 1991). These workers were fairly involved in trade union activities at their workplace but they showed a totally different attitude towards another section of the working class, namely, agricultural workers. They were opposed to increasing wages or benefits for agricultural workers as they were landholders in their respective villages, who required the services of agricultural labor. The trade union leaders too did not try to overcome this barrier.

An interesting case of trade unions not being able to understand the aspirations of these technical workers can be seen from a case study of a strike in Bangalore in 1978 (Subramaniam 1980). These workers were from the Mico Bosch factory, a multinational company manufacturing spark plugs. Introduction of new technology had increased the pace of work and the workers demanded that they be given relief.

Another grievance of the workers was poor transport from the city to the factory. The trade union declared a strike on these issues. The union insisted that a fatigue allowance be given as workload had increased. The workers on the other hand were well paid and they wanted a reduction in the workload and not more allowances as compensation. Similarly the workers wanted the company to provide for transport from their homes to the factory and back but the union negotiated for a higher transport allowance. The strike was a failure and the union leaders could not understand why the workers were not interested in higher allowances.

Similar cases can be found in E. A. Ramaswamy's study of a spinning mill in Coimbatore (Ramaswamy 1994). Ramaswamy studied this unit for two decades and he was able to note the changing attitudes of the management, the workers and the unions. In this case too the aspirations of the workers, especially during the later stage of his study when wages had increased substantially, and the actions of the unions were mismatched.

One of the major weaknesses of trade unions is that they have not been able to change their strategies to counter the manipulations of the employers (Sherlock 1996; Bhowmik 1998). The problem has become more acute after the liberalization program. Traditional means of redress such as strikes and other forms of work stoppage are ineffective. The unions need to develop new methods of intervention such as demand for industrial democracy or even provide support to new types of ownership such as worker co-operatives and employees' stock options. These aspects have been dealt in detail in two issues of the journal *Seminar* (1995 and 1997).

Work and Technology

We have seen in an earlier section that one of the preoccupations with sociologists in the 1950s and 1960s was exploring the relationship between traditional cultural practices and work in the factory. The more recent problems in this context revolve around the role of changing technology and work. The studies on this subject cover different aspects of the consequences of changing technology on work. The more important ones are on workers response to new technology and the impact of technology on women workers. The subject of flexible specialization has drawn some attention.

The impact of technology on work has been dealt with in cases studies presented in a book edited by Amiya Bagchi (1994). Unfortunately most of the studies in this book take a critical look at different industries using microelectronics in their production process, they do not necessarily deal with the response of the workers. There are a few significant studies in this book. One of them, by Bagaram Tulpule

and R. C. Datta (1994) examines the textile industry where air-jet looms have been introduced. The authors find that the cost of implementing new technology is relatively higher in this industry as labor cost is lower. Hence new technology does not really help the management in cutting costs. Another paper by Datta (1999) on the use of new technology in the textile industry shows that management do not make substantive gains in reducing costs through new technology. Efficiency is also not increased substantially. Hence in some industries management do not adopt new technology as it does not necessarily improve quality nor does it increase profits.

Workers response to new technology is discussed in a study by Lakshmi Nadkarni (1998). The author has studied a few factories in Pune and has interviewed the workers extensively. She finds that workers in general are not opposed to the introduction of new technology, as they know that this is one of the means of improving the products. They felt that they should be given training so that they could cope with technological change. These responses are different from those of the trade unions, which opposed new technology as it could displace labour. The impact of technological change on locomotive drivers in the railways has been examined by M. S. Kitchlu (1999). This dissertation examines the changes in the family life, health and involvement in trade unions of these workers in a divisional office. He has tried to examine how workers and their families cope with the changed situation.

The issue of flexible specialization was first raised by Mark Holmstrom (1993). He argued that the Italian experience of small industries using microelectronic machinery could be the future for India's industries. He studied the electronics industry in Bangalore (which came to be known as India's silicone valley) and found that it has a potential of emerging as the 'high road' to flexible specialization. The small industries used Computerized Numerically Controlled (CNCs) machines and Computer Aided Design (CADs) to manufacture high precision equipment. The labor they employed was highly skilled, like those in the large industries. Other studies (Laurisden in Bagchi 1994; Das/Panayiotopoulos 1996) showed that most small industries used the 'low road' of flexible specialization which comprises low technology and low skilled, low paid labor.

The impact of new technology on women workers has been studied by some social scientists. Fernandes (1997) has discussed the problem in the jute industry in Calcutta. The traditional industries such as jute, cotton textiles and mines had more than 20 percent women in their workforce till the 1920s. This has been reduced to less than four percent at present. These women occupy the lowest levels of unskilled labor. There are several factors responsible for the decline of employment of women in the formal sector. It can be seen that as wages increase and job security and social security measures are granted, employment of women decreases. At the same time employment of women in the informal sector has increased. As men-

tioned earlier, the 1991 census that only one out of seven workers in the formal sector is a woman whereas in the informal sector one-third of the workers are women. The studies of Uma Kalpagam (1994) and Nirmala Bannerji (1991) in this field are noteworthy. Yet it is a fact that not much research has been done on women and work in the formal sector and much more needs to be done.

Institutional Development of the Discipline

There are a number of research institutes, which deal with the problems of work. In this section we shall briefly note the type of work done by some of them and the journals, which deal with the subject. At the national level, the V. V. Giri National Labor Institute run by the Labor Ministry of the Government of India is the apex institute for labor studies. It has a strong research component and it has undertaken significant studies on child labor, women workers and workers in the informal sector. Another important institute in Delhi is the Sriram Institute of Human Resource Development. This institute conducts research on various aspects of industrial relations. It also publishes a journal, *Indian Journal of Industrial Relations*, which is the only one of its kind in the country. The Centre for Education and Documentation (CED) is an NGO, which is engaged in research on labor problems. It publishes a monthly journal, *Labour File*, which deals with a specific aspect of labor in each issue. The Department of Personnel Management and Industrial Relations and the Centre for Labour Studies at the Tata Institute of Social Sciences, Mumbai is also known for its contribution to work and technology.

There are a few regional labor institutes which concentrate on their respective states or regions. Two prominent institutes of this type are, Maharashtra Institute of Labour Studies, Parel, Mumbai and Mahatma Gandhi Labour Institute, Ahmedabad. The former has built up a formidable reputation in labor research in western India while the latter is regarded as the premier institute of its kind in the state of Gujarat. Both institutes are run by their respective state governments.

Some of the national trade union federations have research institutes, which have undertaken useful studies. The most prominent is Maniben Kara Institute of Labour Studies. This institute is run by the HMS and it has done significant research on wages, port and dock workers, railway workers and workers in the informal sector. The Ambekar Institute of Labour Studies is run by the Rashtriya Mill Mazdur Sangh (National Mill Workers' Organisation), which is at present the representative trade union of the textile industry in Mumbai. It has undertaken research on the textile industry and garment manufacturing units. The contribution of the India office of the Friedrich Ebert Stiftung, Delhi, has been very useful in the promotion

of labor studies. This organization has supported several research and training programs for labor. Most of its publications (some of which have been quoted in the paper) have high academic content but are written in simple style so that they are understood by trade union activists.

Besides the journals mentioned above two more journals need to be mentioned for their contribution. These are *Indian Journal of Labour Economics* and *Economic and Political Weekly*, the former is published by the Indian Society of Labour Economics and the latter is the most widely read academic journal on social sciences in India. It has a bi-annual supplement, *Review of Labour*, in which five or more research articles are published. It also carries research articles and commentaries on labor in its regular issues.

Labor researchers, academics and practitioners have started their own professional organization known as Indian Society of Industrial Relations. This organization publishes a bulletin for its members and hosts conferences and seminars on issues relating to managerial and labor problems.

Concluding Observations

As a discipline industrial sociology, which includes sociology of work, has a lot of potential in the country. It is offered either as a compulsory or an elective paper in nearly all the universities where sociology is taught. Besides, most management institutes, especially those specializing in human resource development and personnel management, include industrial sociology in their curriculum. There are however areas which have not been researched adequately. Two major identifiable areas are: work and technology and, work in the services sector. Both areas are extremely relevant in the present situation of economic liberalization and structural adjustment. The paucity of studies on the impact of changing technology on work and work organization is felt by anyone teaching industrial sociology or sociology of organizations as one has to rely on studies conducted in the countries of the north. These may not always be ideal for interpreting the situation in India. There is hence a need to study the changes taking place in production organizations with the introduction of new technology. A number of the conflicts between management and labor are caused due to this. Technological changes not only affect the nature of work but also social relations outside the realm of work. Studies of these situations could help in a smoother adaptation to technological change.

In recent times it can be seen that the large-scale manufacturing sector has declined as production is carried out in the small-scale sector through a system of outsourcing. The former industrial metropolis like Mumbai and Calcutta no longer

provide jobs in the industrial sector. There is a shift instead to the services sector and to white collar employment in these cities. India has at present 28 million plus cities and the number will increase in the future. With the exception of a few, these cities largely provide employment in the services sector. The problems of this sector have not been adequately studied by sociologists. In fact studies on work in the services sector could well provide insights into the general problems of urbanization in the country. For example, religious, caste and ethnic tensions have increased in urban areas. In most cases it is concluded that certain political, communal or caste groups cause these conflicts. However studies on the changes in occupations, nature of work, working conditions due to a shift from the production sector to the services sector may provide a better understanding of the causes of urban unrest. Sociology of work could thus become a relevant tool for not merely understanding the internal structure of organizations but also for understanding the rapidly changing social processes in the urban context.

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Appendix

List of Major Institutes

1. V. V. Giri National Labour Institute, P.O. Box 68, Sector 24, NOIDA, 201301
Contact person: The Director
Phone: 91-118-91-4535168, Fax: 91-118-91-4532978, Email: vvgnl@vsnl.com
2. Sriram Institute of Industrial Relations & Human Resources Development,
4 Safdar Hashmi Marg, New Delhi 110001
Contact person: Mr. J. S. Sodhi, Executive Director
Phone: 91-11-3352410, Fax: 91-11-3351953
3. Centre for Education and Communication, 173 A Khirki Village,
Malaviya Nagar,
New Delhi 110017
Contact person: Mr. J. John, Director
Phone: 91-11-6232755, Fax: 91-11-6286842, Email: edit@labourfile.org,
webpage: <http://www.labourfile.org>
4. Indian Society of Labour Economics, c/o IIMR Building,
Mahatma Gandhi Road,
I.P. Estate, New Delhi 110002
Contact person: Dr. Alakh Sharma
Phone: 91-11-3358166, Fax: 91-11-3319909, Email: ihdisid@del3.vsnl.net.in
5. Indian Industrial Relations Association, c/o International Management Institute,
B 30/31 Qutab Institutional Area, New Delhi 110016
Contact person: Dr. C. S. Venkata Ratnam
Phone: 91-11-6863701, Fax: 91-11-6867539, Email: imi@gisd1o1.vsnl.net.in
6. Friedrich Ebert Stiftung, K-70B Hauz Khas Enclave, New Delhi 110 016
Contact person: Dr. Pravin Sinha
Phone: 91-11-6561361, Fax: 91-11-6564691, Email: pravinsinha@fesindia.org
7. Participatory Development Unit, B5 Oberoi Apartments, 2 Sham Nath Marg,
Delhi 110 054
Contact person: Ms. Pritikusum, Executive Secretary

- Phone: 91-11-3957732, Mail: pdu@mantraonline.com
8. Maharashtra Institute of Labour Studies, Dada Chamarbaughwala Road, Parel, Mumbai 400 012, Maharashtra
Contact person: Dr. S. T. Sawant, Director
Phone: 91-22-4135332, 4133798, Fax: 91-22-4133085,
Email: mils@bom3.vsnl.net.in
 9. Mahatma Gandhi Labour Institute, Thaltej, Drive-in Road, Ahmedabad 380052, Gujarat
Contact person: Director General
Phone: 91-79-443890
 10. Maniben Kara Institute of Labour Studies, Shram Sadhana, 57 D. V. Pradhan Road, Hindu Colony, Dadar (East), Mumbai 400 014, Maharashtra
Contact person: Mr. Vasant Gupte, Director
Phone: 91-22-4144336, Fax: 91-22-4102759, Email: mki@vsnl.com
 11. Ambekar Institute of Labour Studies, Mazdoor Manzil, G. D. Ambekar Marg, Bhoiwada, Mumbai 400 012, Maharashtra
Contact person: Mr. G. B. Gowde, Chief Administrator
Phone: 91-22-4146861, Fax: 91-22-4151664, Email: assa@bom3.vsnl.net.in
 12. Department of Personnel Management and Industrial Relations, Tata Institute of Social Sciences, Deonar, Soin Trombay Road, Mumbai 400 080, Maharashtra
Contact person: Dr. R. C. Datta, Head of the Department.
Phone: 91-22-5563290, Email: rcd@tiss.edu

Journals

1. *Indian Journal of Industrial Relations*, Address: Same as Sriram Institute.
2. *Indian Journal of Labour Economics*, Address: Same as Indian Society of Labour Economics.
3. *Economic and Political Weekly*, Address: Hitkari House, 284 Shahid Bhagat Singh Road, Mumbai 400 032, Maharashtra, Email: epw@vsnl.com,
Webpage: <http://www.epw.org.in>
4. *Labour File*, Address: Same as Centre for Education and Communication.
Webpage: <http://www.labourfile.org>