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MYTHOLOGIES OF WORK: A COMPARISON OF FIRMS IN STATE SOCIALISM AND ADVANCED CAPITALISM*

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Comparative studies of capitalist and state socialist countries have rested on weak empirical bases, namely the comparison of ideal type models or comparisons of the realities (often distorted) of one society with an ideal type of the other. This is particularly true of the firm, which has remained a black box in conventional analyses of state socialism. On the basis of case studies of two comparable firms, one in the United States and one in Hungary, we criticize eight stereotypes that underly the presumption that state socialist firms are necessarily less efficient than capitalist firms. We then propose conditions under which capitalist firms may be less technically efficient than state socialist firms.

Recent developments in sociology have seriously questioned the assumptions about labor markets and labor processes that underpin economic models of capitalism. It is now time for sociology to examine some of the corresponding assumptions in economic models of socialism. Sociological perspectives toward "communism" have been drawn either from political science, which until recently had dwelt on the repressive or totalitarian character of Soviet societies, or from economics, which has insisted on the irrationality of such societies. From these perspectives of terror and waste it remains a mystery how Soviet societies, or what we shall call state socialism, have been able to survive as long as they have—in the case of the Soviet Union, almost seventy years. We badly need new perspectives.

In this paper we study the distinctive social and economic reproduction of state socialism through a controlled comparison of a Hungarian and an American firm. We show how the operation of the socialist firm can belie many of the stereotypes held not just by political scientists and economists, sociologists, and Marxists but also by politicians, managers and workers, and not just in the capitalist world but in Soviet societies themselves. The tenaciousness of these stereotypes can be attributed in

part to political and ideological factors and in part to presumptions of backwardness and inefficiency. However, they also spring in part from the absence of studies that compare the actual operation of state socialist and capitalist firms. Where comparisons have been made they generally have been of a macro character and fail to compare like with like, thus confusing levels of abstraction. This is particularly clear among orthodox Marxists and neo-classical economists.

According to orthodox Marxist analysis, capitalism's historical function is to build up the productive capacities of the human species through the advance of technology and work organization. There are limits to this process however. Eventually the contradictions inherent in capitalism between the private appropriation of surplus and the social transformation of nature stifle the expansion of the productive forces. There ensues a period of revolution: socialism is installed and releases the fettered productive capacities. Property relations are transformed and, through central planning, economic efficiency is given renewed impetus. Neo-classical economics argues, on the contrary, that socialist societies based on central planning are necessarily less efficient than capitalist societies. Private pursuit of profit in a market is the only effective means of advancing efficiency and developing productive energies.

Both orthodox Marxists and neo-classical economists are guilty of a methodological error: comparing an empirical reality of one society with an ideal type of another. Marxists have tended to undertake a critical analysis of capitalism through a usually implicit comparison with a speculative socialism—a society¹ without classes in which individuals are reconciled with the collectivity through their self-conscious making of history. This ideal type is usually left unexamined and is therefore uto-

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pian. At the same time Marxists avoid examining actually existing socialism, what Nuti (1981) calls socialism on earth, as a relevant contrast to capitalism. They have generally regarded such societies as in transition between capitalism and some "true" socialism (Mandel, 1974), a form of capitalism (usually state capitalism) (Bettelheim, 1976), or a legacy of pre-capitalist "Asiatic" modes of production (Bahro, 1978). Only very recently has the Marxist tradition attempted to develop either theoretical models or concrete studies of such actually existing state socialisms that compare their distinctive social structures and their dynamics and mechanisms of reproduction with those of capitalism.

When they have studied state socialism, neo-classical economists, on the other hand, have been guilty of the obverse error. They have compared an empirical reality of Soviet societies with an ideal-type conception of capitalism. They too easily presume that capitalist societies actually operate according to the logic of capitalist efficiency; they only rarely undertake controlled comparisons of capitalist and state socialist societies.¹ Furthermore, although neo-classical economists may have gone further than Marxists in examining the realities of state socialism, those realities are usually filtered through official sources, interviews with interested parties, meaningless surveys, or letters to newspapers from purportedly aggrieved persons. Vast areas of state socialist society remain impervious to their eyes, not least the socialist firm.

In short, whereas Marxists contrast the realities of capitalism with an unexamined ideal type of socialism, those western economists who have examined actually existing state socialism have done so within an ideal-type model of capitalism. The task of the first part of this paper, therefore, is to elaborate theoretical models of capitalism and state socialism. Based on the work of Szelényi (1982), Bauer (1978) and Kornai (1980), these models not only outline the distinctive features of the economic and political contexts within which the two firms operate, but also generate two different logics of work organization if raw materials are to be transformed into useful goods. It

¹ Typical is the frequently cited article by Grossman (1963) that emphasizes the difficulties command economies face in achieving "micro-balance" of supply and demand, while assuming that such a balance is more readily achieved in a market economy. There are, of course, notable exceptions, such as Berliner's (1974) study of managerial incentives in the United States and the Soviet Union, and Bergson's (1971) comparison of productivity between the two countries.

is in terms of the transformation of inputs into outputs, that is the realization of production possibilities, that we assess the level of technical efficiency.

In the second part of this study we see to what extent the actual levels of technical efficiency of the two firms can be explained in terms of their approximation to or deviation from the theoretically derived logics of work organization. We do this by examining how the firms measure up against a series of stereotypes, all of which suggest that capitalist firms are technically more efficient than socialist firms. These stereotypes have never been empirically well grounded, but emerge precisely from viewing state socialism through the prism of capitalist logic and from projecting downwards onto the micro-level the widely held assumption that at the macro-level state socialist societies are less efficient than capitalist societies.²

Based on our comparison of machine shops in the United States and Hungary we shall not only cast doubt on the universality of the stereotypes but also question the misplaced logic that underlies them. Inevitably some will comment on the limited empirical basis of our corrective to prevailing views, but we believe that one such comparative case study is better than none. At the same time we make no claims to the generality of our two cases. There is no evidence that state socialist firms are

² There are a number of studies that have shown that at a system level the productivity of the USSR is less than the U.S. Needless to say, the computations are very complex and make many assumptions. Briefly they involve comparing the output of one country with the output of the other, if the second were to use the inputs of the first. According to Berliner's (1964) calculations for 1960, if the US used Soviet inputs and if the outputs are calculated in Soviet prices then the relative "efficiency" of the USSR non-farm economy is between 36 and 39 percent of the US. On the other hand, if USSR used American inputs and calculated output in US dollars, the relative "efficiency" of the USSR non-farm economy turns out to be between 87 and 98 percent of the US. A similar but more elaborate analysis by Bergson (1971) arrives at a relative productivity of the Soviet Union between 39 and 59 percent of the United States. The results raise many interesting questions of interpretation. Higher average factor productivity can be attributed to stage of economic development rather than "system efficiency". Furthermore, if we attribute the difference to greater "efficiency," this does not imply greater technical efficiency of enterprises but can be explained in terms of allocational efficiency. Finally, the figures only refer to efficiency as realization of production possibilities, not to optimal output which would involve an evaluation of non-economic objectives and costs.

generally technically more efficient than capitalist firms. We are saying, however, that technically efficient socialist firms are as possible as technically inefficient capitalist firms. Conventional theories do not seriously consider such possibilities and can explain them only in an ad hoc manner. The place to seek answers to such questions is first and foremost in the firm itself, which in conventional analyses has remained a theoretical black box and an empirical void. Only after examining the functioning of the firm is it possible to broach the conditions and mechanisms which produce and reproduce technically efficient and inefficient firms in the two economic systems. We tentatively explore this issue in the conclusion, underlining a fundamental flaw in the models of capitalism and state socialism presented here and elsewhere.

Even if we were to claim that state socialist firms are as technically efficient as capitalist firms, this would by no means imply that the economic systems are equally efficient. Technical efficiency at the level of the firm, what economists have also called X-efficiency, cannot be generalized to the level of society. We shall say nothing about what economists call social or allocational efficiency, i.e., the optimal use of resources at given techniques to satisfy competing ends (Liebenstein, 1966; Wiles, 1977, Chapter 15). Nor do we claim that a technically efficient firm is necessarily economically successful—it may, for example, efficiently produce goods that cannot be sold for a profit due to market factors, or be continually held up by shortage of materials. It is also possible for an economically successful firm to be technically inefficient in both systems.

Finally, it will doubtless be argued that not only have we picked two arbitrary factories but also that Hungary is not a typical state socialist society³. Some may even argue that it is not a state socialist society at all. Yet it undoubtedly approximates the model of state socialism presented in the first part of the paper. To be sure, there is state socialism and state socialism just as there is capitalism and capitalism, but to argue that Hungary is an exception is too easy a solution and a way of avoiding issues. Sociology has too easily accepted the stereotypes supplied by Sovietologists: not only unsub-

stantiated stereotypes concerning state socialism but also erroneous stereotypes about the functioning of capitalist societies against which they implicitly and sometimes explicitly evaluate Soviet societies.

CAPITALIST AND STATE SOCIALIST LOGICS

Capitalist and state socialist societies vary a great deal, yet it is still possible to work with the distinction between capitalist economies, which operate through the private appropriation of surplus legitimated by the ideology of private property, and state socialist societies, which operate through the central appropriation of surplus legitimated by the ideology of rational redistribution—that is, the direction of society carried out in the name of a “scientifically” produced common interest (Konrád and Szelényi, 1979; Szelényi, 1982). The concrete realization of both systems varies between societies, of course, and some societies can be seen as articulations of both types, with one prevailing. Recognizing this, models can still be developed. But they are models and crude ones at that, which we will modify and elaborate as we proceed through the empirical analysis as well as in the conclusion to this paper.

The viability of a capitalist enterprise depends on its *profitability*—a function of the difference between the value of inputs and outputs, values which are given independently to the enterprise by the *market*. The market is responsible for the allocation of those inputs and outputs, and also establishes *competition* among enterprises, determining which enterprises will be profitable. The viability of a state socialist enterprise depends on its *success* as defined through *bargaining* between it and the state. The institutional context is the *plan*, which directly or indirectly regulates the allocation of goods and services and establishes “success indicators” or “targets”. While the plan is presented as the incarnation of the collective interest, its purpose is better understood as maximizing the redistributive power of the state (Szelényi, 1982).

Whereas capitalist enterprises are subject to *hard budget* constraints, which are more or less rigidly determined, state socialist enterprises are subject to *soft budget* constraints (Kornai, 1980). The softness takes two forms. First, prices are subject to political negotiation rather than being defined by market forces. Second, enterprises have a paternalistic relationship to the state, so that their continued existence is ultimately a political rather than an economic decision. The state can decide to extend or withdraw subsidies, change prices,

³ First, we did not pick our two factories. Allied was the only place Burawoy was able to get a job and he was helped by a close relation who was manager of the engineering department. We stumbled into Bánki as a result of a lecture Lukács gave at a conference attended by its director. Second, the distinctiveness of Hungary may lie as much in the freedom to conduct research and the relative openness of public discussion as in its industrial organization.

replace management, offer new investment, merge the enterprise with another, or, finally, although very rarely, liquidate the enterprise.

In the pursuit of profit, capitalist enterprises attempt to cut costs, not least labor costs, but they also compete with one another for customers by cutting prices. The search for profit by all leads to the reduction of profit for each, and because wages have to be kept to a minimum, to overproduction. This in turn leads to the unemployment of labor and capital which are endemic to capitalism. The search for profit, then, realises itself as a constraint of *demand*. The success of the socialist firm involves increasing its bargaining power with the state, which it accomplishes by seeking investment resources. Here the objective is expansion, and the enterprise therefore faces *supply* constraints, be they of raw materials, labor or machinery. In other words, the problem of shortages in state socialist societies cannot be reduced to economic underdevelopment but it is endemic to the functioning of a centrally directed economy (Kornai, 1980).

Capitalist firms respond to overproduction in the short term by idling capital and laying off workers. In the long term they may recompose production by transforming the labor process, or what is being produced. There are various theories of this long-term recomposition, such as the theory of long waves (Mandel, 1975; Gordon et al., 1982). How do socialist firms respond to the problem of shortages? In the short term they search, queue, and substitute for inputs and outputs; in the long term they bargain for investment resources with the state. Bauer (1978) has suggested how this leads to investment cycles at the level of the economy as a whole.

The capitalist state responds to the problem of overproduction through the creation of demand, either through warfare and/or welfare-state spending or by boosting working-class purchasing power, for example, via statutory minimum wages (Aglietta, 1979; Griffin et al., 1982; O'Connor, 1973). In other words, functional gaps in the market are filled by state intervention. In the same way, dysfunctions of the plan in state socialist societies are countered by the opening up of the market in the form of the second economy, which permits limited private enterprise to supply state enterprises and consumer needs (Rupp, 1983). Alternatively, socialist enterprises undergo backward integration to control supplies (Granick, 1967) while capitalist enterprises form oligopolies that attempt to shape demand. These strategems contain but never eliminate the distinctive constraints of the two types of economy.

The *short term* problems facing capitalist

and state socialist firms pose different problems for the organization of work, the subject of this paper. The socialist firm must continually adapt to the exigencies of supply uncertainty, that is, to the continually changing form and flow of materials, labor, and machinery into the enterprise. This requires continual improvisation and readjustment of the labor process, and therefore mandates a flexible managerial organization. To be effective, shop floor organization must be allowed a certain autonomy to respond to changing supplies; it cannot be controlled from above. The capitalist firm, on the other hand, facing short term fluctuations in demand, does not have to continually transform work organization, but rather must expand and contract the *size* of production. Adaptation to uncertainty in the market involves quantitative rather than qualitative change in production organization. This is compatible with the pressure to increase profit through deskilling and the concentration of directive power in the hands of management. In this sense Braverman (1974) is correct to identify the separation of conception and execution as a distinctively capitalist rationality springing from the search for profit. It is only effective, however, insofar as the firm faces demand rather than supply constraints. In a centrally directed economy, where shortages necessitate flexibility in work organization, technical efficiency requires managerial restraint in the expropriation of control from the shop floor.

THE TWO FIRMS COMPARED

The plausibility of these schematic models of capitalist and state socialist political economies rests on their provision of superior explanations for the similarities and differences between work organization in actual capitalist and state socialist societies. The examination we offer here is limited but nonetheless unusual for its empirical character. It involves a comparison of two machine shops—one in the United States, where Burawoy worked for ten months in 1974–1975 as a miscellaneous machine operator, and the other in Hungary, where he also worked for two months in 1984 as a radial drill operator. Lukács studied the operation of the Hungarian firm for over a year through interviews and non-participant observation at all levels of management. We call the U.S. firm Allied. It is the engine division of a large multi-national corporation, manufacturing agricultural and construction equipment. It is located in South Chicago, and at the time of the study, it employed about one thousand people. The Hungarian firm, which we call

Bánki, produces parts of gear boxes for the larger parent enterprise that makes vehicles that are exported to various parts of the world as well as sold domestically. It, too, employs about a thousand people. The basic work organization, technology, and system of payment of the two machine shops are very similar. Individual operators run individual machines—mills, lathes, drills and borers—and are serviced by auxiliary workers—truckers, inspectors, set-up men, scheduling men and crib attendants. In both shops operators are rewarded, for the most part, on the basis of individual piece rates while auxiliary workers are paid on time rates. In short, we have a controlled comparison in which the basic technology is held constant so that we can begin to highlight the importance of the wider political economy for the organization of work.

We proceed by examining eight widely held stereotypes about work organization and its regulation in state socialist societies as compared to capitalist countries. The data we use to discredit the stereotypes are not of a hard statistical character but are based on interviews, and participant and non-participant observation conducted by the two authors. We have tended to present our findings in brief conclusive form rather than use the rich ethnographic and interview data from which they were culled. For more detailed descriptions the reader can consult Burawoy's (1979) study of Allied, his ethnographic account (1985b) of a machine operator's life at Bánki and Lukács' forthcoming study of Bánki.

1. "Labour in Soviet Type Economies Does Not Work Hard. Our Source for This Comment is Common Observation, Unbacked by Statistics" (Wiles, 1977:25).

The relevant literature expresses a unanimous verdict that the one right socialist workers have retained is "the right not to work hard" (Holubenko, 1975:22). Explanations abound. Wiles' list is the longest: national character, hatred of the system of the command economy, lack of tools and supplies, improbability of being fired, and the low purchasing power of marginal earnings (Wiles, 1977:25). Lane and O'Dell attribute the "slower pace and more careless style" to the workers' peasant background (1978:20). Seeger (1981:100-1) attributes the fact that Soviet workers "do not work very hard and the labour they exert produces meagre results" to the "inefficiencies inherent in central planning and the backward nature of the country's technology." Leaving aside cultural and developmental factors, the arguments are convincing. Because there is little significant unemployment, and because it is hard to

dismiss employees, workers do not have any incentive to work hard. Moreover, in the absence of the coercive whip of a labor market, workers have a positive incentive to conserve their energy in state-sector jobs for their second jobs or for domestic work (Turovsky, 1981:161-2; Gábor and Galasi, 1981). Yet workers at Bánki labored at least as intensively with as high quality results as at Allied.⁴ Why?

The piece-rate systems of the two firms begin to provide an explanation. At Allied operators were paid according to their level of production, but they were guaranteed a minimum wage equivalent to 100 percent output. A worker with a job whose rate was difficult to make could take it easy, produce at 70 percent, and receive a wage equivalent to 100 percent. At Bánki operators faced a straight piece-rate system; they were paid exactly according to the number of pieces produced, with no guaranteed minimum. Turning in at the 50 percent rate, we received 50 percent pay. Thus, one was always under pressure to make the rates. Accordingly, Allied workers labored under conditions of *wage security* and a certain *employment insecurity* (due to the contraction of production and consequent lay-offs), while at Bánki *employment security* was combined with *wage insecurity*. This corresponds to the dilemmas of the two types of economy. In a demand-constrained economy, labor's purchasing power is increased through minimum wages imposed across directly competing industries; at the same time, labor must be expelled and absorbed in accordance with changing levels of production. In a supply constrained economy, on the other hand, demand is contained by binding wages to production, while labor is compelled to improvise in the face of supply uncertainties (see point 8 below). A straight piece-rate system of remuneration assists both objectives.⁵

⁴ Other studies of Hungarian firms reinforce our observations. See, for example, Héthy and Makó's (1972) study of coach builders; Köllő's (1983) study of textile workers; Farkas' (1983) and Fazekas' (1983) studies of machine operators. Ladó and Tóth (1983) describe in detail the extra tasks, above and beyond the formal requirements of the job, that workers have to complete if they are to make their piece rates. Haraszti's (1977) study of machine operators at Red Star Tractor factory also underlines the particularly high levels of labor intensity that can obtain in a state socialist enterprise, but see Burawoy (1985a: part four) for the specific factors that were responsible.

⁵ In reality, of course, within a socialist firm, the ease with which workers can make their basic wage varies just as employment insecurity is unevenly distributed within a capitalist firm.

2. *As Compared to Capitalist Societies, the Level of Reward for Effort is Ineffectively Determined in State Socialist Societies.*

In capitalist societies remuneration for work and piece rates are fixed scientifically, through the careful specification of tasks and the precise timing of operations. In state socialist societies norms are "statistical"—that is, based on existing levels of output—or "centrally determined" outside the enterprise, and therefore insensitive to local conditions, or manipulated by management to redistribute income among workers in the firm. "Norms thus no longer determined earnings, but rather were set at levels that would provide proper levels of earnings" (Kirsch, 1972:46). In reality we found that norms matched the corresponding jobs at least as well as Allied as at Bánki, and often better.

It is true that thirty years earlier, time and study men, stop-watch in hand, occupied the shop floor timing jobs they suspected of having loose rates. But they were too disruptive, incurring the hostility of shop-floor management as well as operators. Workers could easily deceive their adversary, and Taylorist practices had to be given up as counterproductive (Edwards, 1979). The time-study men have long since given way to the industrial engineers, scouring through output records in a distant office. Now, as long as operators don't hand in more than 140 percent, their jobs will not be subject to rate cutting. Naturally, operators often produce at more than 140 percent, but they bank the excess for a rainy day. Norms are changed only very rarely and the industrial engineers have little idea which rates are loose.

At Bánki there is indeed an official norming process. Management showed us the super-scientific methods it uses to calculate norms based on estimated time of the body motions involved. As we soon discovered, however, this is mainly for show. The reality of the norming process revolves around the annual norm cuts. Of this, about two percent is stipulated as having come from norm cuts—called norm maintenance. Industrial engineers examine the output figures and, largely by guess work, decide where the loosest rates must be.

Proposals for norm changes are then sent to the department heads, who consult with foremen, union officials, and finally, the operators themselves. Then there is a discussion as to whose jobs and which norms should be cut.⁶

⁶ Here are the figures from the last four years of proposed and accepted norm cuts. In 1981, 659 were proposed and 323 (49%) were accepted; in 1982, 837 were proposed and 465 (55.6%) were accepted; in 1983, 457 were proposed and 265 (58%) were ac-

Operators are thus actively involved in cutting their own rates, with two consequences. First, the looser rates tend to get cut. Second, workers who have less power in the enterprise might face tougher norm cuts. Thus, the norms on jobs done by women and Gypsies tend to be tougher than those of the more skilled male workers. In short, shop-floor negotiation of norms at Bánki accounts for their closer reflection of the job, while it is their "scientific" character which explains the misfit at Allied.

3. *Capitalist Economies Promote Constant Innovation in Technique and Products, Whereas in State Socialist Societies Such Pressure Toward Dynamic Change is Weak.*

We have so far been considering processes of "adaptation" of firms to their economic environment. These processes take place continually at Bánki in accordance with the exigencies of supply. Innovation, on the other hand, refers to permanent changes in technology or organization that enhance technical efficiency. In this field socialist firms are reputed to be particularly inept.

Eastern European societies seem to become less and less able to generate significant innovations in any of the substantial, value creating fields of social life from technology through science to art. With the growth of a social-political conservatism there proceeds the increasingly imitative character of their development in all sectors of society (Fehér et al., 1983:36).

Capitalist firms, on the other hand, confronted with competition to produce new and ever cheaper commodities to satisfy consumer demand, are continually forced to change both what they produce and how they produce it.

Berliner begins his account of the innovation decision in Soviet industry with the statement, "It is the innovative vitality of the modern capitalist economies that has placed the subject on the agenda of the analysis of the Soviet brand of socialism" (1976:xi). The Soviet Enterprise, he argues, faces an unfavorable incentive system and decision rules, organizational obstacles, and an unresponsive price structure. Bonuses and sanctions are distributed according to the fulfillment of plan targets, and above all output targets (whether measured in monetary or physical terms)—although, according to Berliner, reforms since 1965 have given profitability a more central role. Substantial overfulfillment courts an increase in the targets—but not in the

cepted and in 1984, 385 were proposed and 294 (76.4%) were accepted.

bonuses—in the next period. Like machine operators paid by piece rates, enterprise directors have an interest in not overfulfilling above a certain percentage when plans are slack, and in underfulfilling when the plans are taut. They bargain with central planners for loose plans, concealing capacity rather than innovating.

An innovating enterprise faces organizational obstacles that make the incentive system even more unfavorable. Berliner enumerates the following: the shortage and uncertainty of materials and equipment, particularly if they are not routinely incorporated in the plan; the remoteness of the institutes of research and development from the day-to-day realities of production; and the inadequacy of the sales organization. Finally, the price structure compounds the problems created by the incentive system and organizational obstacles. Prices are important, not as a medium of exchange, but as accounting devices to decide which decision rule to follow. They are generally based on the cost of production plus a stipulated percentage for profit, without reference to its social or use value. This by itself is a disincentive to introduce new techniques, although it is somewhat counteracted by cost reduction expectations built into the plan. Since prices are also relatively permanent, older products tend to be more profitable than newer ones, given the high costs of innovation. Taking all these factors together, one wonders how it is that an established state socialist enterprise ever introduces a new technique or product.

The realities at Allied and Bánki do not quite fit this picture. At Bánki there are continual pressures to innovate, and management seeks to reorganize production more efficiently, introducing more modern machinery, reconstructing relations between departments, improving planning and work scheduling. Allied management, on the other hand, seems content to keep on doing things in the same way as before, and visible pressures for innovation are few. In 1974–75 the engineering manager had plans to improve some of the equipment, but he had so little money for research and new capital equipment that the plans never left the drawing board.

How can one account for this reversal of stereotypes? Allied is a division of a large multi-national. Its relationship to corporate headquarters is akin to the stereotypical picture painted above of the relationship between the state socialist enterprise and the central planners. It has few resources with which to innovate, and the central enterprise allows it to enter the open market and seek alternative customers only when it has first supplied the

needs of the corporation. The division negotiates annual plans stipulating the number of each type of engine it is expected to produce and the (internal) prices they will be sold for. These plans may be arbitrarily changed during the year to align with the changing demand for agricultural and construction equipment, for which the division does receive some compensation. During the period of the study (1974–75), the general manager was replaced because of an operating deficit. The sort of pressures that are presented as obstacles to innovation in state socialist firms can be found, for similar reasons, in multi-national capitalist corporations.

At Bánki, on the other hand, pressure to innovate comes directly from the recognition that there are limits to planning; it is difficult to plan innovation so it is “forced”. In addition to demanding the production of specific numbers of specific parts, the central enterprise expects efficiency to increase by roughly five percent every year, of which norm cuts are, say, two percent, as outlined above. If left unchecked, this pressure would make norms tighter and tighter, disruptive struggles would develop on the shop floor, or workers would leave. This was precisely what happened at Red Star Tractor Factory in the aftermath of the economic reforms (Burawoy, 1985a: part four). New machines or new products allow management to introduce new, and therefore looser, norms. Where the ratchet principle operates there are continual pressures to innovate.

Berliner’s account of the innovation decision contains only two actors, enterprise directors and state planners, whereas the above description underlines the role of workers. One must establish not only the external framework within which the enterprise operates, but the exigencies of production as well. Here we see that external constraints, including supply uncertainties and cost reduction, require management to continually innovate in order to elicit the cooperation of workers and fulfill its plans. The response of the enterprise, whether capitalist or state socialist, to external pressures for innovation is by no means given, but is instead critically dependent on relations among different managerial departments and levels, as we shall see in later sections.⁷ We

⁷ Thus, for example, we discovered an elaborate incentive structure in the Hungarian steel industry, according to which managers can more than double their income through sponsoring innovations. Highly rewarded innovation is a prerogative of management. If workers propose an innovation they can get paid only a nominal sum, but if they elicit the cooperation of their bosses and then of their bosses’ bosses, and so on, the amount of the reward in-

must first examine the process of production more carefully.

4. *Planning Leads to Shortage and Therefore Hoarding, Which Further Intensifies Shortage, Creating Anarchy on the Shop Floor, Whereas the Market Guarantees the Efficient Allocation of Resources and Thus the Smooth Coordination of Work.*

But the Plan mentality has also spawned a chaos all its own. . . . [T]he Plan engendered storming, featherbedding in factory work forces, the end-of-the-month hassle over raw materials, the short-changing, phony figures, and systematic deception at all levels (Smith, 1976:282).

In both Marxist and non-Marxist literature the stereotype of capitalist work organization is one of effective coordination through managerial domination. The flow of raw materials between machines and the distribution of labor are all smoothly integrated with one another through scientific management and the expropriation of control from the director producer. State socialist work, on the other hand, is dogged by malcoordination. Planners change the targets; supplies of materials and machinery never arrive on time, in the right quantity or even in the right form. Production is continually disrupted, especially by "rush work" or "storming" toward the end of plan periods. The literature paints a picture of perpetual chaos as management strives to direct a recalcitrant labor force toward ever-changing production operations and quotas (Granick, 1967; Nove, 1965; Berliner, 1957; Seeger, 1981; Ticktin, 1976; Smith, 1976).

Again the realities of the two firms belie the stereotype. The rush work at Allied is much more intense and widespread than at Bánki. At Allied one frequently breaks set-ups and interrupts runs of pieces for hot jobs that have to be done "yesterday". Rush work and compulsory overtime intensify as orders are due. The quality of work suffers too. Piles of defective pieces lie strewn over the shop floor, particularly around the inspector's bench. These, together with the uncompleted engines lining the aisles, dissolve the image of efficient capitalist work organization into a picture of confusion and anarchy. At Bánki materials and completed parts move through the plant much more rapidly. One never sees the piles of scrap; what scrap does appear is quickly removed. One hardly ever breaks set-ups to begin a new job.

creases commensurately. Ordinarily managers' incomes are little more and sometimes less than that of semi-skilled workers, so that money from innovations can be critical to maintaining their life style.

Only once during the two months in 1984 did we see this happen. Just before the completion of the half-year plan, a fellow radial drill operator was asked to start a new job before he had finished the one at hand. His fury indicated just how rare such an event was. At Bánki an effective system of work scheduling stipulates what each department has to produce in ten-day periods. As we moved toward the completion of the half-year plan overtime increased, but there was not the mad panic that could descend onto the Allied shop floor when orders were due.⁸

How can we explain this apparent reversal of stereotypes? Part of the answer lies in Allied's character as a division of a multi-national corporation, suffering from precisely the shortages and plan target changes from other divisions that stereotypically face the state socialist enterprise. Bánki had managed to control the problem of supplies in part through the use of regional party ties, and in part through effective advance planning and reorganization of management so that the material supplies department was firmly under the surveillance of the production manager. Other reasons why the work process is so much better coordinated and directed at Bánki than at Allied relate to the utilization of labor, to which we turn next.

5. *Whereas Capitalist Firms Attempt to Reduce Labor Costs, State Socialist Firms Seek to Hoard Labor in Anticipation of Fluctuating Labor Requirements and Because it has Zero Marginal Cost.*

[A] Soviet director, still basically induced to place priority on the fulfillment of an output-based target, and faced with the

⁸ We would tentatively suggest that rush work is most likely to occur when there are both supply and demand constraints. Ladó and Tóth (1982) describe rush work in an electronics firm with workers living in the factory and laboring around the clock in certain periods, while at others staying at home and undertaking second jobs. The firm was subject to an intensive shortage of materials on the one hand and the demand for punctual delivery on the other. Usually socialist firms face weak demand constraints but here the customer placed exacting and politically enforced demands on the firm. In one of the most systematic studies of arrhythmic work, Laki (1980) comes to similar conclusions, namely that arrhythmic work is the result of accountability to the state which generates both shortages and ministerial pressures to increase profits and sales. Where the demand constraints are particularly rigid, as in production for exports and investment goods, rush work is more pronounced. Particularly relevant to the discussion here are Laki's figures which suggest that rush work is not much more prevalent in socialist than in capitalist countries, although Hungary has one of the worst records.

combination of short operational plan periods and uncertain supply links with other organizations, can be expected to be loath to part with any resources, however marginal. "Storming," the mad rush at the end of the plan period to ensure plan fulfillment at any cost, is still a key characteristic of the Soviet economic system, and storming is difficult if you do not have spare workers to throw into the melee when the situation becomes desperate (Dyker, 1981:57).

As long as "excess" labor is built into the wage fund, there is no incentive to reduce this particular cost. In the capitalist firm, on the other hand, managers seek to economize on labor, particularly indirect labor, that is, the auxiliary employees who serve directly productive operators. At Allied these are the truck drivers, crib attendants, inspectors, and set-up men. There is indeed an attempt to economize on such auxiliary work, but it is counter-productive.

First, particularly at the beginning of the shift, there are lines outside the crib and inspector's office, as workers wait for tools or fixtures or for their first piece to be checked, while others hang around their machines waiting for the trucker to deliver their stock. Paid on a daily rate, the auxiliary workers have no material incentive to work quickly, and any incentive is dampened by the apparently endless demands on their time. Second, the shortage of auxiliary workers leads to considerable lateral conflict between them and the operators straining to "make out". Minutes lost waiting for the trucker, inspector, or crib attendant reduce output, making it more difficult to achieve the prized 140 percent. In short, the attempt to cut direct costs to the bone leads to major bottlenecks, inefficiencies, wasted time and work disruption—none of which is found at Bánki. There, an adequate supply of auxiliary workers allows production to be effectively coordinated without undue lateral tensions. In terms of societal rationality one might wonder which of the two alternatives is preferable: underemployment inside the factory to absorb tensions created by shortages in the context of rigid output targets, or unemployment outside the factory with associated attempts to cut labor costs inside, resulting in mounting organizational tensions. This brings us to the next conventional wisdom, concerning the mechanisms of distribution of labor power among enterprises.

6. *Administrative Allocation of Labor and/or Central Determination of Wages in State Socialist Societies Make(s) the Deployment of Labor Less Than Optimal, Whereas in*

Capitalist Societies the Market Assures the Optimal Allocation of Labor by Rewarding it According to its Marginal Productivity.

The owner of labour power is under a statutory obligation to sell his labour power for a price which is administratively set and which has in principle nothing to do with the surplus that labour will produce. The owner of labour is not allowed to bargain collectively or individually over the price of his labour power. He cannot decide to withhold his labour and to try to sell the products of his labour rather than his labour power. Under these circumstances we cannot speak meaningfully of a labour market (Szelényi, cited in Fehér et al., 1983:34).

This, too, is more or less the perspective of the official Soviet labor policy (Wiles, 1981:17). Nevertheless, few now give much credence to the idea that the state directs the distribution of labor between enterprises, even in the Soviet Union.

Even under "high Stalinism" . . . the bulk of the working population were constrained by essentially negative controls, rather than active direction as such. Since the death of Stalin, the situation has become simpler and we can say that in general terms, only members of the Communist Party and new graduates, for the first three years after graduation, are subject to active direction. . . . Coercion, then, is not a key element in the process of labour planning in the contemporary Soviet Union. . . . [W]hen it comes to the allocation of the given labour force between jobs, between enterprises and between regions, it is hardly surprising that the wage system does, and is meant to, play a fundamental role, as it does in the West (Dyker, 1981:40–41).

That stereotype of the West is far from accurate, however. A considerable literature shows how labor markets in advanced capitalist societies diverge from the model of perfect competition. The original dual labor-market perspectives pointed to the balkanization of markets supplying different sectors of industry, to the importance of gender and racial discrimination in the allocation of people to firms, and to the development of internal labor markets, relatively sealed off from the external labor market and operating through a distinctive set of rules based on seniority. Sociologists have come a long way from the early crude models and have begun to specify what structural variables (industrial sector, internal organization of the firm, market dominance of firm) best account for differences in income, security of employment and working

conditions (Hodson and Kaufman, 1982; Baron and Bielby, 1980, 1984; Kalleberg et al., 1981; Berg, 1981). Whatever the differences are among these writers, one thing is clear: the idea of a perfect labor market is not tenable: labor is not rewarded according to its marginal productivity and it does not move freely between firms. The organization of the labor market at Allied confirms this revisionist picture. There workers join the firm at the lowest jobs, requiring the least skill and commanding the least pay, and proceed up an internal "career" ladder by bidding on vacant jobs; the worker with sufficient expertise and the most seniority gets the job. Lay-offs operate in reverse, so that through a system of bumping, workers with least seniority get laid off first. Seniority also determines the size of one's benefits. This makes it expensive to move to another firm, where one would begin again at the bottom of the job ladder. The longer one stays with a firm, the more likely one will remain. Equally, management's right to fire workers is restricted to clear and persistent violation of rules recognized by both union and management, which further inhibits the effectiveness of the external labor market.

At Bánki there is no administratively developed internal labor market with its systematic rewarding of seniority. Workers cannot be easily fired, and management has little interest in firing workers in the face of existing labor shortages. Workers can leave of their own accord, though, if they can find better jobs. Although average wages are centrally stipulated, the enterprise is still left with the possibility of rewarding workers according to their market price. Thus, for example, radial drill operators are in short supply, so management has to find some means of holding on to them. It is not possible to increase their basic wage directly, so instead they are given a lot of overtime, some of which is not actually worked. In other parts of the factory management in 1984 was considering setting up Vállalati Gazdasági Munkaközösség (VGMK), essentially a system of internal subcontracting whereby self-selected and self-regulating worker collectives are assigned to and paid for the completion of a given task. This system allows workers to receive higher rates of pay for work done in normal hours without its being charged to the firm's wage fund (see Stark and Lukács, 1985). These maneuvers to increase workers' pay, also found in the Soviet Union (Turovsky, 1981:162-5), demonstrate the strength of the external labor market in affecting the distribution and price of labor.⁹ Indeed, it is stronger at

Bánki than at Allied, whose internal labor market provides insulation from the external one.

None of this should be surprising. Planning meets definite limits in the subjective character of labor power as potential producer and consumer. Dictatorship over needs is impossible; one can only indirectly control productive activities through training and incentives, and consumption through the provision of a limited range of goods. State intervention into the labor market has only limited impact (Fazekas and Köllő, 1985). To be sure, in the heyday of socialist primitive accumulation, there were attempts at a true dictatorship over needs, but like programmatic attempts to minimize state intervention under early capitalism, they had to be given up as hopeless (Polanyi, 1944). Just as capitalism necessarily contains an irreducible arena of central direction, so state socialism must contain an irreducible arena of market forces.

7. *In State Socialist Societies Conflict Between Management and Workers is Either Repressed or Atomized; in Advanced Capitalist Societies it is Institutionalized and Collectivized.*

[T]he totalizing social system of domination which encompasses nearly all areas of individual life and involves each individual in a complicated set of dependencies upon (and complicity with) the apparatus, has, as it were, two faces. On the one hand it means not only the lack of formal safeguards (for individuals or communities) against the actions of the apparatus, but also the actuality of an enormous pressure generated by the latter to disrupt all informal, spontaneous social connections and ties beyond the confines of the family. On the other hand, the ensuing atomization of individuals is accompanied by a system of measures which provide relative protection against chance mishaps and, more importantly, give a safe and

(1981) and Galasi and Sziráczi (1985). Kövári and Sziráczi (1985) describe the dilemma of an enterprise seeking to both attract new workers and keep old ones. In 1979 its strategy was to increase the basic wage for newcomers so that it approached that of the old timers, and at the same time to uncouple actual earnings from basic wages. In this way key workers could earn two to three times their basic wage, mainly through overtime, while new arrivals would struggle to make their basic wage. Five years later, facing an even worse labor shortage, the company introduced VGMKs in an attempt to retain the allegiance of core workers. The VGMKs not only provided earnings for workers but proved to be cheaper than the two alternatives: importing Polish guest workers and contracting work out.

⁹ For an account of the free play of the external labor market in Hungary, see Gábor and Galasi

orderly character to everyday existence. (This naturally again characterizes the developed social system and not the epoch of its historical establishment.) And most of the "cushioning-off" measures exist not as clearly stated and enforceable rights, but as favours granted for good behaviour (Fehér et al., 1983:76).

Seeger states this in a more extreme idiom:

The end result is a collection of sullen, disillusioned, unproductive workers who have little say in economic decisions and who have no outlet for their grievances. The party which claimed to represent them and guarantee them a privileged position in society has failed them. No other institution has been permitted to challenge the party for authority. It is easy to see why the regime reacted so quickly and so brutally to repress the tentative efforts by a few workers to organize independent trade unions (1981:105).

How do our two factories measure up to these images? At Bánki there are few signs of the union or party defending the interests of workers against management. Indeed, in most workers' eyes, the party and the union are instruments of managerial domination. But that does not mean that struggles are necessarily repressed or atomized. Rather, as Crozier (1963) has argued in another context, uncertainty, so characteristic of the labor process in a state socialist enterprise, provides the foundation of considerable worker power and potential resistance to managerial dictatorship. On the one hand, shop management at Bánki is very powerful on the shop floor. In particular, the foreman commands a wide range of resources including the allocation of special bonuses, vacation time, new tools and "standstill" pay, and is centrally involved in any transfers or promotions in his section.¹⁰ On the other hand, key workers are able to pose considerable countervailing power by virtue of their position in the labor process or through their particular skill and experience. Management is forced to rely on such workers, who are then able to extract concessions in defense of their interests. The strength of such key workers is all the stronger when there are union officials and party members in their midst. Similar bifurcation of the labor force has

been found among construction workers (Héthy and Makó, 1978), among machine operators (Farkas, 1983; Kövári and Sziráczki, 1985), among electronics workers (Ladó and Tóth, 1985), and among transportation workers (Sziráczi, 1983). As Makó (1985) and Kertesi and Sziráczki (1985) have argued, within the firm a core and periphery develop, following the character of the production process and reinforced by the distribution of party and union officials.

At Allied, struggles are indeed institutionalized, but for that very reason they are also atomized. The internal labor market and grievance machinery constitute workers as individuals with rights and obligations. Workers' ability to bid off their jobs gives them a definite if limited power vis-a-vis shop-floor management. If this undermines collective organization, it also constrains managerial autocracy. The foreman in particular has less authority than at Bánki, where he is not bound by a set of intricate rules governing the distribution of workers and work, and grievances and collective bargaining. If workers at Allied are protected from arbitrary managerial depredations, at the same time their interests are firmly tied to the firm by virtue of the rewards to seniority and collective bargaining.

In 1974, these institutions appeared to be as natural and inevitable as capitalism itself. Since then, recession, mounting unemployment and an aggressive assault on union strength has met with relatively little effective resistance from rank and file, precisely because the organs of collective grass-roots struggles have been eroded. The very institutions that earlier protected workers and bound them to the firm have been turned against them to extract concessions and reimpose a new managerial despotism in the factory (Burawoy and Smith, 1985). Conflict is less institutionalized and managerial domination more and more arbitrary. Again the stereotype is confounded.

8. *Bureaucracy Pervades State Socialist Societies, Hampering the Efficient Organization of Work and Undermining Responsiveness to Human Needs. Capitalist Societies, on the Other Hand, Operating Through the Market, Assure the Optimal Allocation and Coordination of Resources While Catering to Consumer Tastes.*

The directive planning of state socialism is frequently linked to a vision of a monstrous and inhuman bureaucracy which is unresponsive to pressures from below. "The Soviet bureaucracy has to be inefficient in order to accomplish its true aim: to stem the tide, to defer the satisfaction of the population's needs"

¹⁰ It is widely believed that Hungarian foremen have lost considerable power during the last thirty years and that they are the weakest link in the managerial hierarchy. Lukács (1984) argues that this is far from being the case in reality and emphasizes the continuing strength and centrality of the foreman in Hungarian industry.

(Fehér et al., 1983:178). Enterprises are hamstrung by rules that lead to sub-optimal allocation of resources and to the production of waste. As ever, under capitalism the market guarantees the smooth integration of production functions, as well as linking supply to demand.

In reality it turns out that Bánki is relatively free of restrictive rules, while Allied is enshrouded by bureaucratic regulation. We have already noted the importance of the internal labor market, the grievance machinery and collective bargaining at Allied. These institutions operate through a set of well-defined bureaucratic rules that protect workers against managerial arbitrariness. At Bánki we noted both the absence of such explicit rules and management's ability to direct work and workers within limits defined by the bargaining power of core workers. There may be rules but no one takes much notice of them.¹¹

Rules at Allied have two sources. First, they emerged with labor struggles in the 1930s when the foundations of the existing labor legislation were laid—the period of the Depression, when labor sought security above all else, and capitalism was suffering from a crisis of underconsumption. The rules forged out of the struggles gave labor an array of job rights, more or less unique among capitalist societies. But rules on the Allied shop floor have another source: they have been a means for higher management to exercise control over production (see also Edwards, 1979). Department heads regularly promulgate rules dictating the way their shop-floor agents should behave. Thus, there are always new rules regulating the removal of tools and fixtures from the crib, the inspection of pieces, and the distribution of job and set-up cards. Each new set of rules disrupts the lateral coordination of work and exacerbates tensions between operators and auxiliary workers. Operators spend most of their time maneuvering around the rules in an attempt to re-coordinate work on the shop floor.

At Bánki the union is too weak and collaborative to enforce rules that would defend workers against management. More interesting, though, we did not notice attempts by higher management to direct production on the shop floor. The planning department stipulates what must be produced every ten days and with what materials, but it is up to shop-floor management to organize the production process itself. The department superintendent is as

much an emissary and representative of the interests of the department as he is the agent of higher management. In other words, top management grants the workshop a certain autonomy in order to organize production in accord with the exigencies of an uncertain environment, in this case particularly technological scarcity. We can now see a further function of the piece-rate system. It is not merely a means of stimulating hard work; it also *compels* a creative autonomy in response to disruptions in the production process. Shop-floor control, whether management- or worker-directed, far from being inimical to planning is the *sine qua non* of efficient production in the context of endemic supply constraints generated by centrally directed economies. Brúsz's (1984) study of foreign management consultants shows how the attempt to impose capitalist rationality in the form of scientific management and bureaucratic lines of authority can lead to chaos in a Hungarian firm.

CONCLUSION

Can state socialist firms be as efficient as capitalist firms? We have argued that the technical efficiency at Bánki's machine shop was greater than at Allied's. In comparison to Allied, Bánki operators work as hard if not harder and produce higher quality work, norms are better adjusted to jobs, pressure for innovation is more continuous, planning on the shop floor is more effective, the external labor market is better able to tie rewards to skills and experience, and bureaucratic rules that interfere with production are more limited. This flies in the face of conventional wisdom and the reader may continue to insist that these are two freak cases and nothing more can be learned from them. However, we believe our comparative case study has more than curiosity value. It does offer clues as to the conditions under which state socialist firms might be more technically efficient than equivalent firms in advanced capitalist societies.

Throughout the discussion of the eight stereotypes, time and again we noted how Allied approximated the stereotype of the socialist firm and Bánki the stereotype of the capitalist firm. It is as if we have stumbled across a capitalist firm in a socialist society and a socialist firm in a capitalist society. There is a kernel of truth here: the capitalist corporation can in some ways be likened to a socialist society. It operates through the centralized appropriation and redistribution of surplus from the member divisions so that the relationship among the divisions are akin to relations among enterprises in a socialist society with a paternalistic relation to the center. This certainly was true of the relationship of Allied to

¹¹ Makó (1985) has termed this situation "quasi-bureaucracy". There are bureaucratic rules, but shop floor workers and managers, instead of following them, exhibit a certain autonomy necessary for adaptation to production exigencies.

its headquarters, despite its self-financing appearance. It is not surprising, therefore, that this hierarchical relationship should give rise to problems of shortages, rushing, poor quality work, and so forth. The corporation insulates the division from market pressures. Correspondingly, the socialist enterprise seals off its constituent firms from the state, permitting, although not necessitating, economic criteria to dominate relations among those internal units. Clearly, our own models, formulated in the first part of this paper, and those from which they were derived, do not adequately distinguish different levels, in particular the enterprise and its component firms.

Thus Kornai's models of capitalism and socialism tend to conflate these two distinct organizational levels. This shortcoming is linked to another one: the failure to distinguish different stages of development of capitalism. There is only one model of capitalism, that of classical capitalism in which firms engage in perfect competition. The advent of advanced or monopoly capitalism can be linked to the growth of the large corporation and with it the development of hierarchical relations among its constituent firms. As Chandler (1962) has shown, the large corporation proved to be successful only where the centralized, functionally departmentalized structure gave way to an organizational structure based on semi-autonomous divisions operating as profit centers. Yet no matter how autonomous are the divisions they are still bound into a paternalistic relationship with the center with all the potentially disruptive effects we discovered at Allied. In other words, like the decentralization reforms in the Soviet Union and Eastern Europe, the transition to the multidivisional structure ameliorated but did not eliminate the transaction costs (Williamson, 1975, 1981) of the large corporation. We see this reflected in the difficulties facing some of the biggest U.S. corporations today and in the move toward conglomeration. For example, during its demise United States Steel displayed many of the problems normally attributed to socialist planning. It is not a coincidence, perhaps, that the move toward "mini-mills," that is, small autonomous mills using electric arc furnaces, is most pronounced in the United States and that United States Steel, for example, has been a frontrunner in the diversification of investment.

On the other hand, where Hungarian firms are not insulated from the state by a corporate structure, they are more likely to display the features we found at Allied, and conform to their stereotype. Thus, in our study of the Hungarian steel industry, where the three large enterprises do not contain semi-autonomous

divisions such as Bánki, we found the distinctive problems of shortages, inefficiency and bad planning. It would seem then that in the present phase of socialist development the chances for technically efficient firms are enhanced by an enterprise structure which contains autonomous units linked by economic ties. While the enterprise center will bargain with the state its constituent firms are more insulated from the wider political arena. It is perhaps no coincidence that despite all the talk of decentralization, the average size of the Hungarian enterprise has continued to increase since the economic reforms of 1968. Contrary to conventional wisdom, the multidivisional corporate structure, that is the very structure which is now facing grave difficulties in advanced capitalism, may be conducive to efficiency in state socialist countries.

At a theoretical level, these speculations suggest that the models based on shortage and overproduction economies that we developed earlier in the paper are inadequate. Both advanced capitalist and state socialist societies display features of both types of economy but at different levels. However, this is not another version of convergence theory, for the most important determinant of the character of a society is the outermost ring: the hierarchical relations of state to enterprise in state socialism, and the market relations among enterprises in advanced capitalism. To be sure, the market fills functional gaps in the state socialist economy and the state performs a similar plumbing role in advanced capitalism, but these interventions are supplementary. They do not alter but reflect the underlying differences between the two types of society.

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