LABOUR IN CONFLICT:
BETWEEN
CAPITAL INTERESTS AND
THE MAINTENANCE OF IDENTITY

On the Reformulation of Control in the Context of
Industrial Sociology

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Abstract

The analysis of the relations between technology, organization of the labour process and authority have continually been of central interest to industrial sociology in the Federal Republic of Germany. Research approaches, however, have been strongly characterized by technological and, more recently, by economic determinism. With the introduction of American control-approaches political aspects of the organization of the labour process were first brought to the fore. Yet discussion of the problem of control was limited to the firm's perspective and its solutions to the regulation of labour efficiency. In particular the assumption was made that computer technologies represent an additional source of power for capital. These approaches are seen to be lacking in that they fail to recognize the employees' own claims to control over working conditions. A theoretical foundation for such claims to control can be developed using the concept of identity. It is attempted here to show that restructuring of the labour process on the basis of microelectronic computer technologies often makes it difficult for employees to maintain their identity and that, as a result, control strategies from the side of capital can be more easily realized.

Zusammenfassung

Die Untersuchung des Verhältnisses zwischen Technik, Strukturierung des Arbeitsprozesses und Herrschaft stand durchgängig im Zentrum des Interesses der Industriesoziologie in der Bundesrepublik Deutschland. Die Forschungsansätze waren jedoch stark von einem technischen und in jüngerer Zeit von einem ökonomischen Determinismus geprägt. Erst mit der Aufnahme amerikanischer Kontrollansätze traten erstmals politische Momente der Organisation des Arbeitsprozesses in den Vordergrund. Allerdings beschränkte sich die Diskussion auf die Perspektive des Betriebes und dessen Lösungsversuche des Kontrollproblems. Insbesondere wurde davon ausgegangen, daß die mikroelektronischen Computertechnologien eine zusätzliche Machtressource für das Kapital darstellten. Diese Forschungsansätze sind insofern als unzureichend anzusehen, als sie eigene Kontrollansprüche der Beschäftigten hinsichtlich der Gestaltung ihrer Arbeitsbedingungen unberücksichtigt lassen. Eine theoretische Begründung solcher Kontrollansprüche wird mittels des Konzepts der Identität entwickelt. Dabei wird zu zeigen versucht, daß die Restrukturierung des Arbeitsprozesses auf der Basis der "neuen Technologien" die Identitätsbehauptung für die Beschäftigten häufig prekär werden läßt und in der Folge Kontrollstrategien von Seiten des Kapitals leichter durchgesetzt werden können.

Content

1. Changing Perspectives of the Relationships between Technology, Organization of Labour and Authority

For the first post-war generation of industrial sociologists in the Federal Republic of Germany the central object of inquiry was the set of relationships between technology, structure of the labour process and authority. In particular, the interest in authority did not occur by accident. On one hand it allowed a continuation of Max Weber's sociology of authority, on the other hand, with the introduction of proportional co-determination in the coal, iron and steel industries, decisive changes in the firm's authority system began to appear, the societal consequences of which were to be analyzed. However, tendencies of restoration which set in at the beginning of the fifties indicated that a serious revolution within the authority system of enterprises in the Federal Republic of Germany was out of the question. The extension of proportional co-determination beyond the sphere of the coal, iron and steel industries had run aground.

That the expectation of a fundamental post-war change soon evaporated was not without consequences for the development of industrial sociology. It succinctly pointed out that early post-war research approaches were characterized by a strong technological determinism and a strange trust in the 'emancipatory' function of industrial technology (Lutz 1975, 25). In this connection it is certainly not irrelevant that Marxist theory, to which the first generation of West German industrial sociologists felt bound, is characterized by deterministic elements (Thompson 1980); use of an American 'human-' and 'industrial relations'-research approach was practically non-existent. The argument put forward by Marx - even in his early writings - that labour divides and organizes itself according to the tools employed, can be regarded as a fundamental idea of an early (classical) inquiry by Popitz et al. (1964) on the nature of cooperation in industrial work. The authors make their assumptions on the relationship between technology and forms of cooperation within the labour process as such: "... in human contacts there is always a third element in alliance: technology with its equipment, machines and apparatus. This third element penetrates

the social structures, modifies them, is a precondition that these and not other forms of cooperation come into being" (Popitz et al. 1964, 72).

In contrast to extremely critical positions regarding technology as they were formulated in the philosophy of technology of the 1920's and 1930's, the first post-war generation of industrial sociologists trusted that technological change would not lead to a subordination of working people but, on the contrary, would open up opportunities for effective co-determination. Advanced technology, it was argued, forces rational forms of organization of labour and leads quasi-automatically towards a dismantling of traditional authority positions (Lutz 1975, 25).

A proponent of a more conservative orientation in West-German industrial sociology arrived at a very similar conclusion, although the necessity for co-determination is denied on principal grounds (Schelsky 1961). With technological development, so the argument goes, social relations become increasingly rational. In particular there is a tendency towards a de-personalization of authority relations. According to Schelsky's view the relaxation of personal authority is clearly to be observed in the industrial firm. Such a form of authority, it is maintained, no longer exists; the supervisors' task would only be to provide the framework for uninterrupted and smooth running of the technological apparatus. In other words there is a shift in the exercise of control from the supervisor to control as materialized in technology. This change in the agent of authority is not refused by the employees because the technological rationality of the apparatus gains more and more plausibility and hence the expectations of performance required by the technology are accepted to be legitimate.

As a consequence, the proponents of the two positions outlined above concentrate on an analysis of objective tendencies in the development of the relationships between technology, labour organization and authority. A theoretical perspective oriented towards the subjects of the labour process, however, remains beyond the horizon of such a technological determinism.

West-German industrial sociology in the 1960's and 1970's arrives at less definite conclusions concerning questions of authority and control. Kern/-Schumann (1974), with their argument of "polarization of working conditions", though partially revised recently (1984), destroy not only the hope articulated in Germany but also in France (Touraine, 1955) and the USA (Blauner, 1964) that technological change leads towards a collective emancipation of labour.

On the other hand some inquiries question the deterministic character of technology. Kluth (1959), for instance, as a result of an investigation of the mineral oil industry, postulates relative independence of the organization of labour within the firm from the technological design of the production process (c.f. Lutz 1969). Gradually the view began to prevail that the organization of labour and the authority relations manifested in it cannot be conceived of as simply an appendage to technological development nor as a process exogenous to society. West-German industrial sociology thus turned to the issue of how social processes and interests lead to a specific technological and organizational structuring of production. Though this meant an omission of the extremly mechanistic implication of technological change and the concomitant dismantling of traditional authority characteristic of early post-war industrial sociology, there are deterministic elements yet to be found in the contemporary shape of the discipline due to its reception of marxist and system-theoretic traditions. A good example comes from the more ambitious theoretical approaches currently being pursued in Germany. It draws upon, on one hand, the approach of the Frankfurt Institute of Social Research (Brandt et al. 1978; Benz-Overhage et al. 1982) based on ideas of Sohn-Rethel (1970), and on the other, the approach developed by the Munich Institute for Social Research (Altmann/-Bechtle 1971; Altmann/Bechtle/Lutz 1978).

Investigations by the Frankfurt Institute are based on the assumption that specific technological and organizational structures correspond to the dominant form of societal synthesis. In distinguishing different principles of social integration reference is made to Sohn-Rethel's categories of 'market', or 'value-economy' versus 'production-', or 'time-economy' (Sohn-

Rethel 1972). A central argument of the approach is the assumption that in the era of developed capitalism production or time economy gains weight compared to the market economy. This means an increasing reorganization of the process of production based on the economy of time even though this process involves contradictions and countervailing tendencies: "In contrast to the market economy the economy of production, i.e., time, may be characterized as the social integration of the labour process no longer establishing itself indirectly via the market but by the integration of production; the latter constituted by the sum of work-tasks reorganized in terms of time, still by means of a differentiated cost-calculation (Benz-Overhage et al. 1982, pp.41).

Sohn-Rethel suggests a link between the growing pervasion of the production process by the economy of time and an increasing autonomy of the labour process with regard to the conditions of capital utilization. While he regarded the economy of time orientation as having commenced in Taylorism, he saw the increasing autonomy of the labour process as the nucleus of a coming socialist society.The current members of the Frankfurt Institute, on the contrary, interprete the predominance of the principles of time economy along with the diffusion of computer technology as an increase in what Marx has called 'real subsumption' ('reelle' in contrast to 'formelle Subsumtion') of labour under capital. As relates to the topic of authority and control this means, primarily, highly directed work performance with a corresponding diminution of individual options to act and an increase in the efficiency of performance controls - partly in the form of an objectivation (strictly process controlled), partly in the form of an intensification of work (Brandt et al. 1978, pp. 112, 367). Though it is admitted that the development described is no straightforward process, the deterministic character of this approach manifests itself in the view that the increasing subordination of human labour under the apparatus of production organized on capitalist principles, or in other words, the increasing real subsumption of labour under capital, is a definite fact (Brandt 1981, pp.47). Technological determinism is replaced here by a kind of economic determinism.

More comprehensively, questions of authority and control are conceived of by the Munich Institute as the so-called 'strategy-approach'. The notion of strategy ('betriebliche Strategien') is of central importance in this theory. The fundamental assumption is that the firm, in order to ensure maximal utilization of capital and to stabilize the existing asymmetry of power, is always required to shield itself from disadvantageous environmental conditions and external interventions by means of strategies aiming at the protection of autonomy. Such strategies of autonomy may be oriented towards a direct control of the firm's external environment by price or production agreements with unions, by influencing policy makers towards favourable decisions or by eliminating market fluctuations through long-term contracts. Strategies of 'technization' and 'organization' are oriented towards the protection of autonomy in the internal sphere of the firm. These latter strategies are directly aimed at the utilization and control of labour power. Both endeavours, however, can never be realized in a perfect way. In spite of intensive efforts to keep autonomy vis á vis unfavourable influences and dependencies, the firm always remains dependent on the utilization of its environmental resources, of reliance on labour power, capital, raw materials, machines, political power etc. and continually produces new dependencies. An excessivly regulative 'grip' or restriction as regards the utilization of labour power comes into contradiction with the firm's need for innovative achievements and may result in a diminution of profitability.

Consequently, efficient utilization of capital and the securing of authority as the final goals of firm strategies for the establishment and defence of autonomy may come in conflict with each other. Firm strategies then are developed as recurring attempts to react to objective conditions in an optimizing manner. Such a view clearly avoids the assumption of an authority and control structure within the firm which is determined by an unequivocal logic of development. Nevertheless even the strategy approach rests on an "objectivistic bias" emanating from a rather specific interpretation of the notion of strategy. Firm strategies have a mediating function

between societal conditions and the firm's purposes of capital utilization and stabilization of authority. They are expressions of purposive action under particular environmental circumstances and are, accordingly, deducible from objective conditions and structures of interest. In such a rational model there is no room for a perspective from the side of the subjects, i.e., the individual actors, since their consciousness is identified with objective conditions and structures of interest in a reductionist way. Consequently, the process of conflict resolution occurring during the search for strategies remains unconsidered. Employees appear only as factors in a calculation either to be reckoned with or as a potential for disturbance, but not as the carriers of their own interests in the control of the labour process.

As always, the behaviour of management and employees in the dominate research approaches among West-German industrial sociology is merely conceived of as a phenomenon deduced from organizational and technological structures. Accordingly the interest of inquiry turns to the factors and principles determining behaviour. Yet there is no lack of remarks concerning the need for an actor or subject related theoretical perspective. Lutz for instance, as a consequence of a critical reflection on early contributions in industrial sociology, arrives at the following conclusion: "The behaviour of employees and management ... increasingly appears as social action which may be traced back to observable and deducible particular interests and which itself creates conditions with which the counterpart has to reckon and to which it has to respond. Management and employees of the firm in this perspective are to be regarded as actors in a system which cannot be crudely described as a mechanistic copy of pre-formed and independently changing structures; they become carriers of more or less elaborated 'policies', which themselves enter the constitution of firm reality and co-determine the historical process" (Lutz 1975, pp.27; underlining by the authors).

Such remarks however, remain largely without consequence for theory building since a theoretical point of departure for such an action-

theoretical concept was not introduced. Only the problem of transformation of labour power into realized labour, as placed in the foreground by American control approaches, offers the opportunity for a systematic development of the rudimentary elements of a subject-related analysis (Braverman 1974, Edwards 1979).

2. On the Centrality of 'Control' in More Recent Analyses of the Labour Process

Like the theoretical concepts discussed above the so-called control-approach focuses on the labour process and its structural changes. Such a priority is legitimated by the immanent incapability of the labour contract to define the rights and duties of the participants in sufficient detail (c.f. Offe/Hinrichs 1977, 21). The contract certainly contains as the two essential elements (1) "an agreement on the wage rate (either per unit of time or per unit of output), i.e. a wage rate bargain and (2) an agreement on the work to be done, i.e. an effort bargain (Behrend 1957, 505). The performance to which the employee is committed and for which the employer is ready to pay the wage, however, is merely outlined (Baldamus 1961). There are no concrete tasks, no detailed performance descriptions, nor a specific work behaviour defined.

At most a general willingness of the employee to use his/her abilities for purposes defined by the employer can be regarded as an element of the contract. Of course the employee has some idea of his/her expected role as a result of general social knowledge which represents implicit performance expectations but he/she has by far no perfect fixation of performance requirements. The labour contract thus contains only general specifications and expectations; the concrete contribution in achievement which the employee has to bring forth in the labour process remains largely indeterminate. It is characteristic then for the labour contract to define social relations which, at least as far as performance is concerned, are marked by a high degree of indeterminacy.

This indeterminacy of performance certainly brings some advantages for the employer since he can arrange the use of labour power in a relativly flexible way. At the same time he cannot be sure that his expectations connected with the purchase of labour power, e.g. intensity of work, effort and quality of performance, will be realized without problems. From the contract the employer indeed acquires the right to dispose of, for a certain time, the worker's capacity to do work. But he cannot, as was already noted, claim from this right a performance which is a priori quantitatively and qualitatively defined. Therefore, once the wages-for-time exchange has been made, the employer must strive to extract actual labour from the labour power he legally owns. However, the fact that the possessor of labour power has the opportunity to influence the actual performance both quantitatively and qualitatively is in tension with managerial expectations since the factual disposition over his capacity to do work remains in his hands. Indeed the labour contract includes on behalf of the employee not only the abandonment of labour power for a certain time but also some willingness to accept work goals set by someone else. This does not mean, however, that one can assume an indifference of wage labourers regarding their conditions of work or even their absolute subordination under the claims for performance and achievement brought forward by capital. Having made the manpower utilization decision and hence a decision over the conditions of reproduction, the signing of the contract institutionalizes a sphere of conflict, in which contradicting claims for the same object are focused and where a definite compromise between similar rights must be found (Offe/Hinrichs 1977, 21).

According to the control approach the conflict over the expenditure of labour power is not at all decided in favour of capital a priori. This constrasts clearly with the approach of the Frankfurt Institute and its argument of an increasing 'real subsumption' of labour under capital. To them it constitutes a kind of historical law. On the contrary, from the indeterminacy of performance inherent in the nature of the labour contract and the associated institutionalization of structural conflict, a specific problem of control is deduced both for employer and employee. It is relevant that with this situation certain elements of uncertainty are present

for both parties (Jürgens 1983, 62). On the one hand the employees' presumptions about the structuring of the labour process and hence also the utilization of their labour power must be regarded as a potential threat in the firm's calculation of costs and profitability as any attempt to realize such claims may lead to disturbance of the production process. Likewise the firm's personnel planning contains elements of uncertainty for the employees. Chances to apply one's qualifications, demands in terms of work load and income expectations are being fixed and may oppose the interests of the possessors of labour power. Each of the two parties owns power due to the fact that his counterpart can be confronted with a situation of uncertainty in the pursuit of vital interests when purchasing or selling labour power (c.f. Crozier/Friedberg 1980; Czarniawska 1983, 22). The ownership of such a power on one side creates need for control on the other. Generally speaking, processes of control have the purpose of restricting the counterpart's power in order to reduce uncertainty. Formulated more specifically, the intention of control processes stemming from the 'expenditure of labour power conflict' is to narrow or even totally exclude the counterpart's sphere of autonomous decision and action. Thus conceived of as an object of social conflict any deterministic position is disavowed and the control approach takes on a pronounced political orientation (Schienstock 1983a).

In this kind of control analysis, however, strategies on the side of capital are in the foreground. The behaviour of employees is merely regarded as a derived counterstrategy, that is, as reactions to capital's endeavours for control (Edwards 1979; Czarniawska 1983). For the present such a perspective means a one-sided cognition though it has received some indirect support in recent empirical findings. Schumann et al. (1982) in a West-German investigation in ship-building, for instance, arrive at the conclusion that workers in the shipyards are conscious of a deficiency in working conditions and have vague ideas of change but their attitude towards technological change is characterized by a kind of 'conservatism in labour politics'. The enforcement of their own claims for control then aims merely at a defence of the actual status quo.

Nevertheless such a concept is too narrow theoretically since it excluded the assumption that employees develop independent strategies with respect to the assignment of their labour power a priori. Often the idea is expressed that, along with a general change of values, attitudes towards work and a willingness to accept the demands of labour alter as well. This at least opens up a perspective in which the development of employees' autonomous strategies for control become the topic. In the following arguments this theoretical deficit is taken up again and a conceptional enlargement of the control approach will be suggested. Beforehand the firm's control strategies and their changes in form resulting from technological change shall be inspected in more detail.

3. The Historical Change in Forms of Control: Computer Technology as a new Ressource of Power for Capital?

Control may be exercised by the firm essentially in three forms: "by directly influencing a target's behaviour (supervision), by structuring a situation so that certain and no other behaviours are being chosen (ecological control) or by influencing perception and preferences (ideological control)" (Czarniawska 1983, 11).

These types of control may largely be seen as an historical succession as illustrated by Edwards (1979). Early forms of industrial organization of labour show only rudimentary division of work. The worker as artisan still possessed the whole knowledge of a complex labour process and therefore was able to decide, largely autonomously, on quantitative and qualitative aspects of his own labour power assignment (Mickler 1981, pp. 26). Control by the firm in this stage is only possible on the basis of personal supervision and physical sanctions; both, however, to a very limited extent. The firm's control strategies consequently aimed at an expropriation of the knowledge of the labour process. This can be demonstrated by the examples of Taylorism and Fordism: Taylorism subordinated the qualitative expenditure of labour power to the firm's control by division, standardization and pre-structuring of work tasks. In doing this the preconditions for a control of

personnel assignment with respect to intensity is constituted. If Taylorism rests on the introduction of fixed work quotas to be done ('Pensumarbeit'), so Fordism brings an increase in the firm's potential to control work intensity by structuring the work situation through technological and organizational means. The control potential in Fordism is, in terms of time and content, fixed in the independently functioning machinery. Associated with such control is not only the exclusion of opportunities for autonomous arrangements of work but also of an individual work rhythm (Friedmann 1953). Structural change of the production process set in motion by Taylorism and Fordism ensured, in terms of intensity, the immediate control of the mode of utilization and assignment of labour power by capital. Previously this could be enforced only by coercive measures or indirectly by means of the wage system.

In principle one can see a continuation of strategies of ecological control in the ongoing restructuring of the production process based on micro-electronic computer technology and the associated rationalization of the organization of labour. However, it does not seem to have been definitely decided whether or to what extent a shift in control potentials is brought about by the diffusion of the so-called 'new technologies'. It is often held that they represent a new source of power in the hands of management which allows for a comprehensive control over processes of production, services or administration never possessed before (Shaiken 1980; Seltz 1983; Olson/Lucas 1982).

Drawing upon an example from mechanical engineering, some aspects of such new control potentials may be illustrated. There is evidence for an increasing restriction of autonomous work paralleling the use of new computer technologies. This erosion of autonomous action is directly connected with the extension of the autonomous capacity of machinery overtaking functions of control (automatic control). Machine functions are no longer steered by the worker but by data and commands external to the labour process itself. Since the machinery in principle operates autonomously, i.e., independently from human interventions, a differentiated network of objective time and task structures can be successively established which

determine the requirements for intervention by the production workers (c.f. Hildebrandt/Seltz 1984). Detailed work tasks are then pre-structured in terms of time in order to ensure an optimal integration of technological processes. As a result human action takes on the character of an 'event' since it is deprived of subjective interventions. As 'events' they can be related to other interventions on the basis of the economy of time, i.e., interrelated to 'chains of events' that are fed back to the actors as behavioural directives. In such a machine-determined work situation one can see a qualitative increase of the firm's potential of control.

A rise in the firm's control potential is above all brought into play by the increased vertical integration of the various operations constituting the production process which computer technology enables. For instance, with the use of CAD/CAM-systems, it is possible to establish a direct connection from the technical designer's drawing-board in the engineering department to the manufacturing of components without the interference of human actions. In this way programming at the workplace can be immediately integrated with the process of construction. On the basis of such a vertical integration not only machine operators but also programmers lose autonomy of action, control over the production process and work behaviour shifts to the level of technical design and hence facilitates central control (Shaiken 1980).

Indeed, an increase in the firm's control capabilities through the use of computer technologies is also derived from the growing extension of the expropriation of knowledge and of the determination of behaviour with regard to white collar workers. At least when working on simple cases which allow for pre-structuring, a number of checks and decisions by the official in charge are apt to be programmed. This makes individual case-work more transparent and the required time can be fixed in greater detail; work becomes both qualitatively and quantitatively open to determination and control by the firm.

Along with the diffusion of information technologies, however, certain opposing tendencies which contradict the argument of a one-sided increase

in control potential appear as well. In banking and insurance operations for instance, along with the introduction of data processing on a dialogue basis, a reorganization of labour may result where the complete care of a client is integrated in the work role of a single employee. Such an arrangement means less divided work but also makes higher demands on personnel. Since the quality of advice is to a large extent dependent on the available information regarding decisions, immediate access to a comprehensive data base and, accordingly, an enlargement of decision options may be required (c.f. Dirrheimer 1982). As a result the possibility of pre-structuring work-roles as an aspect of control is to a large extent hindered.

Other evidence from the mechanical engineering and machine industry in West-Germany points in a similar direction. Growing technological flexibility and the associated possibility better to respond to market requirements allows for smaller batch production. Correspondingly the use of CNC-machines enables the restructuring of production, where, in contrast to the earlier high division of labour, the work role is comprised of the development and modification of machine programmes, production scheduling, machine adjustment and operation. As well, skilled chemical and automobile industry workers are often applied as a productive force by designing more complex work roles for them (Kern/Schumann 1984). Developments such as 'programming at the work-place' not only bring a tendency towards a certain intellectualization of tasks but would also set limits to types of ecological control (c.f. Sorge et al. 1982).

More generally it may be noted that, parallel to the demand of more complex tasks which cannot be solved by a specific algorithm, rigid technological control loses its applicability. The search for optimal solutions to actual problems is directed by human actions in a dialogue with machinery. Technology can provide assistance in decisions but the search behaviour is in the hands of the individual. In so far as work means the solution of complex problems the employee must necessarily be admitted more autonomy in his (her) decisions and correspondingly a decentralization of decision-making. Yet in the case of working on complex problems the use of information technology opens up the opportunity for detailed monitoring

and reconstruction of decision processes. Behaviour in problem solving can then be evaluated and sanctioned positively or negatively.

The arguments briefly outlined above should have shown that one cannot definitely maintain a general shift of control, brought about by the introduction of computer technologies in favour of the firm's management. The appearance of new problems of control, however, cannot be overlooked. The increasing substitution of human labour by machines and the restructuring of production on the basis of criteria owing to the economy of time create multiple disturbance potentials. Human labour becomes reduced to marginal but strategic functions and hence upwardly revalued with respect to guaranteeing an uninterrupted process of production. Moreover the diffusion of computerization of the labour process leads to a displacement of man from immediate production into the sphere of construction, production scheduling, programming etc. Despite opposite tendencies of rationalization taking place even in these areas, this development may, with some caution, be interpreted as a process of the 'intellectualization' of labour. The character of work shifts towards problem solving. Tasks of this kind are associated with more complex demands for qualifications which, even by means of a particular organization of labour, cannot easily be brought under control.

Such problems of control cannot be solved by the firm through a strategy of 'ecological control'. Therefore it is attempted, by applying so-called 'social technology' (Kubicek 1983), which focuses on extra-workplace value orientations ('extrafunktionale Eigenschaften und Orientierungen'; Offe 1970) of the employees, to orient behaviour a priori towards the firm's purposes, i.e., to use the means of ideological control. The ideal form is self control on the basis of internalized goals capable of compensating for deficits in technological and hierarchical control. To the elements of this strategy belong, for instance, attempts to create, even far away from the firm context, not only an atmosphere of acceptance but, ideally, an enthusiastic attitude toward work related technologies (e.g. through the establishment of computer camps, computer competitions etc.).

4. The 'Subjective Factor' Taken Seriously: Independent Claims of the Employees

Taking up again the topic of changing perspectives on the relationship between technology, organization of labour and authority, one can state the following about more recent control approaches in industrial sociology: despite their progress vis á vis deterministic and objectivistic positions they fail to exhaust the advantages of their own theoretical point of departure. By grounding the necessity for hierarchical coordination, i.e., control, in the problem of transforming abstract labour power into actual work, the direction of performance and the devices used for it become an object of social conflict. This structural tension, however, is later on merely analyzed from capital's perspective of pursuing the goal of control which recurrs as a result of changing external conditions and employees' resistance. The very agents of the labour process, already recognized within the conflict model as occupying a central position, only enter the analysis as a restriction to capital's strategies and hence again merely as an object.

Regarding such a one sided perspective, there need not be objections as long as it is understood as a conscious limitation in the framework of a pragmatic step-wise organization of the research process. A systematic absence of an analysis from a 'subject perspective' (a perspective which regards the employees not merely as objects but as subjects of the labour process), however, must be considered as a theoretical deficit on various grounds:

First it restricts the research area to the question of how the function of control is realized by the firm while ignoring the question of claims brought foreward by the very agents of the labour process. In doing so it represents a one-sided cognition of interest.

A second essential argument is that, in neglecting an analysis from a subject perspective, why particular arrangements of control are accepted by the employees in contrast to others cannot be explained satisfactorily; nor can the conditions for the stability of such compromises or the reasons for manifest resistance be identified.

Third, there are empirical reasons which suggest the inclusion of a subject-focused analysis. In particular this is brought up by the increasing tendency in the firm's control strategies towards an internalization of control through influencing behavioural dispositions and patterns of values and attitudes.

Our basic argument is that by enlarging the traditional control approach with a subject perspective a problematic gap in this paradigm may be closed. In the following section we will attempt to outline how an analysis from the subject's (employee's) perspective can be developed. Our point of departure begins with the assumption that employees carry their own claims to the conditions of work, their own conceptions of work, i.e. their own views of reasonable burdens in work demands, restrictions of autonomy and control of work performance - however different their formation may be. The extent to which employees are indeed able to maintain their interests as subjects of their work vis á vis capital's strategies of control thus becomes the new focus of the control analysis.

Early contributions to German industrial sociology from a pronounced subject perspective were, in the mid 70's, characterized by a clear normative element and should be understood in the context of their relationship with public programmes for the humanization of working life setting in at the same time. The model of a 'dynamic industrial sociology' developed by Fricke (1975), for instance, represents an analysis oriented towards the identification of opportunities of change within industrial working conditions. Aiming at more humane forms of work, the potential for employees to alter work forms stands at the center of Fricke's conception. He identifies humanization of work with realizing autonomy in the work-role. Yet his empirical evidence on the sources of innovation within the working environment of technical engineers in mining do not support the assumed aspirations to autonomy. Thereafter Fricke concentrates on the encouragement of innovative behaviour by means of experimenting with various work structures and establishing autonomous work-groups.

Moreover, in recent years one can find other examples of an explicitly adopted subject focussed perspective without being biased by normative or voluntaristic positions. Among those the social-psychological consideration of the individual perception of work experience based on the notion of identity (Volmerg 1978) represents a main point to be taken up within our intended enlargement of the control approach. Other subject-related contributions developed in research on work load originate from the category of 'work views' (Brock/Vetter 1981) or from the concept of 'coping' (Schienstock 1983b). The investigation of Schumann et al. (1982) on the conditions of work in ship-building is grounded on an analytical approach labeled as 'workers' perspective' which comes close to our conception of a subject perspective. Additionally, the orientation of Becker-Schmidt's et al. analysis (1983), in a study on female factory workers, concentrated on the notion of 'ambivalence' of work orientations and the subjective meaning of work.

Though the above examples are not exclusively limited to the employee perspective, but also contain an examination from the firm's perspective, analysis of the two is scarcely related. With the control approach the two perspectives may in principle be brought together. Our purpose will be to unfold a subject-focussed perspective in more detail. In particular, a core concept is needed which, as a pendant to the structural notion of capital interests (requirements of efficiency and authority), captures the claims of living labour. Such a concept should be free from normative elements yet able to take into account the heterogeneity of biographical experiences, work orientations and potentials of activation as formed by biographies and the actual 'Lebenswelt'. We shall argue in the following section that the concept of identity is the better candidate among several alternatives.

5. Maintenance of Identity as an Antipole to the Pursuit of Capital Interests

The formation and maintenance of identity as a basis for the conception of analogous claims to control on behalf of employees introduces a subject-focused perspective to the control approach which avoids a purely normative foundation. This would not be true in the case of those reasonable alternatives grounded on a need-theoretical approach, e.g. starting from a need for 'autonomy'. Reverting to the role-theoretical conception of identity in the tradition of symbolic interactionism, striving for identity can be substantiated on structural grounds. The various dimensions of identity have been systematized by Goffman (1967) in his differentiation between social, personal and ego-identity. Ego-identity constitutes itself through 'role distance' by means of a mediation - requisite in every process of interaction - between personal identity (biography) and social identity (role assignment). It may be paraphrased as "the subjective feeling of one's own situation and one's own continuity and individuality which an individual acquires by and as a result of his various social experiences" (Goffman 1967, 132). Extensions of this theory of identity by Habermas (1973) and Krappmann (1972) point out more clearly the 'balance' between asserting personal identity and taking into account expected social identity. In this synthesis the constitution of the ego-identity appears in form of an identity balance. The structural foundation of this 'striving for identity' is based on the assumption that the background of ego-identity, acquired biographically, is the central prerequisite of acting in complex systems of action and is again and again activated a new.

Another advantage of the concept of identity as the guiding principle for a subject-focussed perspective has been evoked already, i.e. its dynamics. Since identity represents a comprehensive concept of personality - developed as a biographical product of particular self-images, capacities, needs and defence mechanisms for its support - it is subject to change. Thus, identity must be regarded as something variable, that is, dependent on external social experiences. The individual biography enters each new interaction in the form of a personal identity; every experience

of interaction, i.e., each completed cycle reshapes the ego-identity and adds to the biography. Requisite for this is a certain ability of the subject to synthesize (Geulen 1977, 129). With these qualifications the identity concept conceives of the individual as coping with social experiences, in particular with work experiences, and thus highlights the grasping for control in a more lucid manner. Since the concept of identity relates subjective and objective structures to one another via an interaction process, the dynamic relationship of tension between the claims for control on behalf of capital and employees can be regarded as having a substantial conceptual foundation.

Certainly the notion of identity as the focus of a subject-oriented perspective may also be subject to some weaknesses. Any impression that it is static or that it exudes an inherent conservative character in the conceiving of claims on behalf of the vary carriers of the labour process should have been refuted by the arguments brought forward above. Other analytical objections against the concept of identity, for example its being a pronounced bourgeois category and thus commending abstract individualism, could be answered by the inclusion of an examination of the formation and maintenance of collective identity.

The dynamics of the maintenance of identity as an antipole to the firm's interest in control contains the possibility that, via experiences enforcing identity (both inside and outside the sphere of labour), a more aggressive position is taken with regard to the 'grip' for control. Exactly the opposite, however, may also occur leading to an injury of former identity and to a situation of retreat and powerlessness. Identity is indeed relatively independent from the actual work experience as is substantiated by the ability to maintain identity for a certain time even under restrictive and stressing conditions of work. The individual cannot, however, cope with enduring limitations to his/her self-conception without leaving scars in his/her identity. For instance, when day after day burdens in the working-life or the exceptional situation of unemployment are suffered, resulting in a long-term blocked opportunity to realize one's expectations and claims, the danger of an adaption or even destruction of identity arises (c.f. Volmerg

1978, pp. 57). Thus, in view of the control systems installed by the firm, the maintenance of both individual and collective identity must be regarded as problematic on principle grounds.

Of course one has to admit that, for the maintenance of identity, defence mechanisms are available and often employed. The mode of their formation and the intensity with which such potentials are activated, however, depend again on the existent background of identity (as a particular structure of characters, abilities, needs and interests). Categories of threats to identity, consequent reactions and their effects, represent, accordingly, a wide spectrum. They extend from adaptation in its numerous forms (e.g. endurance by 'turning off' personal claims during work performance, retreat to sickness, self-ascription of sufferance etc.) to forms of resistance or countervailing strategies, showing considerable variation as to their degree of rationality, formalization and aggressiveness (e.g. 'go slow', 'following work orders to the letter (but no further)', absenteeism, sabotage, refusal to work, initiatives of shop stewards, strike, mutual agreements among employees, etc.). The question than becomes one of what opportunities do employees have, as subjects of the labour process, to maintain their identity vis á vis gradually increasing control strategies on behalf of capital. This will be evaluated next with respect to the impact on the control potentials of both parties in the labour process as it is brought to bear by the new microelectronic computer technologies.

6. Chances to Maintain Identity in Face of the Diffusion of 'New Technologies'

The contradictory trends presented above regarding the control aspects involved with the introduction of new technologies into the labour process may be recapitulated as follows: As indicators of an intensification of control, we have mentioned a) a tighter binding of human actions with machine processes, b) an increasing transparency of the labour process on the whole, c) a rising vertical integration and, d) extension of technological control to white collar work. As counter-tendencies to an increased control

'grip' have been recognized, a) various forms of reintegration of individuals into less differentiated work-roles, b) a strategic revaluing of marginal human functions as well as, c) indications of a certain intellectualization or growing importance of activities taking on the character of problem-solving. With these factors the internalization of control as an attempt to manage new problems of control gains weight and leaves open questions about the maintenance of individual and collective identities in the modern labour process. Thus a more differentiated perspective and better substantiated conclusions will be striven for with supplementary empirical results.

In an attempt to operationalize the concept of identity for these purposes, an orientation along the dimensions suggested by Schumann et al. (1982) is offered. Schumann commences with a differentiation between a 'labour power perspective' and a 'subject perspective' in a narrow sense. The labour power perspective characterizes the components of identity related to the structure of interests pertaining to the wage labour relationship; the subject perspective, in a narrow sense, refers to those of the subject in his/her entire existence.

As regards identity within a frame of reference defined by the conditions of wage labour, the interest to preserve the psycho-physical condition of labour power is above all a central concern. Thus it relates to the ensurance of the current as well as long term reproduction in order to preserve chances for the continued sale of labour power. The exhaustion of human capacities by the firm's performance demands and by the environmental characteristics of the labour process, as well as the exceptional experience of unemployment, represents potential threats in this respect. These factors gain importance with the diffusion of the new technologies.

As regards the first aspect, i.e., exhaustion within the labour process, a change in the structure of work loads corresponds to the modernization of labour, which, as a tendency, represents a shift from physical to psycho-cognitive loads (Brandt et al. 1978). This indeed means, on the one hand, a decrease of heavy physical-motoric efforts. On the other, however, physical exhaustion appears increasingly in the form of one-sided requirements

and lack of motion together with rising psycho-mental work loads (over-or undertaxing of perception and reaction activities, stress arising from increased responsibility for critical operations which, if mishandled, could result in high consequential damage, etc.). This is particularly the case with work at computer terminal screens. Exhaustion of labour power due to these circumstances (to which a tendency towards an extension of shift-work has to be counted) receives a distinct reinforcement from elements owing to the firm's claims for control: indirect or diffuse forms of control as well as intensive surveillance, discipline through process control, rigid linkage with technological systems and machine rhythms and, finally, devices for mutual control among employees, contain increased psycho-mental stress.

Keeping labour power well prepared in order to provide favourable conditions for its continuous sale is more or less threatened from a second source. Labour saving use of new technology contributes much to the persistent high rates of unemployment in most OECD countries. The perception of an increased probability of unemployment as well as the recognition of a decrease in the chances for advancement under conditions of an oversupply of labour produces psychic destabilization. Even more acute the immediate experience of unemployment, made more so with increasing duration, is of momentous impact for the psyche of the afflicted individuals. It can extend to complete discouragement and demotivation. Such real as well as anticipated threats to the wage labourer's existence create an increased willingness to make compromises vis á vis capital's performance demands. Examples would be a lower resistance to accepting control systems as well as a predominant interest in protecting the workplace at the expense of wage interests and qualitative aspects of the work.

The affection of another essential interest dimension of the labour power perspective, interest in the preservation and extension of qualification potentials, is indeed less clear. More recent empirical evidence shows rather heterogeneous patterns of development for both the production and service sectors. For the core sector of production a tendency characterized as 'external polarization' has been indicated: segments of industrial workers

('rationalization winners') gain profits along with the realization of new production concepts. These concepts contain a renewed appreciation of skilled labour and a reintegration of different work functions into vocation characteristics with more comprehensive qualification demands. At the same time a growing number of production workers ('rationalization losers') are threatened by lay-offs or must aquiesce to less qualified work (Kern/-Schumann 1984). The maintenance of the achieved level of qualification by the reintegration of work functions, even when based on strategies of alternative work arrangements (e.g. programming at the workplace, auto-nomous groups, decentralized production scheduling, quality circles etc.), is less likely to be realizable given the increasing use of computer technology as a means to integrate the production process as a whole (Benz-Overhage et al. 1983, pp. 336).

As concerns service labour, the rationalization of the office has not yet reached its culmination; however, there are indications that the process of change in organizational and technological structures leads to a dismant-ling and devaluation of certain activities and task areas. A de-qualification of white collar workers has not yet occured to a large extent (Hörning/-Bücker-Gärtner 1982, 60). Of serious consequence, however, is the growing relevance of formal training within the firm which parallels the diffusion of new technologies. Dependence on a single firm increases with the selec-tion criteria applied in the recruitment for such training-programmes, the subsequent process of socialization and, in particular, with the firm-speci-fic character of the achieved qualifications: the inter-firm transfer of qualification tends to be impaired and behaviour which is loyal to the firm promoted. As a consequence the firm's access to control is improved, employees's control over their human capital, however, is reduced.

Aside from identity as a wage labourer, the relationship among new tech-nologies, control strategies and the opportunity to have the person as a whole acknowledged in his/her labour, i.e., to maintain identity in the true sense of the word, is of primary interest here. The question then is to what extent the solution of the firm's control problem at the most advanced

level of technology affects the employee's entire personality and how he/she behaves vis á vis these conditions. The hypothesis which we shall attempt to substantiate by empirical evidence is the following: With the diffusion of new technologies on the basis of microelectronics one cannot expect an unequivocal trend in the change of working conditions; yet a number of indicators must be noted which point out that the maintenance of identity for the concerned individuals is slowly being injured.

A first argument for this assumption is given by the afore mentioned more direct affection of the psycho-cognitive sphere: it is, on the one hand, expressed by the shift in the structure of work loads towards the nervous and cognitive system or the psycho-mental sphere; on the other hand, in the growing importance of ensuring loyality, of influencing attitudinal and behavioural patterns or, more succinctly, in the internalization of control. The specific quality of labour requirements in computerized work becomes clear through an analysis of perception activities at such workplaces.

One can differentiate sensomotory, interpretative, communicative and interactive processes of perception. Rose/Jansen (1981; 1982) provide both a detailed theoretical explanation and comprehensive empirical evidence from an investigation of an editorial staff, clerks and machine operators using computerized assistance (displays, NC/CNC-machines). The results indicate injuries to each of the perception activities mentioned in that perception activity occurs not in its entirety but in a partite form. The degree of abstraction of the work process as a whole increases to a point where it is no longer readily conceivable by the individual worker. As a consequence, short-term memory becomes the only active element in the individual's work tasks. Problem-solving recedes in favour of mere task-solving. In workplaces affected by computerization, a diminution of acquired abilities often had to be suffered as a consequence of severly reduced variability of perception activities. Additionally, an increase in indirect control mechanisms which are not visible to the employees induced insecurity and anxiety and, as a consequence, often resulted in 'learned helplessness'. As feelings of autonomous control and social competence decrease, the phenomenon of learned helplessness can eventually result in

changes of the personality and damages to identity. In addition to learned helplessness and the shift towards an internalization of control, an increasing pressure towards an adaptation of identity comes to the fore. A result of the 'smooth control mechanisms' is, indeed, often assisted by the diminishing visibility of the technological or organizational causation of work loads, a tendency towards self - ascription of inconveniences in well-being.

A second reason for the assumption of a growing problematic over the maintenance of identity is the growing injury of cooperative relationships, i.e., the reduction of structural opportunities to interact and communicate within work - a development paralleling the increasing 'man-machine-communication'. This emanates from an increase of direct linkages to machinery and a prestructuring of activities, on one hand, and from a shift from active communication with colleagues to passive, machine-induced interactions (Rose/Jansen 1982, pp. 8), on the other. Reduced chances for interaction in work performance promote social isolation and counteract more then just the consciousness of collective identies. Due to the socialization function of work performance characterized by technological communication, tendencies of erosion and adaptation of identity must be expected. One can even notice a kind of 'suction effect' brought on by the predominance of technology and manifest in terms of technologically formed patterns of thought, speech and behaviour (e.g., the computer hack syndrom). On the other hand the increase in computerized means of work, often due to the associated impact on working time structures within the firm, results in a disturbance of extra-work social life: The increasing propensity to introduce shift work in reaction to the growth in capital costs means at least a reduction of participation in social and public life but also the danger of dissolving private contacts and the repressing of creative activities in favour of passive forms of leisure utilization (Rose/Jansen 1982, pp. 16). Social isolation then threatens even in the sphere external to work and thus raises the probability that processes of negative changes of identity take place.

Thirdly, the prospects for maintaining identity appear, under conditions of computerized work structures, to be precarious. It is the growing abstractness and intransparency of the underlying processes of rationalization. In particular, control strategies for interrelating data and information are developed at the central level; planning and direction remain largely hidden to the concerned individuals and their representatives. Even if this were not true the expertise necessary for insights into such complicated matters and the concrete effects of rationalization strategies are a crucial barrier (Fricke 1984, 94). This uncertainty as concerns rationalization consequences produces, on the one hand, the 'conservatism in labour politics' mentioned earlier, and, on the other, leads to an erosion of collective identities when it polarizes 'winners' and 'losers' among the employees concerned. Therefore a certain collective consciousness about the necessity to repulse negative consequences of technological change does indeed exist (c.f. Brandt et al. 1978); but the new type of worker characterized by a new class consciousness and a pronounced readiness for conflict, as predicted by Mallet (1969) is not in sight even under the conditions of a quickly increasing utilization of computerized means of work.

7. Concluding Remarks

Not only the formation but even the maintenance of collective identities seems to grow more difficult with the reorganization of the labour process on the basis of new technologies. As well the identities of single individuals may suffer from serious injuries while coping strategies and passivity appear predominant. The conflict for control over the labour process, however, remains paramount and is manifest in the controversy between capital strategies and employees' attempts to control their conditions of work - or even only to cope. The hypothesis about increasing threats to the maintenance of identity certainly needs further, more systematic empirical corroboration than the arguments and evidence reported above. Our principle goal was to enlarge the control approach by a systematic development of a subject perspective. Hopefully some theoretical elaboration along this avenue has been done. Yet the real fruits of the contribution

seem to lie in its application in a process analysis of mutual control strategies. Such a combination of the two perspectives used to explore the conflict over the labour process draws particular attention to the bargaining processes. Thus it allows one to explain a specific organization of labour and its effects on the carriers of the labour process as the outcome of social action by the firm's management, on the one hand, and its personnel on the other.

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