

to degradation. However, this consent emerges only if management does not arbitrarily dictate choices to workers—if, for example, transfers are always taken at the initiative of workers and through the bidding process and, further, if punitive sanctions are confined to the transgression of the limits of choice, as when workers decide to stay at home rather than come to the factory. Moreover, when restricted to violations of the rules that define the limits of choice, the application of force becomes the object of consent. The relative autonomy of the internal state guarantees that coercion will play a more restricted role in the regulation of production.<sup>16</sup>

Yet there is a certain ambiguity in the organization of the internal state. Just because it coordinates the interests of workers and managers, labor and capital, it also acknowledges those interests as potentially antagonistic, as when workers make demands for increased control over the labor process. Unlike the global state, which does not recognize the existence of classes in its structure, the internal state explicitly recognizes classes and thereby becomes, at least potentially, more vulnerable to class struggle. After World War II there was much uncertainty as to what would be negotiable in a collective contract, but this uncertainty has since been resolved in ways that establish management's prerogative to direct the labor process. Whatever the reasons for this outcome, the consequences are relatively clear.

Thus, in part 3, I have shown that, in the period between 1945 and 1975, the application of force was increasingly limited to violation of rules that defined an expanding arena of consent. In doing so, I have regarded the enterprise as obscuring and securing surplus value through the organization, displacement, and repression of struggles, through the constitution and presentation of the interests of the corporation as the interests of all, and through the promotion of individualism, and I have also assumed that the obscuring and securing of surplus value can be examined independently of such external factors as the global state, markets, and the reproduction of labor power. These factors can no longer be ignored, and the remainder of this study will pose the question of their relationship to the form, reproduction, and change of the capitalist labor process.

# 4

## The Relative Autonomy of the Labor Process

## **Eight**

### **The Labor Process in a Recession**

Thus far I have shown how the generic features of capitalist relations of production lead to the formulation of the essence of the capitalist labor process as the simultaneous obscuring and securing of surplus value. I have discussed how this was concretely accomplished at Geer and Allied through varying combinations of force and consent. In this chapter I will examine the way the labor process is affected by variations in relations of production, conceived broadly as the relations embodied in the supply, product, and labor markets. I will therefore be addressing the criticism leveled at industrial sociology that it ignores the "environment."

Recent statistical analysis of the original data collected for the first relay-assembly experiment of the Western Electric studies shows that 78.7 percent of the increase in output can be attributed to the enforcement of tighter discipline, and a further 14.5 percent can be attributed to the onset of the depression.<sup>1</sup> Moreover, it might be argued that the impending depression was in fact a condition for the intensification of supervision. Nevertheless, the very success of industrial sociology to illuminate industrial behavior suggests that the

shop floor may normally be regarded as a "system" unto itself and therefore as a legitimate object of analysis. Thus, Roy's analysis of output restriction is relatively complete, despite his failure to consider the context of Geer. But here, again, industrial sociology takes as given what has to be explained. What is essential is not so much the making of general statements or assumptions about the impact of the environment on the labor process but formulating the "relative autonomy" of the labor process as a problem.

It has fallen to organization theory to take up the problem of the relationship of the enterprise to its environment. Although not couched in our terms, the seminal work of James Thompson directly addresses the problem of relative autonomy. Most relevant for our purposes is his thesis that an organization attempts to insulate its "technical core" from changes in the environment through "buffering," which absorbs environmental influences; through "leveling," which smooths fluctuations; through "forecasting," which facilitates adaptation to penetration; and, finally, as a last resort, through "rationing."<sup>2</sup> As I argued in chapter 1, Thompson, in presenting his framework as one having universal applicability, fails to recognize its relevance to a particular period of capitalism in which certain large-scale enterprises are so powerful that they can to some degree contain market uncertainties.

A major difficulty in using Thompson's framework revolves around the definition and location of the technical core. Although he does distinguish three types of technology—long-linked, mediating, and intensive—his discussion is so general that the notion of "technical core" eludes conceptual elaboration. It is by no means clear what it is that is being insulated, why it has to be insulated, or what criteria can be used to assess the degree of insulation. As a corrective to industrial sociology, organization theory has tended to place almost exclusive emphasis on the behavior of organizations in differing environments.<sup>3</sup> Organization theory is therefore most weak where industrial sociology is strong, namely, in understanding processes within organizations. Here I shall attempt to synthesize elements taken from both traditions by placing them within a Marxist framework.

If the technical core is considered to be the labor process, it becomes important to distinguish its aspect as a set of relations from its aspect as a set of activities. While the two necessarily exist

simultaneously, it may be the case that the expenditure of effort—the translation of labor power into labor—varies independently of the relations in production. If this is in fact the case, it contradicts the assumptions implicit in my analysis up to this point, in which I have regarded the shaping of activities by relations as independent of the attributes of the individuals "carrying" the relations and participating in the activities. Black or white, male or female, I have assumed that all played the game of making out in much the same way. We must now weaken that assumption and entertain the possibility that the translation of the same relations into activities may vary over time and among different people. To the extent that activities change independently of relations, it becomes necessary to incorporate a theory of how different people respond to the relations in which they are enmeshed—that is, to incorporate a psychology.<sup>4</sup> It becomes important, therefore, to examine how conditions outside the firm affect relations in production, the expenditure of effort, and their covariation both over time (the task of this chapter) and among different groups (the task of the next chapter).

### Changes in Markets

My life on the shop floor from July 1974 to May 1975 can be divided into two periods, conveniently separated from each other by the firing and replacement of the general manager of the engine division in December 1974. When I arrived, the company had already begun to expand the number of employees. Spurred by record farm income and the expectation of further high crop production, retail demand for farm equipment was exceptionally high in 1974.

The Agricultural Equipment Group of Allied Corporation was selling everything it could produce; consequently, output of the engine division was expanded to full capacity as quickly as possible. Because of relatively full employment, machine operators were not easily recruited, and management was hesitant about increasing the strength of the plant with inexperienced employees. The choice was between, on the one hand, spending time and energy in training new employees, with the possibility of having to lay them off if demand declined, as seemed likely, and, on the other hand, a generous allocation of overtime. Management in fact adopted both strategies. We were working six days a week and sometimes even seven—up to

eighty hours a week. At the same time, the labor strength of the plant began to increase, but slowly.

The effort to expand production was also being thwarted by the difficulty of obtaining supplies from outside. A declining foundry industry made castings difficult to obtain in a period of high demand. Their delivery was unreliable, and their quality was frequently very poor. At one time the company even considered buying castings from overseas. The result was that half-completed engines stood in the aisles, waiting for parts that had still to be delivered.

This unprecedented situation was in part the consequence of the engine division's subservience to other product divisions of Allied Corporation. Each year a plan is drawn up to establish the number of engines to be manufactured each month for sale to each division. If these orders are subsequently changed, the two parties negotiate as to who shall bear the costs. In 1974 there was an increase in the demand for engines, and from June onward the engine division overextended itself. Working at full capacity is notoriously inefficient, and this was apparent to all on the shop floor. Excessive overtime, frequent changes in jobs and setups to meet short-term demands, problems of scheduling, etc., sent production costs soaring. When a new delivery of castings came into the plant, "hot jobs" would appear, and operators would have to drop everything and rush the job through, breaking setups where necessary. The monomania for output was further stimulated by the drive and dominance of the manufacturing manager, whose departmental interests were directly linked to producing as many engines as possible, irrespective of costs. Late delivery of engines to customers incurred economic penalties. Since the quality-control manager reported directly to the manufacturing manager, quality standards could be relaxed. When it came to a conflict of production versus quality, production took priority. Most significant was the fact that the "engine test," in which each engine is subjected to a final test before being shipped out, was transferred to the jurisdiction of the manufacturing manager. While it is impossible to assess the actual amount of scrap produced in any period (since it is unrelated to *reported* scrap), it seemed from my own observations that quality was declining. Below-standard parts would sometimes get through, sometimes be scrapped. Excessive overtime, the use of new, inexperienced operators, and the persistent pressure to produce inevitably led to a decline in quality.

As I noted in chapter 4, pressure from above frequently led to antagonisms between operators and auxiliary workers, particularly when the number of operators increased at a faster rate than the number of auxiliaries.<sup>5</sup> Increasingly, operators were frustrated by poor tooling, shortage of fixtures, and poorer service from truck drivers. In December, what was apparent to all on the shop floor appeared in the end-of-year financial accounts. The engine division had fallen into the red; the cost of production had exceeded the price of the engines delivered. The general manager of the division was fired. In fact, he rarely knew what was happening on the shop floor. Only occasionally did he venture out of his office into the plant. His relationships with the shop were mediated by the manufacturing manager, who was pursuing his own departmental interests—meeting production targets—rather than the profits of the division.

A new general manager arrived in January with a new set of skills. Once with Allied Corporation, he was now returning from an executive position with General Electric. Less versed in sophisticated modern managerial techniques, he was skeptical of "scientific" business methods and relied more on experience and an intuitive feel for what was needed. He demanded much more from his staff, imposed greater control, and ruthlessly removed managers from their positions when he felt this was necessary. He had a much better feel and grasp of the problems on the shop floor. Finally, he came with the support and confidence of executives in the head office.

In his efforts to tighten up the organization of the shop, he was aided and abetted by rising rates of unemployment as the recession of 1975 moved in. On his arrival in January he began to phase out overtime and Saturday work altogether. Experienced lathe, mill, and drill operators were now lining up outside Allied's employment office, having been laid off by other shops in the region. At one point the engine division absorbed a group of workers laid off by another division of Allied Corporation, which had suffered a serious setback in production. Accessions of new workers, therefore, continued to increase, and it was only a matter of time before all three shifts had a full complement of workers. Though there was speculation that the market for construction equipment might weaken, agriculture was still booming, and the demand for engines remained strong. Because of the recession, foundries now had surplus capacity, and castings were delivered promptly. The same applied to other

parts. Accordingly, toward the end of my employment, management was trying to introduce tighter control over inventories.

Finally, in a third period, beginning after I left in May 1975, layoffs began as the demand for engines slackened. After May, accessions fell below separations. Those laid off who had been employed for more than a year received supplementary unemployment benefits, which, added to state unemployment compensation, brought home around three-fourths of the normal income. As is characteristic of internal-labor markets, layoffs involved a complicated reshuffling process of "bumping." We shall discuss the consequences of such internal mobility in the next section.

### Changes in Production Relations

In the preceding section I suggested, at a number of points, that certain labor controls (relations of domination) became less effective during the first period of my employment, when the increased level of production in some instances forced the circumvention of regulations and in other instances caused frustrating delays. Quality control appeared to become less stringent. Uncertainty about the arrival of supplies from outside made scheduling difficult, and bottlenecks were unavoidable. After December, organization improved; this was due to the initiatives taken by the new general manager and to the market changes already described.

The first change in production relations occurred when quality control was taken away from the jurisdiction of the manufacturing manager and given its own manager, who reported directly to the general manager. It appears, however, that in important decisions the position of the manufacturing manager was still dominant, and the organizational change altered little. The life of quality-control managers had generally been short. In December 1975 I interviewed the incumbent, who had been recruited by the new general manager. He told me that there had been four people in his position in the previous eighteen months and that he had survived the longest. Two months later I discovered that he, too, had been removed and that the general manager had himself assumed direction of quality control. In 1975 the engine division also failed to obtain certification for Quality Assurance, and this, of course, reflected adversely on the quality of

the engines and pointed up the ineffectiveness of quality control.

I gathered figures on the costs of scrap and rework as a percentage of direct labor costs. They show no consistent trend, although in the third period, when workers were being laid off, recorded "scrap and rework" did increase. For example, in the manufacturing department the costs of "scrap and rework" varied between 10 and 20 percent of direct labor costs in the period June 1974-May 1975. In June 1975 it rose to over 25 percent and in August to over 30 percent. This increase might reflect the considerable internal mobility that took place after May 1975.

Unfortunately, these official figures do not measure the actual level of quality each month, since there is a world of difference between scrap produced and scrap reported. From my conversations with the incumbent, I learned that each new quality-control manager begins by putting out a memo instructing each department to gather the accumulated scrap from the shop floor, record it, and, where possible, begin some "rework." This initial burst of enthusiasm is designed to get rid of all the scrap the previous manager had left unrecorded, so that it will not blot the new manager's copybook. In short, what the fluctuations in quality costs reflect is not so much actual scrap but the methods for recording scrap. The same applies to the quality of castings, etc., from the foundry. From time to time there would be a clampdown on the supplier and careful inspection of incoming castings; then this would be relaxed. To sum up: there is no evidence that shifts at the managerial level or in quality controls had any effect on the relations between operators and inspectors.

A second change occurred when stricter controls over productivity-accounting procedures were introduced, also in January 1975. Industrial engineers began to produce a weekly report that recorded, on a departmental basis, "measured performance" (average percentage achieved by operators on piecework during the week), "measured coverage" (percentage of operations covered by the piece-rate system), and "expense ratio" (proportion of labor hours spent on nonproductive labor).<sup>6</sup> When higher management insisted on improved performance levels, the industrial engineers frequently manufactured "improvement" by manipulating recording methods in preference to instituting organizational or time-study changes on the shop floor. From my conversations with industrial engineers and my

examination of their records, I could discover no consistent trend or regular pattern in the savings they achieved by reorganizing the labor process or by retiming jobs.

Here again, the recording methods were poor. It was difficult to discover the actual date of particular "methods" changes or revisions as distinct from the date for which they were recorded. Ironically, industrial engineers themselves operated a procedure of chiseling and "banking," shifting dollars saved from good months to bad months. The industrial-engineering department had certainly not grown in size; if anything, its strength had declined. From the shop floor things looked a little different. The only two cases of rate increases in the small-parts department during my employment both took place in the second period (see chapter 10). It seemed to us that the methods department was coming out of hiding, now that they were in a strong position and the division had to cut costs. At the monthly meetings of the union local, officers began warning operators to expect a managerial offensive, now that unemployment was so high. Members should protect themselves by not going absent and by not turning in more than "135 percent." Foremen sometimes appeared to be exercising greater pressure. On one occasion, when I was resisting new inspection controls, a foreman came up to me, shook his fist angrily, and reminded me that a few days ago hundreds of auto workers had been laid off. But this was exceptional, and I noticed no overall intensification of relations of domination. There were some feeble attempts to control the crib, the distribution of double red cards, and the retention of production cards by operators, but these were soon relaxed and appeared to be random occurrences throughout my sojourn on the shop floor.

#### Variations in Labor Output

If there were no clearly discernible changes in the relations on the shop floor, what can we say about the actual performance of the laborers? Could they have responded autonomously to fluctuations in the labor market—for example, out of fear of losing their jobs? Had this been the case, one might have expected higher levels of output. However, the data I collected, both for the small-parts department and for the plant as a whole, show only small variations in output, and these were in no way consistent with changes then occurring in the

labor market. The data therefore do not invalidate, and possibly they support, the view that consent organized at the point of production is the immediate source of cooperation on the shop floor, not fear of unemployment.

There are, however, two qualifications. First, there was a slight dip in output when layoffs began in May 1975, but the original level was restored and even exceeded in the following months. The dip could have been due to a temporary disorganization, caused by the confusion created by bumping, or it could have been the result of a conscious attempt to restrict output in the face of a work shortage. Since I had already left, I have no way of knowing.

The second qualification is perhaps more significant: during 1975, that is, during the second and third periods, the rate of absenteeism fell by 80 percent. I attribute this decline, and a corresponding one in tardiness, to rising levels of unemployment.<sup>7</sup> But why should absenteeism and tardiness be affected by changes in the labor market while other indices of industrial behavior remain unaffected? One reason is that absenteeism is one form of effort withdrawal that invariably incurs a disciplinary charge. (Given the increase in fixed fringe benefits, absenteeism now represents a considerable cost to the company.) The union recognizes management's "right" to bring disciplinary charges for repeated absenteeism and tardiness. Absenteeism is widely recognized as illegitimate.<sup>8</sup> Furthermore, as with other aspects of the distribution of work (overtime and layoffs), it is relatively easy for management to impose both stringent and "fair" controls over absenteeism and tardiness.

By contrast, management's control over the quality and quantity of effort expended on the shop floor is very much more difficult. The responsibility for low levels of output and for the production of scrap cannot, like absenteeism, be easily attributed to particular workers. Changes in the labor and product markets are unlikely to directly affect job performance when employees are only rarely disciplined for low levels of output (one or two cases a year) and when layoffs are conducted on the basis of seniority. Indeed, many workers welcome layoffs, since the supplementary unemployment benefits can provide an adequate standard of living for no work.

Finally, what effect do changes in the supply market have on worker behavior? From my description of the two periods of my employment at Allied, one might have suspected that the relative

order that prevailed in the second period, contrasted with the organizational chaos of the first period, would have facilitated making out. In fact, the data show no such trend, and this suggests that operators were able to manipulate conditions through the use of double red cards, the sacrifice of quality, etc., during the first period. The costs of an unreliable supply market are borne by management, not by the worker—at least in the short run.

The contrast between lower levels of absenteeism and tardiness, on the one hand, and the absence of an increase in output on the shop floor, on the other, serves to highlight the distinction between “coming to work” and “working.” The data I collected suggest that fluctuations in conditions outside the factory, in particular in the labor market, do not directly affect the labor process. They also suggest that, while coming to work may result in part from coercion—the fear of losing one’s job—activities on the shop floor are more likely to be the object of consent.

Indeed, it might be argued that fluctuations in the markets enhance rather than diminish the consent organized at the point of production; for the major changes that occurred within the plant as a result of changes in the supply, product, and labor markets were of a distributive nature, related, in particular, to jobs and hours of work. When the labor force expands or contracts, there is always a considerable amount of bidding, bumping, and reshuffling of laborers between jobs. A single vacancy can create a long vacancy chain. As I stated in chapter 6, job mobility recharges individualism, competition, and lateral conflict and reduces hierarchical conflict. At first sight, fear of losing one’s job may appear to undermine consent, but three factors work against this hypothesis. First, loss of job affects only those recently hired. Second, losing one’s job is generally unrelated to job performance. Third, employees with more than a year’s service frequently look forward to a layoff. The seniority system and the internal labor market therefore serve to buffer the effects of fluctuations in levels of employment and, paradoxically, at times of recession and cutback even promote consent. The absence of an internal labor market and a developed internal state at the Hawthorne plant in 1933 might explain, in part, why job performance there was more sensitive to the approaching depression than it was at Allied.

## Conclusion

We have observed that the engine division was, to a considerable degree, able to protect its “technical core” from the uncertainties and contingencies of a recession. However, it did so not merely by buffering, leveling, forecasting, and rationing but by *externalizing certain costs* as well. In 1974, for example, the engine division made a loss, and this was absorbed by the corporation as a whole and ultimately passed on to the consumer. This is a factor that Thompson ignores. The insulation of the technical core is more easily accomplished by large corporations, which have the power to externalize costs by raising the prices of their products. Thompson’s formulation of the problem is therefore valid only for the era of advanced capitalism. Since the end of the nineteenth century, corporations have merged through vertical and horizontal integration and, as a result, increasingly control both supply and product markets. Thus, Allied Corporation no longer relies on an external supplier of engines but directly controls its own supply, made to its own specifications. By amalgamating their competitors, corporations have come to control larger shares of the product market and thereby, to some extent, the prices of products as well. Two processes of control are involved here. On the one hand, the corporation internalizes or incorporates part of the environment; on the other hand, it seeks to dominate those parts of the environment it cannot incorporate. This is as true of the political and ideological arenas as it is of the economic arena. The corporation attempts to protect itself from the vagaries and limelight of the external political and ideological processes in two ways: by exercising indirect and informal control over the apparatuses of the state and, as I have shown, by erecting its own internal state.

But it would be wrong to conclude that corporations are always successful in insulating their technical cores. Although my field notes are not adequate for presenting a precise picture, there is little doubt that there were changes on the shop floor during the development of the recession, though these changes were minor and were strongly mediated by the internal state and the internal labor market. Despite these changes, largely occasioned by the redistribution of personnel and working hours, the level of output for each department remained fairly constant. Two alternative explanations present themselves.

*Either* the expenditure of effort and level of output are in fact largely independent of changes in relations *or* workers went to greater lengths and expended greater effort in maintaining the same levels of output—in which case changes in relations do give rise to changes in activities. Although I tend to favor the second alternative, it is difficult to come to any firm conclusion. A clearer picture will, it is hoped, emerge in the next chapter, when I explore the effect of consciousness, imported from outside the workplace by different groups of workers, on the translation of relations into activities.

## Nine

### The Labor Process and Worker Consciousness

Marx defines labor power as the set of mental and physical capabilities exercised in the labor process. These capabilities are objective qualities. Mental capabilities refer to learned skills and not to subjective orientations, such as willingness to work. For Marx such subjective orientations were largely irrelevant in both coming to work and in the expenditure of effort. Coercion was the paramount factor in shaping what people did. In part 3 I argued that the organization of consent becomes increasingly critical as wages become more independent of the individual expenditure of effort. I also argued that whatever consent is necessary for the obscuring and securing of surplus value is generated at the point of production rather than imported into the workplace from outside. This position flies in the face of conventional wisdom, which claims that the attitudes, beliefs, theories—in short, consciousness—acquired in the family, school, church, etc., shape the relations and activities of the labor process. Curiously, the pioneering studies in industrial sociology largely ignored the “values” or “orientations” that workers brought with them to the shop floor. Industrial behavior was for the most part assumed



to be independent of externally derived consciousness, or at least it could be taken as an unexamined given. In this chapter I shall argue that industrial sociologists, instead of being wrong in their assumptions, as their contemporary critics maintain, simply failed to examine why they were right. They did not examine *why* externally produced consciousness does not significantly affect the labor process; they simply ignored it.

### External Orientations to Work

These "closed system" studies have received their most far-reaching criticism in the influential work of John Goldthorpe and his associates.<sup>1</sup> In stressing the importance of "orientations to work," Goldthorpe et al. attempt to establish a corrective to two dominant schools of industrial sociology—the school of human relations (and "neohuman relations") and the school of "technological determinism" and sociotechnical systems. To the first they counterpose the view that workers do not attempt to fulfill social needs through work but that work is purely a means to an end—a source of income to support external commitments. To the second they counterpose the argument that external orientations to work determine the relationship between technology and behavior. They conclude:

It may then be argued that in *any* attempt at explaining and understanding attitudes and behavior within modern industry, the probability at least must be recognised that orientations to work which employees hold in common will need to be treated as an important *independent* variable relative to the in-plant situation . . . . In this way, therefore, the possibility—indeed, the necessity—arises, as it does not with the other approaches we have considered, of explaining and understanding the social life which goes on within the enterprise by reference ultimately to the structure and processes of the wider society in which the enterprise exists.<sup>2</sup>

The transformation of relations in production into patterns of behavior is mediated, they argue, by orientations that workers carry from the home into the plant and activate there.

Their study raises and offers answers to four sets of questions. First, does the so-called instrumental orientation arise from life

outside work or within the workplace? Second, and related, is this instrumental orientation on the increase, and, if so, why? Third, can one examine industrial behavior through the analysis of attitudes? Fourth, what significance should one attach to discrepant attitudes? I shall deal with each in turn. The authors claim that the instrumental orientation, which regards work as a means to an end, is not a product of the factory but of the geographical and social mobility peculiar to the Luton workers they studied.<sup>3</sup> Yet the variation in instrumentality among the workers seemed less related to social and geographical mobility than to the type of job.<sup>4</sup> Moreover, another study, conducted by Dorothy Wedderburn and Rosemary Crompton, concludes that an "instrumental" orientation also characterizes a labor force with very different life-experiences than the Luton workers.<sup>5</sup> Their study suggests that the orientation measured by Goldthorpe et al. did not emerge from a particular type of community life. As Goldthorpe et al. themselves recognize, one of the problems of validating their hypothesis is that all their comparisons are confined to a single sample of workers. The conclusions of Wedderburn and Crompton contradict those of the earlier study in that they stress the importance of technological constraint on worker behavior.

Second, Goldthorpe et al. claim that the instrumental orientation of workers is a product of recent changes in urban society and is therefore likely to become even more typical in the future. Their argument rests on the existence of "traditional" workers, who look upon work as an end unto itself. But until they can demonstrate that the so-called traditional worker exists or existed and does not exhibit instrumental orientations to work, their conclusions are less than compelling.<sup>6</sup> Moreover, they do not offer evidence to show that instrumentality is either becoming more significant or was any less significant in the past. What were the orientations of the employees in the satanic mills if they weren't instrumental? Indeed, the formulations of such historians as Karl Polanyi and Edward Carr are precisely the opposite: the problem of the welfare state is to discover a replacement for the economic whip of the nineteenth century.<sup>7</sup> Goldthorpe et al. indulge in a false comparison of the attitudes of workers in the middle of the twentieth century with a stereotype of the workers of early capitalism. But even if one grants Goldthorpe et al. their increased instrumentality, individualism, and market

orientation, these are just as likely to result from changes in the labor process as from urban life. Not only do Goldthorpe et al. not provide any evidence for the trends they postulate, but they appear to arbitrarily rule out the possibility that such trends may originate in the industrial context itself.

Perhaps the most telling weakness of their study, and this is the third point, is its failure to provide any data on what workers actually do—that is, data on industrial behavior. Instead they rely entirely on a survey of worker attitudes. When they are divorced from their context, how can one interpret the enumeration of a set of attitudes? To what reality do these attitudes refer? They appear to reflect a general attitude toward work in capitalist society, to a reluctance to engage in meaningless, boring, and coercive routines. Inevitably they miss the adaptations workers make to compensate for the deprivations they endure. Any familiarity with what goes on in a factory makes it obvious that Goldthorpe et al. are measuring something far removed from everyday life on the shop floor. Even the attitudes expressed while on the job do not necessarily correspond to behavior there. Thus, as I shall show in the next section, the very expression of racial hostilities serves to undermine race as a relevant category of interaction. More to the point are Roy's observations, confirmed by my own, that, while workers speak of making out in the *idiom* of making money—the cash nexus—their actual behavior reflects a particular “culture,” organized at the point of production and independent of outside orientations. I have no doubt that, had Goldthorpe et al. interviewed workers at Allied and Geer, they would have discovered the same instrumental orientation, despite the very different background; and yet industrial behavior at both Geer and Allied was in fact consistently responsive to a *different* ideology. In short, the idiom in which workers couch and rationalize their behavior is no necessary guide to the patterns of their actual behavior.

Finally, on close examination, the tables presented by Goldthorpe et al. display a disturbingly high percentage of deviants from the norm of instrumentality. What do these discrepancies signify? Do they reflect different types of workers, different levels of consciousness, an ambivalence toward their circumstances, or did different workers assess different elements of their experience in answering the questions? Michael Mann has postulated the concept of dual consciousness to explain patently contradictory views held by workers.<sup>8</sup>

This concept might be profitably deployed to explain variations in the responses of the Luton workers. In a critique of the Luton studies, John Westergaard suggests that the discrepancies signify a latent class radicalism that Goldthorpe et al. obscure.<sup>9</sup> In addition, he shows that attitudes can change significantly within a short space of time. He recounts how, after Goldthorpe's interviewers had left the scene, the very workers studied at Vauxhall Motors went on strike. Westergaard remarks, “The ‘cash nexus’ may snap just because it is *only* a cash nexus—because it is single-stranded; and if it does snap, there is nothing else to bind the worker to acceptance of his situation.”<sup>10</sup> He concludes, “But the single-stranded character of ‘cash orientation’ implies a latent instability of workers’ commitments and orientations which is virtually ignored in the interpretation put forward in the Luton study.”<sup>11</sup>

Westergaard's criticism highlights yet another problem with the Luton studies—their failure to distinguish between coming to work, on the one hand, and working, on the other—that is, between the delivery of labor power and its transformation into labor. The cash nexus is an essential ingredient in bringing the worker to the factory gates, although, even here, ideology plays a critical role in presenting this as natural and inevitable. But the instrumental or cash orientation does not play the same role in the labor process, even under a piece-rate system, where monetary reward is directly linked to individual output.

To conclude: in presenting a corrective to the human-relations and sociotechnical-systems approaches to industrial behavior, Goldthorpe et al. tend to dismiss both when the task is rather to combine them. For the labor process is nothing but the “human” relations into which workers and managers enter as they transform raw materials with particular technical instruments of production. Roethlisberger and Dickson understood this only too well. In their interpretation of the Hawthorne experiments, they argue that it is not improved working conditions—achieved, for example, by fiddling around with heating, lighting, ventilation, and so forth—that increased output but the way the improvements were experienced or, as Gramsci might say, the way they were mediated by ideology. The question is, then, what is this ideology, and where does it come from? Does it emerge at the point of production, or is it imported from outside? This is a reformulation of the Goldthorpe group's original

question, which they cannot answer because they do not distinguish between the delivery and transformation of labor power; because they are unable to distinguish "orientations" that originate in the workplace from those that originate outside the workplace; and because they do not have any measures of industrial behavior. In this chapter I will try to examine more carefully whether imported consciousness mediates the translation of relations in production into activities. But first it will be necessary to examine how relations in production are themselves affected by the consciousness that workers carry with them into the plant.

### Race Relations at the Point of Production

In deciding whether relations in production are independent of the consciousness that people bring with them to the shop floor, it is necessary to have some measure of that external consciousness. I shall work on the assumption that different roles outside work foster different experiences and thus different consciousness. In my own observations, however, not all external roles were recognizable. I could, of course, distinguish different age groups, sexes, and races without much difficulty. Although sex may have been a significant influence on the formation of relations in production, the fact that there were only two women on second shift in the small-parts department makes it impossible to draw any conclusions. The second variable—age—was too highly associated with other variables, such as family size and seniority, which determined which jobs were held. Race was the only variable that provided the basis for a distinctive consciousness and also cut across positions within the plant.

There have been one or two studies of the effect of racial differences on the organization of work. Everett Hughes gives striking examples of the control a dominant white group can exercise over a new black group, forcing the latter into subordinate, marginal positions that in some cases led them to quit their jobs. At the same time, he argues that managerial policy may have a significant effect on the work behavior of Blacks.

The individualistic or "rabble" hypothesis of industrial management—that each worker is an individual who may be induced, and

who ought to be able to be induced to work for his own ends without regard to his fellows—is almost unconsciously applied with redoubled force to the Negro worker. The behavior it encourages is, in its essence, the behavior of the ambitious person. The ambitious white worker may dissociate himself from his fellows to some extent, and in spite of being somewhat disliked he may get promotions for it. The Negro worker apparently feels and is made to feel in some situations that he has to dissociate himself from others and be a "solitary" in order merely to keep his job.<sup>12</sup>

In other words, it is not being black per se but the particular racial bias of the organization of work that contributes to the different patterns of behavior. What happens when there are no formal managerial mechanisms for the reproduction of race relations on the shop floor? William Kornblum, in his study of a South Chicago steel mill and its community, writes, "Seniority and skill are the main criteria in making work assignments, and attachments forged over a lifetime in the mills often cut across the racial, ethnic, and territorial groupings which may divide men in the outside community."<sup>13</sup> His observations show that coalitions across racial and ethnic boundaries are as natural within the steel mill as they are unnatural in the community outside.

The situation at Allied is similar. There, cliques based on race, age, and common interests (such as religious fundamentalism) tend to be more important on informal occasions. On both first and second shifts, race was the most significant basis of association at lunch breaks. On first shift, the secondmost important criterion of association was seniority, followed by department and then job. On second shift, employees were relatively new, and so seniority was less important than department and job in shaping informal ties. Interrupting work for gossip or drinking provided occasions for informal interactions, which were frequently across racial lines. On the shop floor a mate was often someone working on a similar machine, and the association was established on the basis of mutual assistance in setting up, etc. Again, this interaction frequently crossed racial boundaries and extended to drinking at the vending machines.

Despite, or perhaps because of, everyday cooperation, racial and ethnic prejudices were a persistent idiom of shop-floor life. At one moment, operators, auxiliary workers, and foremen would be

privately uttering some racial or ethnic slur; the next minute they would be assisting a member of the insulted race or ethnic group (possibly along with bantering, friendly abuse) as readily as they would assist a member of their own group. Thus *attitudes* or prejudices were imported from urban settings, such as housing and education, which continuously reproduce "race relations," while *activities* on the shop floor were largely unaffected by racial divisions.

In this connection, joking relationships assume a central significance by allowing and even reproducing a dislocation between attitudes and behavior. Radcliffe-Brown describes the joking relationship as follows:

Social disjunction implies divergence of interests and therefore the possibility of conflict and hostility, while conjunction requires the avoidance of strife. How can a relation which combines the two be given a stable, ordered form? There are two ways of doing this. One is to maintain between two persons so related an extreme mutual respect and a limitation of direct personal contact . . . . The alternative to this relation of extreme mutual respect and restraint is the joking relationship, one, that is, of mutual disrespect and licence. Any serious hostility is prevented by the playful antagonism of teasing, and this in its regular repetition is a constant expression or reminder of that social disjunction which is one of the essential components of the relation, while the social conjunction is maintained by friendliness that takes no offence at insult.<sup>14</sup>

Where continual rather than intermittent contact between different races is to be found, the exchange of racial insults in a friendly manner reflects, on the one hand, the requirements of continuous cooperation and, on the other, the recognition that in other contexts racial hostility is a prevailing norm. The joking relationship is therefore testimony to the irrelevance of racial divisions to productive activities. Furthermore, the circumstances and direction of joking relationships are based, not on external social relations, but on the relative standing of the participants in the "status" system of the shop floor. To indicate the way in which the work context determined relations between races and how the joking relation served to seal off the work context and its "culture" from external social relations, I will now briefly discuss my own relationships with some of the black workers.

Bill, a well-built Black, nearly fifty, broke me in on the miscellaneous job. My training was on first shift and lasted for three weeks. I then took up a permanent position on second shift. Because Bill was on two hours' overtime, our shifts overlapped, and I continued to interact with him, even after I had begun on second shift. Bill had been on the miscellaneous job for ten years. (I was convinced I had misheard him when he first told me; but as I got to know him and the job better, I began to see why he should have suffered its extremely unpleasant features rather than move on to a more pleasant job.) Bill was, in fact, the only one in the plant who knew all the tasks the job involved. He'd broken in many operators, but none stayed more than a few months because the job was so tough and dirty. At first he maintained a discreet distance, instructing me in only the bare essentials of what I had to know in order to get by. Frequently, he complained about how incompetent and slow I was and said that I would never make out at the rate I was going. "On this job there ain't no time to fuck around, you gotta work, man." In that early period I was more interested in staying alive and keeping my job than in making out. After our relations had mellowed a little and I had become more accustomed to the job, he began to show me a few angles on how to make out. Bill also began introducing me to others as "my Englishman." The hostility aroused by *my* racial identity was being drawn attention to and, in a joking manner, pushed aside as being of little relevance in the present setting. However, at this early stage I could not push aside *his* racial identity. Only later, when I had established a firmer association, assisting whenever I could, covering up for him, looking after his tools, and eventually sharing a kitty with him, would I dare to call him "superdude." That is, a *symmetrical* joking relationship emerged only when I no longer depended on his advice and assistance in order to carry out my work.

A few months later I was broken in on the broach by another black first-shift operator—Howard. Even though I frequently worked on the broach on second shift, I never established the cordial relations with Howard that I had with Bill. He consistently looked on me with contempt, either because of my incompetence (I was terrified of this machine, since I nearly killed myself twice when I did not remove a gear quickly enough and the steel broach, arching upward, burst into pieces that flew in all directions) or because I was taking away much

of his overtime, or both. He *used* race to establish a distance between us, but the hostility was not based on racial antagonism—this was merely a convenient *idiom*; instead, it emerged out of our respective positions in the productive process. This conclusion is confirmed by the generally amiable relations Howard had with other white operators on first shift.

Intermittent interaction with Howard was negotiated on the basis of latent hostility. Intermittent interaction with Leroi—the black first-shift overhead-crane operator—was based on mutual respect. Leroi always worked overtime, and two or three times a week he would bring me stock to cut on the power saw before he went home. On those occasions we would talk about politics and economics. He would tell me how we were little men and how it was the big men who ruled the world and had all the money. I would talk about socialism, how capitalism was doomed, and how a depression was looming up. The different form of relationship I had with Leroi, as compared to Howard, stemmed from his different position in the productive process.

Joking relationships, whether symmetrical or asymmetrical, can be established only on the basis of at least a minimal trust. They are also defined by, and confined to, a particular situation. Without a minimal level of intimacy or in an inappropriate setting, an intended joke can quickly shade into hostility and can sometimes erupt into violence, as it nearly did when a time clerk once insulted a black operator whom he did not know very well. Until a new context has been established, relations of hostility are carried over from an external setting, and only a minimal cooperation binds the two races. Joking relationships were less frequent between myself and several younger Blacks on my own shift with whom I would discuss and debate but with whom I was not directly linked in the process of production. With such Blacks the *content* of my relationship was governed by our external roles—mine as a white student working his way through school and theirs as black workers in a racist society. While an irreducible racial hostility persisted, the *form* of our relationship was governed by our similar positions on the shop floor. Soon I was excused for being a White; I was, in their terms, “all right.” But only once did I go drinking with them; in other words, I was “all right” only on the shop floor.<sup>15</sup>

In summary: the joking relationship permitted (1) the coexistence of racial prejudices and everyday cooperation between races and (2) the convergence of interests at work and their divergence outside work. The direction and the content of joking relationships both reflect the structure of production relations and not the antagonistic race relations of the urban community. External consciousness lives on in the joking relationship but only as an idiom that expresses unchanged production relations.<sup>16</sup> If the consciousness carried into the plant does not affect the relations in production, does it mediate the translation of these relations into activities?

### Consciousness and the Transformation of Labor Power into Labor

Early studies of machine shops, conducted at the end of World War II, suggest the importance of social background in the determination of output.<sup>17</sup> Thus, Dalton characterizes the rate-buster as likely

to come from a family of higher socioeconomic level than that of other members of the work group, or, if he does not, he is trying to reach such a level. . . to be a nominal Protestant, . . . to be an Anglo-American or an immigrant from Northwestern Europe, . . . to be a Republican and . . . read a conservative newspaper, . . . to be a family man, [all this] accompanied by a relative indifference to the community at large, . . . [Further,] despite his restricted social life and extremely individualistic behavior, the rate-buster is not personally disorganized.<sup>18</sup>

Two comments are relevant. First, Dalton seems to miss the item that most significantly characterizes the nine rate-busters he considers—their age. Only one was younger than forty-five, and their average age was fifty-one.<sup>19</sup> Rather than age per se, it is probably seniority that is closely associated with rate-busting. The more senior the employee, the more secure he or she will feel in breaking group norms:

Apparently a girl who is socially well established in the group can consistently break the rate a little with only mild teasing as punishment. But outsiders who break the rate are severely punished by

ridicule and scorn; if they persist, they remain outsiders and, if associations are important to them, they may be forced off the job.<sup>20</sup>

Second, with the rise of the hegemonic organization of industrial work, the rate-buster is *increasingly* likely to be an employee whose skill and seniority place him in a relatively strong position. Only such a worker can escape the sanctions of fellow workers and plant management. We have already referred to shop management's opposition to rate-busting. Only an operator with considerable influence, such as an ex-president of the union local, can consistently turn in well over the accepted ceiling and yet keep management at bay—particularly, the methods department.

To further specify the significance of imported consciousness on the transformation of labor power into labor, I have undertaken a statistical analysis of the influence of external roles on the level of individual output. I have included in my sample all operators (185) in the small-parts department of the engine division of Allied Corporation who recorded more than forty hours on piecework in the first eleven months of 1975.

For interpreting the figures, four hypotheses present themselves. The first argues that activities on the shop floor are unaffected by externally produced consciousness, that relations in production *intervene* between race, education, family size, and age, on the one hand, and the level of output, on the other. To put it another way, external factors may determine the job one holds in the plant and thus the particular relations into which one enters, but these relations then determine activities of production. The second hypothesis maintains that externally derived consciousness *does* have a direct impact on shop-floor activities—that race, education, etc., shape activities in the factory independently of relations in production. For example, this would seem to be true for informal activities during lunch breaks.

The next two hypotheses are not concerned with the direct impact of external factors on production activities but with the way external factors affect or *mediate* the transformations of relations into activities.<sup>21</sup> The third hypothesis therefore asserts that consciousness imported from outside plays no mediating role, while the fourth

hypothesis asserts the opposite, that the way in which social relations affect output is determined by external factors.

The plausibility of these models or hypotheses can be evaluated through the development of two sets of variables. The first set corresponds to external systems of social relations, involving the family, schooling, and the community. I have been able to gather reliable data on only four such variables, namely, race, level of education, marital status, and age. I excluded sex because there were only six women in the sample. I excluded family size because the personnel records rarely updated this information. The second set of variables corresponds to relations *in* production. Because the number of different jobs was so great and the sample relatively small, it was impossible to use the particular machine being run as an index of social relations. Instead, I adopted seniority (measured in terms of the number of months between the date of recruitment and November 1975) as an index of relations in production. The decision was based on three assumptions. First, I assumed the existence of a commonly shared prestige-ranking of piece-rate jobs in the machine shop. Second, I assumed that operators would attempt, through the bidding system, to place themselves on the jobs with higher prestige. As a result, seniority of operators would reflect the prestige of the machines they ran. Third, I assumed that machines with similar prestige would be inscribed in similar sets of social relations. Therefore, seniority would be an index of social relations in production.<sup>22</sup> The second internal variable is experience, as measured by the number of hours spent on piecework in the first eleven months of 1975. Experience measures not only the acquisition of skill in the operation of machines but also the acquisition of skill in the manipulation of the social relations that characterize a particular job—relations with foremen, truckers, inspectors, setup men, and so forth. Thus, among operators holding the same job, relations in production will vary according to experience. Since the influence of seniority and experience on the social relations of the shop floor will diminish as time periods increase, in the actual analysis I decided to use the logarithms (to base ten) of these variables.

The relative influence of each of the six factors (log seniority, log experience, race, education, marital status, and age) on the

percentage output (the average for the first eleven months of 1975) was ascertained by combining them into a simple multiple regression. The results are summarized in Table 2. Seniority explains 24.4 percent of the variation in output, and experience a further 12.7 percent, while race, age, marital status, and education together contribute only an additional 3.5 percent.<sup>23</sup> These results appear to support the first hypothesis and not the second. The direct impact of external roles on output is negligible.<sup>24</sup>

However, we are still left with 60 percent of the variation in output

Table 2  
Regression of Allied Workers' Output\*  
on Various "Internal" and "External"  
Variables (N = 185)

Independent Variable	Unstandardized Coefficients	Standardized Coefficients	Contribution to R <sup>2</sup>
Log seniority	18.62 (3.49) <sup>†</sup>	0.43	0.244
Log experience	12.87 (2.94)	0.26	0.127
Race (White = 1; Black = 2)	- 1.70 (3.05)	- 0.03	0.003
Age	0.22 (0.15)	0.12	0.009
Marital Status (Married = 1; Single = 0)	5.54 (2.84)	0.12	0.012
Education ( $<$ High school = 1; $\geq$ high school = 2)	5.35 (2.95)	0.11	0.011
Constant	51.20 (14.69)		
R <sup>2</sup> = 0.406			

\*"Output" in this and succeeding tables refers to the recorded rate of producing pieces expressed as a percentage of the rate established by the industrial engineering department and averaged over all piecework jobs the operator completed during the first eleven months of 1975.

<sup>†</sup>Standard errors in parentheses.

unexplained. What can we say about it? The first point to be emphasized is the indeterminacy of the outcomes of particular strategies. Operators may attempt to make out, but their success is uncertain. It is precisely *because* work is constituted as a game that the levels of output exhibit random fluctuations; for the feature responsible for drawing workers into the game is their lack of complete control over outcomes. Uncertainty is inscribed in the labor process—in the fastidious inspector, in the faulty casting, in the dull drill, and so forth. While social relations in production may be the most significant factor in determining the level of output, this determination usually displays some variability—it is neither so great as to make the game frustrating nor so small as to make it boring. Accordingly, the regression of average percentage output for any given week on the six independent variables, and on the internal ones in particular, is much weaker in its predictive power than the regression using an eleven-month average output. For example, the regression equation for the next-to-the-last week in November 1975 explained only 21.1 percent of the variation in output.<sup>25</sup>

The indeterminacy of the outcomes of activities inscribed in the game of making out is one source of unexplained variance. Another source lies in the crude measures we have used to measure social relations in production. It quite frequently happens that senior employees do not attempt to bid on the more prestigious jobs but are content to remain on one they know well. There could be a number of reasons for this. My day man, Bill, for example, said he was too old to start something new. More significant, however, was the satisfaction he derived from the challenge and power that the miscellaneous job offered. Al McCann, Roy's workmate, clearly found satisfaction in the prestige he commanded by virtue of his mastery of the angles in making out on the radial drill. At Allied the most prestigious jobs, such as the automatic lathes, were unattractive in terms of making out, since, once the setups had been mastered, they presented no challenge or uncertainty. A second problem with the seniority index lies in the possibility that vacancies on the more prestigious machines may be filled from outside. When management felt that there were no satisfactory bids on some of the more sophisticated machines, they sometimes brought personnel in from outside. In such cases, seniority would not be a measure of job

prestige. A third problem, involving a lack of correspondence between social relations and seniority, concerns the distribution of difficult piece rates to prestigious jobs, as happened on some of the lathes. Since piece rates are themselves expressions of social relations, any lack of correspondence between seniority and easy piece rates will contribute to the unexplained variance in the first regression. Yet another source of error may be sought in the problem of using experience as a measure of "within-job" variations of relations in production. It often happens that an operator has had prior experience on a particular machine, but this would not show up on our measure of experience, which was confined to 1975. These are just some of the factors that must be introduced if social relations at the point of production are to explain more than 37 percent of the variance.

It is also possible that the heterogeneity of the population of workers may impose definite limits on the amount of variation in output that can be explained by relations in production. So far, I have assumed that workers respond to the social relations of the machine shop in ways independent of their background. This assumption is, in fact, our third hypothesis, which asserts that workers may be regarded as supports or agents of particular sets of social relations. These social relations are treated as prior to the individuals who "carry" or "support" them and who act in accordance with the rationality that springs from them. Workers fill "empty places" (lathe operator, crib attendant, scheduling man, foreman, etc.) defined by the labor process. The relations in production give rise to a lived experience that is independent of the *particular* individuals who fill the empty places but that shapes their activities. Making out emerges out of the organization of empty places and is prior to the individual worker who is inserted into the game. Outcomes are dependent on an acquired skill at playing the game of making out and on the social relations that define each particular job. It might be argued that skill is somehow determined by "external" factors, but our hypothesis claims, further, that skill develops at the point of production, through experience and training on the job.

The alternative and fourth hypothesis conceives of workers as carrying around in their heads a consciousness formed by various

processes of "internalization" or "socialization." Consciousness acquired in one setting mediates the effects that relations have on activities in a different setting. Socialization patterns learned in the family, school, and community are activated at work and determine how operators will respond to a piece-rate system—whether they will play the making-out game or some other game or even no game at all.

In order to examine the mediating influence of imported consciousness, I divided the 185 operators into subpopulations: white and black; young and old; married and single; grade-school graduates and high-school graduates. In tables 3 and 4 I have compared the influence of log seniority and log experience on output for the different groups. Although it is difficult to draw any firm substantive conclusions from a comparison of regression equations where both coefficients and constant terms differ, there are, nevertheless, a number of interesting results. First, with the exception of the poorly educated, splitting the population up into subpopulations does not increase the explained variation in output, and for the younger operators the explained variance falls markedly. Second, with the exception of Blacks, the young, and possibly the unmarried operators, the standardized coefficients that measure the effects of log seniority and log experience on output for the subpopulations are close to the coefficients for the entire population. Both results suggest that the heterogeneity of the population, that is, the different backgrounds of the operators, has only a limited mediating effect.<sup>26</sup>

Without doubt the exceptions provide interesting material for speculation on the source of the mediating effects that do exist. Let me deal with each in turn. The most interesting deviant group is made up of people born after 1946. For this subpopulation the variation in output explained by relations in production is half that for the entire population, and the regression coefficients suggest that seniority is no more important than experience in determining output. It is plausible that the younger operators learn from experience, much like any other group, but tend to experiment among jobs rather than immediately seek those with easier rates. In other words, the younger workers play the game of making out as well as anyone, but they do not necessarily bid on jobs with the easier rates.



Rather, they attempt to accumulate skill on as wide a variety of machines as possible.

The opposite is true for the poorly educated. Almost 50 percent of the variation in output is explained by relations in production. For the grade-school graduates, experience contributes more to the explained variation than seniority, whereas for the population as a whole seniority is twice as important as experience. This suggests that grade-school graduates are more likely to pick up their skills at the point of production and to learn more through experience on the job than the high-school graduates do. Although Blacks and Whites have their output equally shaped by relations in production, the contribution of seniority relative to experience is nearly five times greater for Blacks than for Whites. One might infer the existence of two distinct groups of black operators: those who have been with the company a relatively long time and are "good" workers, and those who have arrived more recently and exhibit the greatest antagonism to the hegemonic organization of work. Thus, young Whites and young Blacks responded to the machine shop in different ways, reflected in the hostility that existed between the two groups and manifested in the weak link between relations and output for the entire group of young operators.

From these results it is clear that the labor process is not autonomous with respect to the translation of relations into activities. Consciousness molded in practices outside the factory do affect, although within narrow limits, the way operators respond to production relations. However, if the labor process is not autonomous, it may be *relatively autonomous*. That is, the labor process may itself determine the effect of imported consciousness. Or, to put it more specifically, does the effect of race, education, age, and marital status on the translation of relations into output vary with the position in the labor process? Unfortunately, my population was too small, the positions in the labor process too similar, and my measures too crude to supply a convincing answer to this question. The numbers in the subpopulations made subdivision according to position in the labor process (as measured by seniority) impractical. Instead, I split the population into those with seniority greater than three years and those with seniority less than or equal to three years and then examined the contribution of external factors to output,

Table 3

Regression of Allied Workers' Output  
on Log Seniority and Log Experience,  
by Race and Age Group and for Total  
Population

Subpopulation	Independent Variable	Unstan- dardized Coefficients	Stan- dardized Coefficients	Contribution to $R^2$	$R^2$
White (N = 147)	Log seniority	20.81 (2.92)*	0.48	0.22	0.373
	Log experience	13.36 (3.31)	0.27	0.15	
	Constant	48.28 (9.46)			
Black (N = 38)	Log seniority	26.45 (5.94)	0.59	0.34	0.391
	Log experience	8.55 (7.04)	0.16	0.05	
	Constant	53.55 (21.49)			
Born before 1947 (N = 85)	Log seniority	18.37 (3.18)	0.52	0.25	0.396
	Log experience	10.87 (4.17)	0.23	0.15	
	Constant	62.12 (11.81)			
Born after 1946 (N = 100)	Log seniority	24.19 (7.37)	0.30	0.09	0.191
	Log experience	14.18 (4.19)	0.31	0.10	
	Constant	39.85 (14.66)			
Total population (N = 185)	Log seniority	21.96 (2.59)	0.51	0.25	0.375
	Log experience	12.37 (2.97)	0.25	0.13	
	Constant	49.50 (8.60)			

\*Standard errors in parentheses.

**Table 4** Regression of Allied Workers' Output on Log Seniority and Log Experience, by Marital Status and Educational Level and for Total Population

Subpopulation	Independent Variable	Unstan- dardized Coefficients	Stan- dardized Coefficients	Contribution to $R^2$	$R^2$
Married ( $N = 130$ )	Log seniority	19.69 (2.80)*	0.50	0.24	0.375
	Log experience	11.10 (3.12)	0.26	0.13	
	Constant	58.23 (9.12)			
Single ( $N = 55$ )	Log seniority	23.92 (6.42)	0.43	0.18	0.329
	Log experience	18.31 (7.29)	0.29	0.15	
	Constant	26.19 (20.69)			
Less than high-school education ( $N = 39$ )	Log seniority	19.79 (5.12)	0.53	0.21	0.495
	Log experience	15.84 (8.29)	0.26	0.29	
	Constant	39.59 (21.34)			
High-school education or more ( $N = 146$ )	Log seniority	24.25 (3.37)	0.50	0.24	0.340
	Log experience	12.40 (3.23)	0.26	0.10	
	Constant	47.38 (9.91)			
Total population ( $N = 185$ )	Log seniority	21.96 (2.59)	0.51	0.25	0.375
	Log experience	12.37 (2.97)	0.25	0.13	
	Constant	49.50 (8.60)			

\*Standard errors in parentheses.

controlling for log experience. The results are summarized in table 5. They indicate that, within the narrow limits that imported consciousness is effective, its impact does vary according to position in the labor process.<sup>27</sup> Obviously, this is no proof of the relative autonomy of the labor process at Allied. At best it is suggestive.

**Table 5** Regression of Allied Workers' Output on Log Experience and on Race, Education, Age, and Marital Status, by Seniority

Subpopulation	Independent Variable	Unstandardized Coefficient	Standardized Coefficient	Contribution to $R^2$
Less than or equal to three years of seniority ( $N = 137$ )	Log experience	14.69 (3.74)*	0.31	0.101
	Race	- 3.96 (4.13)	- 0.08	0.003
	Education	3.81 (3.96)	0.08	0.003
	Age	0.37 (0.22)	0.15	0.018
	Marital status	7.54 (3.59)	0.19	0.048
	Constant	78.78 (17.54)		
				$R^2 = 0.173$
More than three years of seniority ( $N = 48$ )	Log experience	13.90 (4.11)	0.48	0.178
	Race	2.35 (3.79)	0.08	0.007
	Education	5.72 (3.76)	0.23	0.042
	Age	0.22 (0.17)	0.19	0.012
	Marital status	- 0.80 (4.57)	0.00	0.000
	Constant	87.8 (16.95)		
				$R^2 = 0.239$

\*Standard errors in parentheses.

### Conclusion

In this chapter I have tried to show, first, that variations in imported consciousness do not give rise to different relations in production; second, that imported consciousness mediates the translation of relations in production into activities, but only within narrow limits; and third, that the mediating effect of such consciousness varies in accordance with position in the labor process, that is, its effect is shaped by the labor process itself. These very tentative conclusions, based on flimsy data, converge with those of chapter 8, where I tried to show how changes in markets, brought on by the 1974 recession, affected the labor process in ways determined by the organization of work, the internal labor market, and the internal state. From all these findings I concluded that the labor process at Allied is relatively autonomous—that is, it autonomously shapes the outcomes of external changes, and, as we shall see in the next chapter, it creates its own characteristic dynamics.

However, it would be wrong to conclude that what happens to workers outside the factory is of little importance to what they do inside it on the grounds that variations in imported consciousness do not significantly affect either the relations in production or the expenditure of effort. The variations in consciousness between Blacks and Whites, young and old, grade-school graduates and high-school graduates, and married and single persons may be merely small variations around a common consciousness that capitalism inculcates in all its subjects.<sup>28</sup> A more adequate assessment of the importance of externally produced consciousness would have to be based on a comparison of the responses of workers in a capitalist society with the responses of precapitalist workers. I address this problem in the appendix, where I suggest that the organization of work may vary with the social, political, and economic context but that the behavior of workers is in accordance with the organization of the labor process and largely independent of any precapitalist consciousness they carry with them.

The more we dissociate the experiences of workers outside work from the responses in work, the more we are forced toward postulating invariant human characteristics—that is, the more we are driven toward outlining a theory of human nature. Already I have made a number of assertions about how workers generally adapt to

the exigencies of capitalist work by the construction of games, the "instinct" to control, and so on. Are these human universals? Ultimately, no Marxist can avoid advancing a theory of human nature—a theory of what Marx called species essence, of the potentiality inherent in the human species. Such a theory is indispensable to understanding the nature and possibility of an emancipated society.

Apart from what we all share, there is a second reason why what happens outside work can be critical for what happens on the shop floor. In normal times, variations in the form and content of schooling, family, and the mass media may not affect the subordination of workers to the labor process. However, at moments of crisis—when lived experience is momentarily questioned, when what exists no longer seems so natural and inevitable—a variety of theories can become an effective force, that is, can become ideologies. What is taught in schools, what is disseminated in the mass media, and what is experienced in the family can then become critical in organizing the collective will and in shaping workers' responses to capitalism.