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MARXIST AND POSTINDUSTRIAL THEORISTS OVER THE
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ABSTRACT

The paper offers some provisional empirical material on the nature of the transformations in the class structure of the United States between 1960 and 1970. Particular attention is paid to the debate between Marxist and postindustrial theory over the problem of "proletarianization"--that is, the loss of autonomy and control by workers within the labor process. Using the conception of class structure developed by Wright, estimates were made of the class structure in the United States in 1960 and 1970. The changes in this class structure were then decomposed into two main components: an industry-shift effect due to the movement of the labor force across industrial sectors with differing class compositions, and a class-composition-shift effect due to the changes in the class structure within industrial sectors. Contrary to the expectations of postindustrial theory, it is demonstrated that there is a strong proletarianization process within the class-composition-shift effect. This proletarianization process is hidden from view because of the strength of the counteracting industry-shift effect (that is, the movement of people from relatively highly proletarianized sectors into less proletarianized sectors). The paper concludes with a discussion of the likely transformations in the class structure in the future. The prediction is made that the industry-shift effect will decline in the years to come and thus a net process of proletarianization should begin to be felt in the society at large.

1. INTRODUCTION

Two radically opposed images have dominated the discussions of transformations of the labor process in advanced capitalist societies. The first image, typified in the work of "postindustrial" theorists such as Daniel Bell (1973), is one in which the labor process is becoming increasingly less proletarianized, requiring a higher and higher proportion of workers with technical expertise, demanding less mindless routinization and more responsibility and knowledge. In such an image, the intrinsic tendencies within the labor process are undermining the material basis for alienation within production by giving workers greater control over their conditions of work and greater freedom within work.

The second image of transformations, characteristic of Marxist theorists such as Harry Braverman (1974), is one in which changes in the labor process are almost the negative of the first: work is becoming generally more proletarianized, real technical expertise is being confined to a smaller and smaller proportion of the labor force, routinization of activity is becoming more pervasive, and responsibilities less meaningful. Far from undermining the material basis of alienation within production, such alienation is being intensified by the transformations within advanced capitalist societies.

Clearly, there is a great deal at stake in this debate. At the ideological level, much of the technocratic legitimation of advanced capitalist society revolves around visions of technological liberation and postindustrial humanization of work. At the political level, the specific

modalities of Marxist conceptions of socialist transformation within advanced capitalist society depend in important ways on the analysis of transformations in class relations, and the pivotal axis of such transformation is the problem of proletarianization. While it would be overly simplistic to claim that a socialist transformation requires ever-increasing levels of proletarianization, it is certainly the case that the forms of organization of socialist movements and socialist struggles and the nature of the class alliances that would be necessary for a socialist transformation depend to a large extent on the proletarianization process. If the post-industrial theorists are correct and advanced capitalism is witnessing a reverse of the historic process of proletarianization, then a fundamental rethinking of socialist strategies is necessary.

While there has been much energy put into this debate, there has been remarkably little systematic empirical investigation of the problem. Most of the debate has been waged through a combination of anecdotal evidence and formal census statistics. Anecdotal evidence is obviously inadequate, since within either perspective there is room for counterexamples. Census evidence, as Braverman demonstrates so well in his discussion of the category "semi-skilled," is also almost useless since the content of the census categories may themselves change radically over time. Thus any shift in the population from one census occupational category to another may be more than compensated for by changes in the real attributes of the categories themselves. Unless we know explicitly what real changes are occurring within the census occupational categories, knowing that a greater proportion of the population is employed as "clerks" or "skilled craftsmen" tells us nothing about the problem of proletarianization.

This paper attempts to present some provisional data directly on the problem of proletarianization in contemporary American society. Our central conclusion is that the data support the descriptive claims of both Marxist and postindustrial theorists, but that they are more consistent with the explanatory logic of Marxist theory. In particular, the data indicate that observed changes in proletarianization should be understood as the outcome of two processes: a tendency for positions to be proletarianized within industrial sectors, and a countertendency for employment to shift from industries that are relatively highly proletarianized to industries that are relatively less proletarianized. Until recently, these two processes have resulted in an increase of both proletarianized and nonproletarianized positions among employees in the labor force (at the expense of self-employed positions). However, and this is the critical punchline of the analysis, there are good indications to believe that the countertendencies are weakening, and as a result it is reasonable to predict that in the decade 1980-1990 we may observe a relative decrease in nonproletarianized employee positions and an increase in proletarianized positions, i.e., a net proletarianization process.

Those are our basic conclusions. Before we can examine the empirical material that supports them, it is necessary to define more rigorously the central concepts and questions that will guide the analysis. In particular, it is necessary to translate the categories used by the postindustrial theorists into the same conceptual space used by Marxist proletarianization theorists. Such a common theoretical terrain is essential if the two positions are to be operationalized in a way that makes it possible to assess their relative merits. On the basis of this common conceptual schema we will then

formulate the propositions of the two theories in terms of a set of empirical expectations about transformations in the class structure. This will be followed by a discussion of the problems in operationalizing the concepts necessary to test these divergent expectations, an elaboration of certain technical aspects of the analysis we will adopt, and a presentation of the empirical results of the investigation. The paper will conclude with a general assessment of the debate on proletarianization and a discussion of the kinds of additional research needed in light of these data.

2. THE CONCEPTUAL SCHEME

Within Marxist theory, proletarianization is essentially a process of transformation of the basic class relations of capitalist societies. The problem of conceptualizing proletarianization, therefore, is closely bound up with the problem of conceptualizing the overall class structure of capitalist societies. If that class structure is viewed as a simple, polarized structure consisting of wage-laborers and capitalists, then proletarianization is seen as a fairly simple process by which the self-employed become wage-laborers. On the other hand, if the class structure is understood as a complex, articulated structure of relations in which workers and capitalists are defined not by a polarization along a unidimensional class relationship but by a structure of polarizations along a series of dimensions of class relations, then proletarianization itself becomes a much more complicated matter.

Since this more complex understanding of class relations has been elaborated in detail elsewhere (Wright, 1976, 1978a), we will only schematically present it here. At the level of social relations of production,¹ the class relationship between the bourgeoisie and the proletariat can be conceptualized

as involving three interlinked social relations (or dimensions of social relations):

- (a) Social relations of control over money capital, i.e., control over the flow of investments and the capital accumulation process.
- (b) Social relations of control over physical capital, i.e., control over the use of the physical means of production.
- (c) Social relations of control over labor, i.e., control over supervision and discipline within the labor process.²

The word "control" in each of these dimensions must be understood in terms of social relations of control. Control is not, strictly speaking, an attribute of a position per se, but a dimension of a relationship between positions. Thus, the claim that a given position within social relations of production involves control over money capital is a statement about its relationship to other social positions (those that are excluded from such control), not simply its relationship to a thing (money).

The fundamental class antagonism between workers and capitalists can be viewed as a polarization on each of these three underlying processes or dimensions: capitalists control the accumulation process, decide how the physical means of production are to be used, and control the authority structure within the labor process. Workers, in contrast, are excluded from the control over authority relations, the physical means of production, and the investment process. These two combinations of the three processes of class relations constitute the two basic antagonistic class locations within the capitalist mode of production.

When the capitalist system is analyzed at the highest level of abstraction--the level of the pure capitalist mode of production--these are the only class positions defined by capitalist relations of production.

When we move to the next lower level of abstraction--what is generally called the level of the social formation--other class positions appear.

They appear, first of all, because real capitalist societies always contain subordinate modes of production other than the capitalist mode of production itself. In particular, simple commodity production (i.e., production organized for the market by independent self-employed producers who employ no workers) has always existed within capitalist societies. Within simple commodity production, the petty bourgeoisie is defined as having economic ownership and possession of the means of production, but having no control over labor power (since no labor power is employed).

A second way in which additional class positions appear when we leave the abstraction of the pure capitalist mode of production is that the three processes that constitute capitalist social relations of production do not always perfectly coincide. This will be the key to our understanding the class position of the social categories that are labeled "middle class" (or more exactly "new middle class" to distinguish them from the traditional petty bourgeoisie). The new middle class can be defined as social categories that occupy contradictory locations within class relations. These are illustrated graphically in Figure 1 and more formally in Table 1.

Three such contradictory locations can be identified as follows:

(a) Managers and supervisors occupy a contradictory location between the bourgeoisie and the proletariat. Like the proletariat, managers/supervisors sell their labor power and are excluded from control over the accumulation process; but, unlike workers, they participate in the control of physical capital and the supervision of labor within production. Within this contradictory location, foremen constitute the position closest to the working

Figure 1. The Relationship of Contradictory Class Positions to Class Forces in Capitalist Society

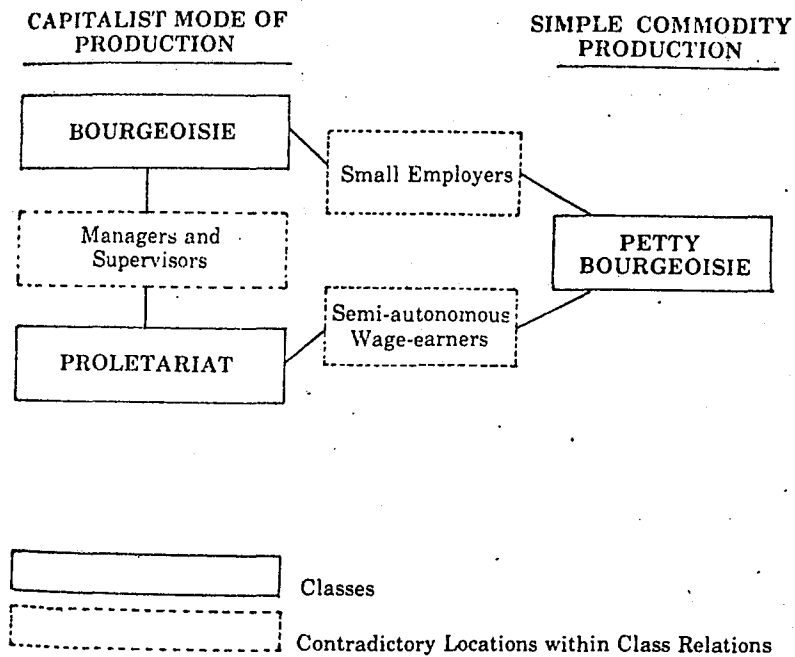


TABLE 1
Formal Criteria for Class Location

Class Positions	Levels of Control within Production Relationships			Juridical Criteria		
	Relations of Economic Ownership	Relations of Possession		Legal Ownership of Property (e.g., Capital, Stocks, Real Estate)	Legal Status of Being the Employer of Labor Power	Seller of One's Own Labor Power for a Wage
	Control over Investments, Resources	Control over Physical Means of Production	Control over Labor Power of Others			
Bourgeoisie	Traditional capitalist	+	+	+	+	-
	Top corporate executive	+	+	+	Partial	Minimal
Contradictory class location between the bourgeoisie and the proletariat	Top managers	Partial/minimal	+	+	Minimal	Partial
	Middle managers	Minimal/-	Partial	Partial	-	+
	Technocrats	-	Minimal	Minimal	-	+
	Foremen/supervisors	-	-	Minimal	-	+
Proletariat	-	-	-	-	-	+
Contradictory class location between the proletariat and the petty bourgeoisie	Semiautonomous employees	-	Minimal	-	-	+
Petty Bourgeoisie	-	+	-	+	-	-
Contradictory class location between the petty bourgeoisie and the bourgeoisie	Small employers	+	+	Minimal	+	Minimal

Source: Wright, 1978a, p. 76.

+ Full control

Partial Attenuated control

Minimal Residual Control

- No control

Explanation of Levels of Control in Table 1

Level of Control	Relations of Economic Ownership	Relations of Possession	
		Control of Means of Production	Control of Labor Power
Full	Control over investment and accumulation	Control over the entire apparatus of production	Control over the entire supervisory hierarchy
Partial	Participation in decisions concerning either subunits of production or partial aspects of investment	Control over one segment of production	Control over one segment of the supervisory hierarchy
Minimal	Participation in decisions concerning narrow aspects of subunits of production	Control over one's immediate instruments of production; some autonomy in the immediate labor process	Control over the direct producers, over immediate subordinates but not part of the hierarchy as such
None	Complete exclusion from participation in investment and accumulation decisions	Negligible control over any aspect of the means of production	No ability to invoke sanctions on other workers

class. In general, foremen have at most minimal control over physical capital, and often their control over the labor of workers is highly circumscribed. In cases where supervision over the labor of others becomes purely formal and a supervisor lacks any capacity to invoke sanctions, such positions effectively merge with the working class. This would be the case, for example, of a head of a work team who serves as a conduit for information from above but who does not genuinely dominate the labor of other workers. At the other extreme of this contradictory location, top managers constitute the position closest to the bourgeoisie. In the limiting case when top managerial positions actually begin to participate in the control over the accumulation process as a whole, such positions merge with the bourgeoisie.

(b) Semi-autonomous employees occupy a contradictory location between the working class and the petty bourgeoisie. Unlike the petty bourgeoisie, they do not own their own means of production and thus must, like workers, sell their labor power to capitalists. But, like the petty bourgeoisie, they do maintain relatively high levels of control over their immediate labor process, over how they do their work, and perhaps even over what they concretely produce. Such positions can in a sense be thought of as islands of simple commodity relations of production within capitalist production itself. Perhaps the clearest example would be an assistant professor in an elite university. Such positions generally do not involve any significant control over the apparatus of educational production as a whole, but most assistant professors have a fair amount of control over what they teach, how they teach it, what kind of research they do, etc.

(c) Small employers occupy a contradictory location between the bourgeoisie and the petty bourgeoisie. Unlike the petty bourgeoisie, small employers do employ labor within production, and thus they are involved in relations

of exploitation. But they do so in sufficiently limited quantities that much of their income is still generated by their own labor (as in simple commodity production) rather than by the labor of their employees. As a result, very little accumulation of capital (surplus value) is likely to take place within such production.

It is important to understand why these positions are called contradictory locations within class relations. They are contradictory in the precise sense that they simultaneously share class interests with two other classes in capitalist society. Managers/supervisors have one foot in the bourgeoisie and one in the working class, and this means that their class interests are objectively torn between these two classes. In a more complex way, semi-autonomous employees share class interests with the petty bourgeoisie and the working class, and small employers share interests with the petty bourgeoisie and the capitalist class. The contradictory quality of the class location of such positions implies that they will play an especially ambiguous role in class struggle, at times siding with the working class, at times with the bourgeoisie. Within this framework, the analysis of "proletarianization" revolves around understanding the ways in which contradictory locations between the working class and both the bourgeoisie and the petty bourgeoisie are being drawn closer to the working class--i.e., analyzing the structural changes in capitalist society that lead to a preponderance of proletarian class interests over nonproletarian interests within such contradictory locations.

3. CONTRASTING EXPECTATIONS OF POSTINDUSTRIAL AND MARXIST THEORY

In terms of the schema laid out in Figure 1 and Table 1, the debate between postindustrial and Marxist proletarianization theories can be interpreted as a set of competing claims about the relative expansion and contraction of various contradictory locations. In general terms, post-industrial theorists argue that contradictory locations between the petty bourgeoisie and the working class and between the bourgeoisie and the working class tend to be expanding in advanced industrial societies, whereas Marxist theorists argue that there are systematic tendencies for the semi-autonomous contradictory location to contract, and for the managerial category to show at most a modest increase.

Within both theoretical positions, these general expectations are grounded in a number of concrete expectations about a more complex structure of changes. In particular, these hypotheses are based on expectations about the relationship between changes in the industrial structure of advanced capitalist societies (i.e., the structure of what is produced) and the class structure of those societies (i.e., the structure of social relations within which production takes place). The contrasting views of the two perspectives are based on contradictory claims about the precise character of this inter-relationship.

In order to understand these conflicting claims, it is necessary to decompose the transformations of the class structure into three distinct components.³

(1) The first component can be called the industry-shift effect. This effect constitutes that part of the overall change in class structure that is due to shifts of the labor force from industrial sectors with one

distribution of classes into sectors with a different distribution of classes. For example, the relative decline of employment in heavy manufacturing (a relatively proletarianized sector) combined with an increase in employment in social services (a relatively less proletarianized sector) would lead to a relative decline of the working class even if the class structure remained unchanged within each of these sectors. Both Marxist and postindustrial theorists would generally agree that in the post-World War II period, this industry-shift effect has favored the growth of contradictory class locations at the expense of the working class.

(2) The second component can be called the class-composition-shift effect. This effect constitutes that part of the overall change in class structure that is due to the transformations of class relations within industrial sectors. For example, while social services might be growing at the expense of manufacturing, social services themselves might be becoming more proletarianized. It is in terms of this class-composition-shift effect that post-industrial theory and Marxist proletarianization theory diverge the most sharply. Post-industrial theory would argue that as a result of increasingly sophisticated technology and the increasing importance of knowledge in all spheres of production, there has been a growth of semi-autonomous and managerial class locations within all sectors of the economy. Marxists, on the other hand, would argue that the pressures to reduce labor costs and to control the direct producers has led to an increasing loss of autonomy within given industrial sectors. Technological change, if anything, has abetted this process, since capitalists will tend to choose technologies that facilitate their control over the labor process. Marxists would thus expect a negative class-composition-shift effect for semi-autonomous employees and a positive class-composition-shift effect for workers. For managers, the expectations

would be somewhat ambiguous: on the one hand, managers like all wage-laborers are subject to pressures for rationalization, degradation of work, etc. On the other hand, the increasing concentration and centralization of capital requires a greater administrative apparatus, and the requirements of domination of labor require increasing layers of authority and supervision. The net result of these two counteracting forces would probably be a modest expansion of the managerial category within industrial sectors.

(3) The third component of the overall change in class structure can be called an interaction effect. This effect is the result of simultaneous shifts in employment across industrial sectors with different class structures and shifts in the internal class structures of those sectors. For example, in the heyday of the Industrial Revolution there was a simultaneous destruction of the agricultural petty bourgeoisie and the creation of a manufacturing proletariat. In effect people were simultaneously moving from one industrial sector to another (agriculture to manufacturing) and from one class to another (petty bourgeoisie to proletariat). Such a pattern would appear as a negative interaction effect for the petty bourgeoisie and a positive interaction effect for the working class. (If the movement had been simply from agricultural worker to industrial worker, there would have been no interaction effect, just an industry-shift effect.) Since neither Marxist theory nor postindustrial theory have explicit hypotheses about such interaction effects in contemporary societies, and since in general they are small compared to the other two components, we will not analyze them in any detail.

We can now summarize the specific contrasting expectations of Marxist and postindustrial theories. Both postindustrial and Marxist theory would predict a positive industry-shift effect for managers and for semi-autonomous employees and a negative industry-shift effect for workers. Postindustrial theory would also predict a large positive class-composition-shift effect for managers and for semi-autonomous employees, but a negative class-composition-shift effect for workers. Marxists, on the other hand, would expect a modest positive class-composition-shift effect for managers, a negative shift for semi-autonomous employees and a large positive shift effect for workers. Taking these expectations together, Marxists would predict a large positive overall shift for managers and workers, and an ambiguous shift for semi-autonomous employees (probably modestly positive). Postindustrial theory, on the other hand, would predict a large negative overall shift for workers, and substantial positive shifts for both managers and semi-autonomous employees. These expectations are summarized in Table 2.

The rest of this paper will attempt to test empirically these contrasting expectations.

4. OPERATIONALIZING CLASS RELATIONS

The ideal data set needed to subject the postindustrial and proletarianization hypotheses to a rigorous test would involve explicit measures of class relations at two points in time. Such data simply do not exist anywhere. While there are ample census data on the occupational distribution over time, there are not such data on class distribution.⁴

The situation is actually even worse than this. There are not even very refined data on class relations at any point in time, let alone over time. In particular, there are very few data that can be plausibly

Table 2

Hypothesized Changes in the Class Structure within Marxist and Postindustrial Theories

	<u>Marxist Theory</u>			<u>Postindustrial Theory</u>		
	Industry-Shift Effects	Class-Composition-Shift Effects	Total Shifts	Industry-shift Effects	Class-Composition Shift Effects	Total Shifts
Managers/supervisors	positive	modest positive	large positive	positive	positive	large positive
Semi-autonomous employees	positive	negative	ambiguous	positive	negative	large positive
Workers	negative	large positive	positive	negative	negative	large negative

Note: No expectations for interaction effects are indicated since neither perspective discusses such effects for advanced capitalism.

viewed as measuring the semi-autonomous employee category. The data that we will discuss below must therefore be seen as very provisional, at best offering a first approximation look at the problem. We are presenting these data not because we feel that they can give us any definitive solutions, but because we feel that even a rough empirical exploration of the problem of transformation of the labor process is useful at this time, especially if it helps to stimulate more serious data-gathering in the future.

The data we will use in this paper come from the Survey of Working Conditions conducted by the Survey Research Center at the University of Michigan in 1969. This survey involved a U.S. national random sample of some 1500 adults in the labor force and centered on various objective and subjective aspects of their work situation. The class categories in Figure 1 and Table 1 can be crudely operationalized using this survey in the following way:

1. Petty Bourgeoisie: This category is operationalized as self-employed people who have no employees. This is fairly close to a narrow definition of the traditional petty bourgeoisie.

2. Small Employers: This category is operationalized as self-employed people with employees. Clearly this means that some proper capitalists are being included in the small employer category (the contradictory location between the petty bourgeoisie and the capitalist class). However, since approximately 85% of all employers employ less than 10 workers, this will hardly distort our results in a significant way.

3. Managers/Supervisors: The contradictory location between the working class and the capitalist class is operationalized as employees who respond "yes" to the question: "Do you supervise anybody as part of your job?"⁵ This is, unfortunately, far too vague a question by which to measure the managerial/supervisory contradictory class location adequately. In

particular, there will be many purely nominal supervisors--people who are conduits for information from above but who have no real authority within the production process--who will respond "yes" to the above question. In practical terms this implies that our estimates of the managerial category should be viewed as an absolute upper limit of this contradictory location.⁶

4. Semi-Autonomous Employees: This category is by far the most difficult to operationalize. To begin with, there are real theoretical ambiguities in the conceptualization of the category itself that remain to be worked out. Exactly how much autonomy is necessary for a position to be considered "semi-autonomous?" What is the substantive content of "autonomy?" Control over how things are produced, what is produced, the pace of work, or what? A rigorous treatment of proletarianization will have to come to terms with these issues and establish the salient dimensions of control over the labor process that define the contradictory location between the working class and the petty bourgeoisie.

Even if we had solved this theoretical problem, the data available for this study would not enable us to operationalize rigorously the semi-autonomous category. While the survey contains numerous questions on subjective attitudes toward work and autonomy, it contains no questions whatsoever that can be considered objective indices of autonomy. We have thus been forced to use a subjective measure. Respondents were asked to indicate whether the following job descriptions described their own jobs a lot, somewhat, a little, or not at all. The descriptions were:

1. A job that gives you a lot of freedom
2. A job that allows you to make lots of decisions.

We have classified all nonmanagerial employees (that is, employees who answered

negatively to the question used to operationalize managers) as semi-autonomous if they responded "a lot" to both of these subjective questions. As a criterion for the semi-autonomous category, these subjective evaluations can be reasonably viewed as defining an upper limit. Most people who in fact have substantial levels of genuine control over their labor process will probably answer "a lot" to these questions, but so will numerous people who do not have such levels of autonomy. The category, therefore, is almost certainly an overestimate.

5. Workers: This category is operationalized as employees who do not supervise anyone on the job and who do not answer "a lot" to both of the subjective autonomy questions.

These criteria are summarized in Table 3. Using these criteria, the class structure of the United States in 1969 looks something like that pictured in Figure 2.

The problems of assessing transformations in the class structure do not end with the formal operationalization of class. We still do not have data for two points in time. The Survey of Working Conditions was conducted in 1969; no comparable data was available for an earlier or later period. What we have done, therefore, is to generate imputed data for the class structure in 1960 by combining the data for 1969 with census data. The strategy is as follows:

Using the 1969 data it is possible to generate a table that yields the distribution of class categories within occupational categories within each major industrial sector category. For this distribution table we used the standard 11-category gross occupational typology and a 37-category industry typology. If we are willing to assume that the class distributions within

Table 3
Operational Criteria for Class Locations

	Self- Employed	Have Employees	Have Subordinates ^b	Job Characterized by a Lot of Freedom and Decisions ^c
Employers ^a	yes	yes		
Petty bourgeoisie	yes	no		
Managers/supervisors	no	no	yes	
Workers	no	no	no	no
Semi-autonomous employees	no	no	no	yes

Source: Wright and Perrone, 1977, p. 370.

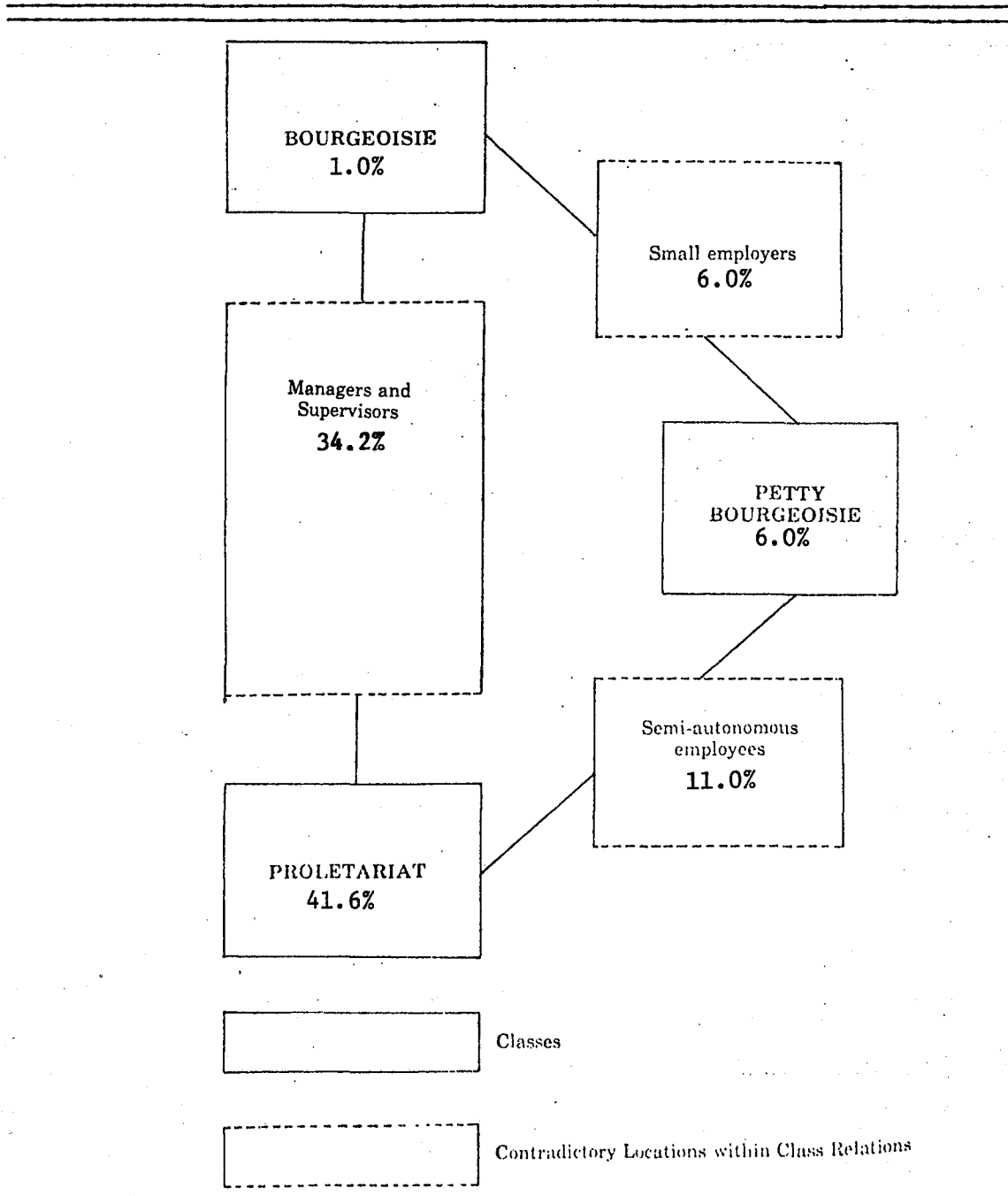
^aSince 80% of all employers in the sample employed less than ten workers, it was not possible to study a proper capitalist class location. Throughout most of the analysis that follows, therefore, I will treat all employers as occupying a contradictory location between the petty bourgeoisie and the capitalist class.

^bAll teachers were classified as nonsupervisors regardless of their response to this criterion (see text for explanation).

^cJobs that the respondent claims were characterized "a lot" by both of the following descriptions:

- (a) "a job that allows a lot of freedom as to how you do your work"
- (b) "a job that allows you to make a lot of decisions on your own".

Figure 2. Distribution of the Economically Active Population into Contradictory Class Locations (1969)



Source: 1969 Survey of Working Conditions, Institute of Social Research

Note: These percentages do not correspond exactly to those in Table 4 because of the adjustments introduced by moving from the 1969 Survey to the 1970 Census.

each industry-occupation category have not changed between 1960 and 1969, then an imputed class structure for 1960 can be estimated by combining the class-occupation-industry distributions for 1969 with occupation-industry distributions from the 1960 census. The same procedure was used with the 1970 census to produce an imputed 1970 class structure. The details of this procedure are presented in part B of the Appendix.

It goes without saying that such a procedure is only as good as its underlying assumptions. The assumption of the imputation is, in effect, that the degree of proletarianization within specific occupations within given industries (for example, clerks in durable manufacturing or operatives in transportation) has remained constant between 1960 and 1970. This assumption is certainly implausible within Marxist proletarianization theory, since much of the degradation of labor is hypothesized to take place within specific occupational titles. In effect, therefore, this strategy of constructing a map of the class structure for 1960 has made it more difficult to demonstrate a proletarianization effect. If anything, we have biased the results in favor of the postindustrial theory.

5. RESULTS

Before turning to the heart of the results of this study--the decomposition of changes in the class structure between 1960 and 1970--it will be useful to examine briefly the one aspect of the transformation of class structure for which we have real data in both 1960 and 1970: the division between self-employed and employed positions. In effect this means collapsing managers, semi-autonomous employees and workers into a single category, and petty bourgeois and employers into one category. This is clearly completely

inadequate as a picture of the class structure. Nevertheless, since we do have solid census data on these categories, it is worth briefly looking at the character of the changes over the decade. Table 4 presents the basic data.

According to these data, in 1960 approximately 13.7% of the economically active population owned their own means of production. By 1970 this had dropped to 7.8%. In absolute numbers this means that there were nearly two million fewer self-employed people in 1970 than ten years earlier. Furthermore, if we look at the net shifts for the employed population--that is, the expansion of the employed population net of the expansion simply due to growth of the labor force as a whole--we see that just over half of this net expansion can be plausibly attributed to the absolute decline in the self-employed. That is, the destruction of 1.9 million self-employed locations in the class structure accounts for about half of the net increase of employed locations (3.8 million net shift). Thus, in spite of the fact that the United States is an advanced capitalist society in 1960, decades beyond its industrial revolution, the classic process of the destruction of the petty bourgeoisie and small employers continues to have a real impact on the class structure.

Table 4 enables us to go beyond global statements about aggregate shifts in the class structure. We can also locate in a rough way the source of those shifts by decomposing the net shifts in column 6 of the Table. The striking result of this decomposition is that most of the overall transformation in the class structure away from self-employed locations is the result of the class-composition-shift effect. Of the total net reduction of self-employed, nearly 75% is due to the destruction of self-employed locations within industrial sectors rather than to the shift of the population into industries with lower proportions of self-employed (industry-shift effect),

Table 4

Changes in Self-Employed Class Locations: 1960-1970

	Percentage Distribution		Absolute Distribution		Absolute Change 1960-1970	Net Shifts Due To			
	1960	1970	1960	1970		Total Net Shift	Industry-Shift Effect	Class-Composition-Shift Effect	Interaction Effect
						1960-1970	1960-1970		
Self-employed	13.7	7.8	7,864,224	5,947,205	-1,917,019	-3,772,316	-829,562	-2,799,720	-143,034
Employees	86.3	92.2	54,170,130	70,722,052	16,551,922	3,772,316	829,562	2,799,720	143,034

Source: 1960 and 1970 censuses.

Note: The data in this table do not correspond exactly to the data in following tables because of the adjustments introduced through the estimation procedure. See Appendix, part C, for details.

or to the simultaneous shift of people across industries and classes (interaction effect). These findings indicate that what Marx called primitive accumulation--the separation of direct producers from the means of production and the creation of a proletariat--is a reality of late capitalism as well as early capitalism.

Now let us turn to the central results, which deal with the specific expectations of postindustrial and Marxist theory. These results are presented in Tables 5 and 6. (It will be immediately noted that the figures in these tables are often quite different from the figures in Table 4. This is due to the adjustments produced by the estimation procedure used to generate the imputed class structure for 1960 and 1970 from the 1969 survey data. For a discussion of the biases introduced by these adjustments, see Appendix, part C.)

Table 5 presents the overall class distribution of the population for 1960 and 1970. All three employed class locations showed some proportional increase in the decade: Managers increased from 32.3% to 33.2% of the economically active population; semi-autonomous employees, from 10.6% to 11.1%; and workers, from 46.1% to 46.3%. If this were the only data available, we might conclude that postindustrial theory provided a better description of structural change than Marxist theory, for although postindustrial theory would not expect even a small increase in the working class, nevertheless, the greater relative increase in the managerial and semi-autonomous employee categories over the working class category is more consistent with the thrust of postindustrial theory.

Luckily this is not the only data available, for the decomposition of these overall changes into industry-shift and class-composition-shift effects presents quite a different story. The data for these decompositions are

Table 5

Overall Class Distributions: 1960 and 1970

Classes	<u>Percentage Distribution</u>		<u>Absolute Distribution</u>	
	1960	1970	1960	1970
Employers	5.7	4.9	3,672,200	3,417,300
Petty Bourgeoisie	5.3	4.4	3,382,700	3,119,600
Managers	32.3	33.9	20,798,000	23,947,200
Semi-Autonomous	10.6	11.1	6,831,100	7,881,700
Workers	46.1	46.3	29,616,400	33,626,400
Totals	100.0	100.0	64,300,400	71,992,200

Source: IMPUTED DATA using 1969 Survey of Working Conditions and data from the 1960 and 1970 censuses. See Appendix, part B.

presented in Table 6. As predicted by both postindustrial and Marxist theory, there is a large positive net shift for the managerial category. The net shift for semi-autonomous employees is smaller, although relative to the smaller absolute size of the category, it is of comparable magnitude to the increase among managers. The working class category shows a net shift halfway between the semi-autonomous employee and manager shifts. This is the first contradiction with postindustrial theory: postindustrial theory would predict a negative net shift for workers.

The decompositions of these net shifts are even more revealing. The industry-shift effects are exactly as predicted by both Marxist and post-industrial theory: there is a positive industry-shift effect for both managers and semi-autonomous employees, and a negative shift effect for workers. This implies that the movement of employment from sectors with relatively fewer managers and semi-autonomous locations to sectors with relatively more of such positions has contributed to the expansion of the managerial and semi-autonomous categories and to the contraction of the working class category.

The class-composition-shift effect has had very different consequences: Contrary to the expectations of postindustrial theory, there is a substantial positive class-composition-shift effect for the working class, a very small positive shift for the managerial category, and actually a small negative shift for the semi-autonomous category. Indeed, every entry in the class-composition-shift effect column is negative except for the small positive shift for managers and the large shift for workers. Within industrial sectors, in other words, there has been a systematic tendency towards proletarianization. Far from expanding the horizons of autonomy and responsibility, the transfor-

Table 6

Components of Changes in the Class Structure of the U.S. Labor Force: 1960-70

Social Class	Net Shifts	Net Shifts Due to			Percentage of Net Shifts due to		
		Industry-Shift Effect	Class-Composition-Shift Effect	Interaction Effect	Industry-Shift Effect	Class-Composition-Shift Effect	Interaction Effect
Employers	-6,942	-3,336	-2,460	-1,146	48.1%	35.4%	16.5%
Petty Bourgeoisie	-6,677	-6,719	- 901	943	100.6	13.5	-14.1
Managers	6,613	5,969	649	- 5	90.3	9.8	- .1
Semi-Autonomous	2,334	4,785	-1,316	-1,135	205.0	-56.4	-48.6
Workers	4,672	- 509	4,231	950	- 10.9	90.6	20.3

Source: These are provisional results. They have not yet been systematically checked (April, 1978).

mations of the labor process within given industries seem to be eroding autonomy and expanding the proletariat.

6. ASSESSMENT AND CONCLUSION

If the results presented in Table 6 are correct, they have very profound implications for the likely transformation of class relations in the rest of this century. The data indicate that the tendency towards proletarianization within industrial sectors has in the past been more than compensated for by a countertendency of the shift of employment from highly proletarianized to less proletarianized sectors. In the case of managers, 90% of the net expansion of the managerial category has depended upon this industry-shift effect; in the case of semi-autonomous employees, over 200% of the net increase is due to the industry shift (i.e., in the absence of the industry-shift effect, there would have been a net decline of this category). Among workers, on the other hand, the pattern is exactly the reverse: over 90% of their net expansion can be attributed to proletarianization within industrial sectors.

The decisive question for an assessment of future trends, then, is whether or not these particular patterns will continue. Is there reason to believe that the industry-shift effect will continue indefinitely to offset the proletarianization process within individual industrial sectors? Or, on the contrary, is it more plausible to assume that eventually the industry-shift effect will become exhausted?

At the moment we do not have data to answer these questions. Such data would involve yearly data on the class distribution of the population within industrial sectors. With such data it would be possible to calculate the rate of change of each of the components of the total shift in the class

structure. Nevertheless, some general indications can be given. One of the most proletarianized sectors of the economy is manufacturing. In 1970, while 51.3% of the labor force in manufacturing was in the working class, that class represented 51.3% of the entire labor force. Some rough data on the general shift of the population out of manufacturing are available. Between 1960 and 1970 the proportion of the labor force in manufacturing dropped from 36% to 33%, or .3 percentage points per year. Between 1970 and 1975, the proportion dropped from 33% to 32.25%, or a decline of only .15 percentage points per year. This would tend to indicate that the rate of exodus from manufacturing might be declining. This would tend to support the expectation that the industry-shift effect--the effect produced by the movement of the labor force out of the more proletarianized sectors--might be reduced in the future.

A second indication that the industry-shift effect might tend to decline in the future centers on the growth of social services. Next to agriculture, social services is the least proletarianized sector in the economy, with only 42.0% of the labor force being in the working class. It has also been one of the most rapidly growing sectors of the economy in virtually all capitalist countries, expanding in the United States from 12.4% of the labor force in 1950 to 21.5% of the labor force in 1970 (see Browning and Singlemann, 1978). Much of the industry-shift effect observed in Table 6 comes from this movement of employment into social services and out of manufacturing. It is probably safe to say that the continued ability of the industry-shift effect to counteract the proletarianization process (the class-composition-shift effect) depends to a large extent on the continued expansion of the social services. The question is then whether or not it is plausible to assume that the growth of social services will continue unabated in advanced

capitalist societies. While we have not seen hard data on this question, it seems to us very unlikely that this will be the case. A substantial part of the growth of social services has been underwritten by the state either directly or indirectly. The pervasive fiscal crisis of the state that characterizes all advanced capitalist societies will certainly undermine the ability of the state to continue this expansion in an unimpeded way. This is not to say that there will be an absolute decline in social services--although of course this may happen in specific cases--but rather to suggest that the rate of expansion of social services will almost certainly slow down. If this does happen, then the counteracting effect of changes in the employment structure across industrial sectors will be reduced as well.

These considerations lead us to hazard a specific prediction: In the course of the last quarter of this century, the industry-shift effect will weaken as a counteracting tendency to the proletarianization process within industrial sectors. There will be no tendency for the proletarianization process itself to decrease. Indeed, because of the general crisis of accumulation that characterizes most advanced capitalist countries, one might even expect pressures for proletarianization within sectors to increase. The net effect of these changes is that there should emerge, towards the end of the century at the latest, a net reduction in the semi-autonomous employee category and perhaps even in the managerial category. In other words, proletarianization will become the dominant aggregate trend of structural change.

These predictions, obviously, are only as good as the data we have presented. And as we have stressed, these data are very shaky. The very measures of class that we have adopted are implausible and the procedure for imputing a class structure on the 1960 and 1970 census data is very problematic. It could well happen that if we had solid data for both of

these years, the results would turn out very differently. On the other hand, many of the biases introduced in our measurement procedures have probably contributed to minimizing the actual degree of proletarianization, and thus these results should not be dismissed entirely.

Ultimately, to resolve scientifically the issues raised in this paper will require new data. It is essential to generate much more refined data on class relations, especially on the problem of autonomy within the labor process. This implies developing a set of measures of objective relations of domination within the labor processes, measures that do not rely on the purely subjective evaluations of people within those processes. More objective measures of the contradictory location between the bourgeoisie and the proletariat are also needed if we are to avoid placing nominal supervisors into the managerial category. Once such measures are developed, it will then be possible to generate data sets on class relations at several points in time, both for the United States and other advanced capitalist countries. Only after such data are available will it be possible to definitively assess the character and dynamics of the transformation of class structure in these societies.

NOTES

¹As Poulantzas (1973, 1975) and others have correctly argued, classes cannot be defined simply at the level of production relations. A full understanding of class must involve political and ideological relations as well. However, since the central concern of this paper is with transformations within the labor process, it is appropriate as a first approximation to limit the criteria for class position to the level of social relations of production. For a discussion of class involving political and ideological relations, see Wright (1978, chapter 2).

²These three dimensions correspond very closely to the elements in the traditional Marxist value equations, where the value of the social product is seen as the sum of Constant Capital, Variable Capital, and Surplus Value. Control over money capital is equivalent to control over surplus value; control over physical capital, to control over constant capital; and control over labor within the labor process, to control over variable capital. This conceptualization emphasizes the fact that the elements in the traditional value equation are not merely "things," but reflect a complex structure of social relations of domination and subordination within capitalist production. (The relationship between these dimensions of social relations of production and Marxist value categories was suggested in a personal communication by Michael Soref.)

³Part A of this Appendix presents a technical discussion of how these three components are calculated.

⁴It is impossible to map occupational categories into class categories directly. Occupation designates locations within the technical relations of production; class, locations within the social relations of production. A given technical function can easily be carried out within a variety of different social relations. For a discussion of the relationship of class to occupation, see Wright (1976, 1977a, 1977b).

⁵One note on the criteria for managers/supervisors: Some 50% of all grade school teachers responded "yes" to this question. This was undoubtedly not because they in fact supervise workers on their jobs, but because they supervise students. Although some teachers do probably hold administrative positions, we decided to reclassify all teachers as nonmanagers.

⁶In another data set, the Panel Study of Income Dynamics, an additional question was asked of managers/supervisors: "Do you have any say in the pay or promotions of your subordinates?" In a study of income inequality (see Wright, 1976, 1978b), it was demonstrated that supervisors who did not have any say in pay and promotions were virtually indistinguishable from workers in terms of their income and other characteristics. This suggests that supervisors without any power to invoke sanctions--(nominal supervisors)--should probably not be included in the contradictory location between the capitalist class and the working class. In the data being used in this paper, however, it is impossible to separate out nominal supervisors.

STATISTICAL APPENDIX

A. THE DECOMPOSITION OF CHANGE IN THE CLASS STRUCTURE

The basic method used to decompose the changes in the class structure of U.S. employment is a modified shift-share technique (see Huff, 1967; and Perloff et al., 1960, for other uses of this approach). In their study The Emergence of a Service Society Browning and Singelmann (1975) adopted this approach with the technique developed by Palmer and Miller (1949) and Gnanasekaran (1966) to examine the relationship between the industry structure and the occupational structure. Following their procedure it is possible to decompose changes in the class structure into these components: (1) an industry-shift effect; (2) a class-composition-shift effect; and (3) an interaction effect. For our purposes the industry effect refers to changes in the class structure that result from a changing industry structure. Since the petty bourgeois, for example, are strongly concentrated in agriculture, a decline of this industry disfavors the growth of the petty bourgeoisie, ceteris paribus. The class-composition effect refers to changes in the class structure that result from a changing class composition within each industry, independent of changes in the relative size of these industries. Finally, some changes in the class structure can neither be attributed to changes in the industry structure nor to a changing class composition within industries, but rather they result from an interaction of these two forces or, accordingly, the interaction effect. This procedure is comparable to Kitagawa's (1955) approach of decomposing changes in rates into different components.

An application of this method is carried out in Appendix Table 1. Columns 1 and 2 are the actual numbers in each class category in 1960 and 1970, respectively. The figures in col. 3 would have been observed in 1970 had each class category grown at the same rate as total employment during the 1960's. In col. 4, we assumed that there were no changes in the class composition within industries between 1960 and 1970, and therefore permitted only the industry structure to change as it did. Thus the actual 1970 employment in each industry was distributed according to its specific 1960 class composition. The summation of each class category across the 37 industries results in the figures that are given in col. 4. Cols. 5 and 6 refer to the actual change and the expected change, respectively, in each class category.

The key column in this table is that of the net shifts (col. 7) which indicate the growth of each class category independent of the growth of total employment. A positive figure indicates a relative expansion of this class category, whereas a negative figure indicates a relative decline; the net shifts thus are comparable to the percentage figures in Table 1.

Col. 8 gives the growth of workers in each class category, if there had been only industry shifts but no shifts in the class composition within industries, with the growth rate of total employment controlled. We call this the "industry shift effect." Col. 9 refers to the number of workers each class category would have gained (or lost) had there been no change in the industry structure but only changes in the class composition of industries and an interaction between the two. In order to separate the interaction effect from the class composition shift effect, the standardization was reversed, and this is carried out in Appendix Table 2. In

APPENDIX TABLE 1

Industry Shift Effect and Changes in the Class Structure of the U.S. Labor Force, 1960-70

Class	Employment				Change			Change due to		In %	
	1960 (1)	1970 (2)	Expected 1970 (3)	Weighted 1970 ^a (4)	Actual (5)= (2)-(1)	Expected (6)= (3)-(1)	Net (7)= (5)-(6)	Industry Shift Effect (8) (4)-(3)	Class Compo- sition and Interaction Shift Effect (9)= (2)-(4)	Industry Shift Effect (10)= (8)-(7)	Class Compo- sition and Interaction Shift Effect (11)= (9)-(7)
Employers	36,722	34,173	41,115	37,779	-2,549	4,393	-6,942	-3,336	-3,606	48.1%	51.9%
Petty Bourgeoisie	33,827	31,196	37,873	31,154	-2,631	4,046	-6,677	-6,719	42	100.6	-6
Managers	207,980	239,472	232,859	232,828	31,492	24,879	6,613	5,969	644	90.3	9.7
Semi- Autonomous	68,311	78,817	76,483	81,268	10,506	8,172	2,334	4,785	-2,451	205.0	-105.0
Workers	296,164	336,264	331,592	331,083	40,100	35,428	4,672	-509	5,181	-10.9	110.9
Total	643,004	719,922	719,921	720,112							

Source: 1960 and 1970 census data.

^aWeighted by 1969 class composition within industries.

APPENDIX TABLE 2

Class Composition Shift Effect and Changes in the Class Structure of the U.S. Labor Force, 1960-70

Class	Employment				Change			Change due to		In %	
	1960 (1)	1970 (2)	Expected 1970 (3)	Weighted 1970 ^a (4)	Actual (5)= (2)-(1)	Expected (6)= (3)-(1)	Net (7)= (5)-(6)	Class Com- position Shift Effect (8) (4)-(3)	Industry Shift and Interaction Shift Effect (9)= (2)-(4)	Class Com- position Shift Effect (10)= (8)-(7)	Industry Shift and Interaction Shift Effect (11)= (9)-(7)
Employers	36,722	34,173	41,115	38,655	-2,549	4,393	-6,942	-2,460	-4,482	35.4%	64.6%
Petty Bourgeoisie	33,827	31,196	37,873	36,972	-2,631	4,046	-6,677	-901	-5,776	13.5	86.5
Managers	207,980	239,472	232,859	233,508	31,492	24,879	6,613	649	5,964	9.8	90.2
Semi- Autonomous	68,311	78,817	76,483	75,167	10,506	8,172	2,334	-1,316	3,650	-56.4	156.4
Workers	296,164	336,264	331,592	335,823	40,100	35,428	4,672	4,231	441	90.6	9.4
Total	643,004	719,922	719,921	720,125							

Source: 1960 and 1970 census data.

^aWeighted by 1960 industry structure.

that table, col. 4 results from the assumption that there was no change in the industry structure between 1960 and 1970, and that only the class composition within industries changed as it did. This procedure now allocates the interaction effect to the industry shift effect and thus yields the change in each class category, controlled for the growth of total employment, that would have occurred had there been only changes in the class composition within industries but no shifts in the industry structure (and its interaction). This change is referred to as the "class-composition-shift effect" and it is given in Appendix Table 2, col. 8. By subtracting this class-composition-shift effect from the combined composition-shift and interaction effect (Appendix Table 1, col. 9), the interaction effect is derived. The results of both tables in the Appendix are summarized in Table 6.

B. THE METHOD USED TO IMPUTE CLASS STRUCTURES USING CENSUS DATA

Since there exists no single data set that would permit an empirical investigation of the relationships between class structure and industry structure, we had to link two separate data sources and, in that process, make some rather sweeping assumptions. The two data sources employed in the analysis are: (1) the 1969 Survey of Working Conditions (conducted by the Institute for Social Research, University of Michigan), and (2) the 1960 and 1970 Population Censuses. The Survey of Working Conditions (SWC) could not be used by itself because it was only taken at one point in time and thus does not yield any information about changes in the class structure or the industry structure. The Population Census (PC) reveals changes in the industry structure but it does not contain any

questions about a worker's social class (as defined in this paper). To link the two data sets, we therefore created identical cross-classifications of 37 industry categories and 11 occupational categories with the SWC and the two PC's. The industry and occupational categories represent the total civilian employment in the Survey and in the censuses (for an elaboration of these categories, see Browning and Singelmann [1978]). Using the SWC we then specified the class distribution for each industry-specific occupation. Furthermore, two main assumptions had to be made. First, it was assumed that there is no difference between the SWC and the PC in terms of the class composition of each industry-specific occupation. And second, we assumed that the class composition of industry-specific occupations did not change between 1960 and 1970. Obviously, the second assumption is rather questionable, but it was necessitated by the nature of the available data (see part C of the Appendix for a comment on the biases in the findings that result from these assumptions). Once these assumptions are made, the class composition of each industry-specific occupation as derived from the SWC can then be imputed for each industry-specific occupation in the two censuses. Finally, by aggregating workers of the same class in each industry, we eliminated the occupational categories. The result is thus the class composition of each industry. Comparing the 1960 and 1970 census data, we can then identify changes in the class composition within industries and changes in the overall class structure that resulted from a different industry structure.

C. POSSIBLE BIASES IN THE ESTIMATION PROCEDURE

The strategy adopted for estimating changes in the class structure between 1960 and 1970, and then decomposing those changes into three different components, involved a number of assumptions which undoubtedly introduce various distortions. The following distortions seem particularly important:

1. Underestimation of the size of the petty bourgeoisie and small employer categories (i.e. self-employed) in 1960. Since the reduction in the number of self-employed people during the decade undoubtedly occurred within industry-specific occupational categories (e.g., the reduction of self-employed farmers in agriculture), our method for estimating the imputed class structure for 1960 almost certainly understates the size of the petty bourgeoisie in 1960.
2. Overestimation of the semi-autonomous employee category in 1970. The questions available for measuring the semi-autonomous employee class location in the SWC data were limited to subjective questions concerning "freedom on the job" and "decision-making." While it is probably the case that most people in genuinely semi-autonomous locations would respond "a lot" on the subjective questions, it is probably the case that many people who lacked real autonomy might also respond on the high end of the subjective autonomy questions. This would be expected since it is likely that people answer the question in terms of the expectations of autonomy relative to other similarly situated people, rather than relative to some abstract, absolute norm of autonomy. The result would be that we probably have overestimated the 1970 level of autonomous locations.

3. Overestimation of the size of the managerial category in 1970. Since each person who states that he or she is, even nominally, a supervisor, is being placed in the supervisor/manager class location, we have undoubtedly included certain individuals who are mere conduits for information and lack any real "authority" in the sense of having the capacity to invoke sanctions on subordinates.

4. It is more difficult to say whether we have under- or overestimated the size of semi-autonomous and managerial locations in 1960. If the Braverman thesis is correct and there has occurred a systematic degradation of work within industry-specific occupations, then our assumption that industry-specific class distributions within occupations have remained unchanged would imply that our estimated of the managerial and semi-autonomous locations in 1960 would be underestimates (for the same reason as indicated in #1 above). However, since we have reason to believe that, in fact, we overestimated the size of these class locations in 1970, the actual estimates for 1960 may be closer to the true distributions than for 1970.

5. The net result of all of these possible biases is that we have probably
- a. overestimated the size of the working class in 1960 and underestimated it in 1970. This bias works against the hypothesis of increasing proletarianization.
 - b. overestimated the size of the semi-autonomous employees and managerial/supervisory category in 1970 and, probably, more accurately estimated the size in 1960. This would tend to overstate the increase of these locations during the decade, and thus also work against the proletarianization hypothesis.

c. Understated the size of the petty bourgeoisie and small employer categories in 1960 and correctly estimated them for 1970. This would also tend to reduce the magnitude of any process of proletarianization.

Taken together, therefore, these various biases probably work against the hypothesis of the degradation of labor in favor of the hypothesis of postindustrial deproletarianization. While it is of course impossible to weigh the counteracting effects of such biases until we have real time-series data on transformations of class relations, it seems unlikely that the corrections which would be made would substantially change the conclusions of this study. If anything, it would be expected that the results would be strengthened.

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