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978-0-521-28584-1 - Manufacturing Green Gold: Capital, Labor, and Technology in the Lettuce Industry

William H. Friedland, Amy E. Barton and Robert J. Thomas

Excerpt

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## 1. Agriculture and the comparative analysis of production systems

The importance of agriculture as a production system is obvious. Agriculture constitutes a vital sector of production in *every* society, including ours. The fact, however, that agriculture is very much taken for granted in modern society is both interesting and unusual. With a production sector so important, why is so little public concern directed toward this segment of production?

One reason, of course, is that the urban way of life, particularly when reinforced by the complex division of labor, removes most people from the immediate *situs* of agricultural production. We live our lives thoroughly enmeshed in a division of labor in which agriculture leads a completely separated existence.

Popular journalism from time to time has helped to call attention to agriculture and rural life, especially during periods in which popular dissatisfaction with existing social arrangements has led to a “return to the land” in some fashion. During the hippie period of the 1960s, for example, considerable interest was manifested in small-scale agriculture. In the 1970s the interest in environmentalism led to concern about agriculture, particularly because it had become large in scale, monocultural, and chemical intensive. But except for the infrequent journalistic endeavors that illustrate some aspects of production, most people have little idea of the complex social paths—of the division of labor, the organization of production and distribution systems—necessary to deliver a head of iceberg lettuce to New York City or Wheeling, West Virginia, in January; nor, for that matter, how tomatoes become sauce delivered to the franchised pizza house in Minneapolis.

Agriculture is also taken for granted because it offers only limited employment opportunities. Although growth in employment has shifted to the professional and service sectors and manufacturing still involves tens of millions of people, agricultural employment has been steadily declining. The farm population reached its peak in 1916, declined slowly until 1945, and fell precipitously thereafter (Beale 1978, pp. 37–9). The

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decline in farm population and employment was largely a function of the steady introduction of new technology that required larger and more capital-intensive units of production. At present, agriculture is so highly capitalized that less than 5 percent of the labor force produces most of the food required to feed the United States (Lerner 1975, Table D, pp. 11–25). At the same time, farm exports have increased.

However, agriculture, and its adjacent systems of organization, food processing, and preparation, are not simply complex technological systems: They are complex forms of a *social division of labor*. Why, then, is so little known or reported about the social organization of agricultural production or the social, political, and economic consequences of change in this sector?

At least part of the answer lies in the way in which two specific subdisciplines, rural sociology and agricultural economics, have exercised social science dominion over the agricultural sector. Our immediate concern is with rural sociology. Originally very much interested in agriculture, as the denudation of the rural sector reached epidemic proportions in the 1930s, rural sociologists moved away from agriculture and focused more intensively on rural community life. As rural communities disappeared, many rural sociologists moved their intellectual interests abroad, becoming expert about rural communities in the Philippines, Bolivia, and Pakistan rather than in the rural sections of New York, Wisconsin, or California. The process by which rural sociology became redirected away from agricultural production to other subjects and other geographical areas was complex but was a product of the very institutional enmeshing they experienced by being part of the land grant university system of the United States (Friedland 1979).

If careful analysis of the social organization of agricultural production did not develop within the knowledge-creating networks where it might have been expected, it also failed to appear within two wings of knowledge production—industrial sociology and Marxian labor process analysis—which might have functioned in this arena.

Industrial sociology set for itself the task of understanding social aspects of the division of labor within industrial organization. With its origins in the General Electric Hawthorne experiments conducted by Harvard faculty during the late 1920s and early 1930s (Roethlisberger and Dickson 1939; Mayo 1945; Sheppard 1949, 1950; Landsberger 1958; to cite only a portion of the literature), what began as a “human relations in industry” movement crystallized into industrial sociology after Wilbert Moore (1951) published an important synthesis of the field. During the

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remainder of the 1940s and through the 1950s industrial sociology developed an important body of literature that was largely (although not entirely) concerned with the loss of managerial control and the imperatives necessary to regain control that had been lost to workers during the upsurges of the 1930s (Burawoy 1979, Chapter 1).

Industrial sociology later splintered into several subfields: formal organization, which also was stimulated by Weber's work on complex social organization; the sociology of work; and occupations and professions. As if by definition, industrial sociology largely accepted the prevailing myth that work processes in *agriculture* were somehow different from industry. Two notable exceptions, Fisher (1953) and Stinchcombe (1961), explored the social organization of agricultural production; however, not until recently have others begun to elaborate on their work (e.g., Paige 1975; Thomas 1980a, b, c).

Neither industrial sociology nor the Marxists paid much attention to agriculture. Although the Communist Party had an interest in organizing blacks in the South and spent considerable energy in trying to understand southern agriculture, its analysis was, in fact, paralyzed by the imposition of a set of categories and orientations from outside. The examination of southern agriculture did not begin with an application of general Marxian categories about social relations; rather, it represented an a priori analysis created by an overall "vision" engendered in the Soviet Union.<sup>1</sup>

There was, perhaps, an even more profound impediment to the development of the analysis of agricultural production. Originating in classical Marxism, a tendency developed during the period of influence of the Second International to emphasize the trends within capitalism to increase the size and homogeneity of the working class. This theoretical blinder obscured the process of differentiation taking place *within* the working class, that is, the stratification of workers into status groups built around occupation, race, and sex. This was to become the critical distinction between the approach of mainstream sociology and Marxian social science. The former looked to "social stratification" with a basic set of assumptions about differentiation to explain differences in society; the latter, however, concentrated on social class with a primordial assumption about homogenization.

It took what might be characterized as a "semi-Marxist" comparative analysis to demonstrate that the differences in organization of the labor process produce economic stratification among occupations. Labor process organization will not *only* produce stratification but will also effect differing forms of consciousness corresponding to the economic strata

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within occupations. In this respect we consider Blauner's (1964) comparative analysis of four forms of work organization and Stinchcombe's (1959) essay on bureaucratic and craft administration of production to be important points of departure from the narrow foci of industrial sociology and earlier Marxian analysis. Their work set the foundation for the comparative analysis of production systems.

Although this study focuses on a single system of production, iceberg lettuce, we draw on comparative materials from a second agricultural commodity (tomatoes for processing) to demonstrate (1) similarities and differences in social and technical forms *within* the agricultural sector and (2) how these differences in production affect the composition of the labor force, the internal structure of firms, the external network of organizations relating to production, and the responses of participants (workers and capitalists) to their interaction in the production process.

The comparative analysis of production systems constitutes the broadest frame of reference for the present research. This study will draw from two bodies of theory: Marxian theories of the labor process and elements of industrial sociology/organization theory. This combination will be discussed at greater length in this chapter. However, the distinctions to be made between theories of the labor process and industrial sociology/organization theory are important and should be introduced early on.

The labor process is used to represent the organization of work activities and occupations *and* the relationships among social categories that are a result of those arrangements. Thus the capitalist labor process is characterized by the distinction between wage labor and owners/managers in the organization of work and by the production of value by labor and the appropriation of that value, in the form of unremunerated labor, by the capitalist. Industrial sociology and organization theory, although recognizing the potential for the opposed interests between workers and owners, generally discount the structural opposition of categories central to theories of the labor process; instead, their emphasis is on how organizations and their members work under various circumstances and in different environments. Although it would appear that these two bodies of theory might themselves be opposed, we will attempt to bring together the emphasis on problems of control and domination (labor process) with the problems of administration (industrial sociology/organization theory). Both schema, in our view, offer valuable insights into the study of stratification in industrial organizations.<sup>2</sup> Through the careful examination of specific production practices, we hope (1) to link the process of technological change to the social rela-

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tionships found in production and (2) to illuminate the social differences that are produced by different labor processes.

**The role of the state in agriculture**

Implicit in the analysis of any production process is the role of the state. Because the state has consistently played a significant role in agricultural development, this issue is particularly pressing.

We do not intend here to present a complicated discussion of the character of the state, suffice it to note that we ourselves experience difficulties in dealing with instrumentalist notions of *the state* as “the executive committee of the bourgeoisie” or more pluralistic conceptions of “the government” (Miliband 1969; Dahl 1971). Although we believe the state to be something more complex than a social process engendered by the mode of production, it is difficult to delineate specifically the character of the state, partly because such a discussion tends to become reified as one is required to point to a particular entity like the government or a congeries of organizations.

We will attempt to illuminate state activity, in particular, as it is operationalized by and for agricultural interests. Although risking appearing functionalist in our approach, we begin by sketching in a discussion of the state, its character, and its role in agriculture. The analysis of state action offered here and later starts with the assumption that the state is constituted not only of the legislature and government administration that have created a network of formal legislation and organization but also in the interactions and processes with organized constituencies formed in and around agriculture. We see the state as being the process by which government and private entities meet and produce a network of legislation, administration, and knowledge production within the land grant science institutions to facilitate the process of capital accumulation within and adjacent to agriculture.

Therefore the state is conceived of as a central “figure.” Historically, the intervention of the state has been notable in labor policy and scientific research. With respect to the agricultural labor market, this intervention has been relatively continuous for over a century. The state, for example, played a crucial role in providing the impetus for settlement and land improvement through legislation such as the Homestead Act. It later played a different role in the way in which western lands were “settled” to permit enormous landholdings, at least by comparison with the East and Midwest (McWilliams 1971, Chapter 2). The state played a vital role

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in removing labor from the land during the 1930s when technology could be utilized to substitute for labor. When labor came once again into short supply, the state (not simply the government, but the government in relation to organized groupings of growers) formulated a policy that provided an unlimited supply of labor to agriculture in the form of the *bracero* (see p. 145n1) program (Galarza 1964). When this policy came under criticism and was eliminated, the state permitted an effectively unrestricted flow of labor to agriculture and other industries, even while the government bemoaned its inability to close the border with Mexico.

In a very different way the state has organized one of the most complex scientific systems in the world to sustain agricultural production. This system has simultaneously facilitated the process of economic concentration and capital accumulation in agriculture. The U.S. Department of Agriculture (USDA) research network and the affiliated land grant universities have proven to be two of the most effective knowledge-producing institutions in the history of the development of science.<sup>3</sup>

This science system has been legitimated on the basis of the need to provide support to producers who are too small to develop the scientific knowledge themselves. Yet the system, with distinctive value orientations and commitments built into it and socialized into its personnel, has developed to the point where its integration with big agriculture and large-scale agri-industrial enterprises is thorough and unquestioned.

### **Agriculture and the capitalist mode of production**

Agriculture is composed of a complex of specialized production systems. The peculiarities of weather and soil in the making of food and fiber crops should not, however, obscure the universal character of commodity production in capitalist agriculture. We will undertake an analysis of the social organization of lettuce production in identical fashion as, for example, the making of automobiles. Following Marx, we want to consider agricultural production in the United States, and in capitalist societies more generally, as simply one distinct segment of the *capitalist mode of production*. The capitalist mode of production means that productive forms are assembled for the purpose of making profit. Family farming, corporate farming, and the various admixtures found in the United States, are primarily concerned with the production of commodities that will be moved into exchange for profit. Profit, in turn, will be largely reinvested in the development of more means of production.

The two basic components of the mode of production are the means of

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production and the social relations of production. The means of production constitute all the elements necessary to develop a productive system. In the case of agriculture this involves particularly *land*. However, it also involves a host of auxiliary elements that we normally associate with the term “technology” but which can be designated by the more commonsensical notion of tools.

The shaping of the means of production is, in turn, very substantially a function of the *social relations of production*. This term encompasses the social relationships that are constructed in the process of producing any constellation of commodities within a mode of production. Thus, at a very elemental level, the social relations of agricultural production today, in the United States, are very different from what they were in 1860, for example, when the mode of production within agriculture was characterized by several different forms, including capitalist production (particularly in the Northeast), slavery (in the South), and subsistence (in the far Midwest).

The “family farm,” for example, is a specific organizational form within the capitalist mode of production. But this organization constitutes only part of the totality of social relationships. If a farmer and his or her spouse produce many offspring to participate in production, the relationships with their children become encompassed in the social relations of production. Similarly, if a farmer hires a year-round employee—a “hired hand”—this constitutes a different social relationship. If the farmer employs seasonal workers at harvest for three-week periods, we are discussing still different social relationships.

If the term “social relations of production” encompasses a number of relationships, these *all* stand in contrast to the kinds of social relations encountered in different modes of production. For example, in slave systems, the social relations of production are limited by virtue of the fact that the laborer is himself or herself property. This produces different forms of organization of production because, among other things, the owner must deal with the slave in periods when the slave becomes unproductive, for example, through advanced age, whereas in capitalism this is not the case, for the costs are either borne by the unemployed worker or are thrown on to society through the welfare system.

This brief introduction is intended only to set the stage for the more concrete analysis of the social organization of agriculture. Of necessity, it emphasizes the productive process rather than the derivative social processes, thereby highlighting the differences in emphasis between a sociology of agriculture—and concomitantly the comparative analysis of pro-

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duction systems – and rural sociology. The fact the rural society was once associated with agriculture has decreasing relevance. Unquestionably the origins of the two, agriculture and rural society, were the same. When rural sociology named itself and focused on social organization and proceeded to exclude the productive process from serious consideration it brought about its own demise.<sup>4</sup>

*On the labor process*

Through comparisons of the lettuce industry with other agricultural and nonagricultural production systems, we will argue that fundamental similarities prevail in the structure of social and economic organizations in agricultural and nonagricultural sectors. Of equal importance is the analysis of the factors that influence the organization of production in capitalist industries: How are new methods of production formulated? What forces determine the acceptance or rejection of new technologies? Translated into questions related to our case study: What factors led to the development of a mechanical lettuce harvester? What conditions will lead to its introduction? What consequences might be expected as a result of the mechanization of harvesting?

In order to analyze the problem of change in the organization of agricultural production, we will focus on the labor process. The labor process is conceived not simply as the *physical* organization of work but as the *meeting ground* of the two major social categories: wage labor and capital. In the labor process these social categories shape one another through dynamic and structured interaction; that is, they make one another in the process of producing commodities or things. The relationship between workers and owners/managers pivots on the production of value by one category (labor) and the appropriation of that value by the other category (capital).

The development of the capitalist form of production and the social relationships attendant to it is contingent on its ability simultaneously to accomplish two purposes: (1) to convert labor into a commodity to be hired in the service of capital and (2) to secure the consent of the bearers of this commodity – workers – to participate in the inequality relationship. That is, the critical factors for capitalist economic organizations are labor supply and labor control. Regarding the first purpose, the subordination of independent producers to capitalist manufacture was accomplished historically through the “freeing” of peasant labor from servitude, on the one hand, and the destruction of independent craft production, on the

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other. Activities once circumscribed by the lord–peasant relationship or performed independently were subsumed by the division of labor between and within capitalist enterprises. Stripped of the means by which to exist independent of capital, workers must choose among participation, opposition, or starvation.

The intensification of labor in ever more productive forms of manufacture has been accomplished through the subordination and division of craft activity to the industrial division of labor. This process, nevertheless, remains contingent on the willingness of laborers to participate in the wage-labor contract. The second purpose of capitalist production, therefore, involves the problem of domination, that is, the process of organizing the consent of subordinate categories, in this case, workers, to accept existing arrangements. If workers stand opposed to the de-skilling of their crafts or to the intensification of the activities they perform, they simultaneously threaten the existence of the opposing category in the relationship—the capitalists:

When (the capitalist) buys labor time, the outcome is far from being either so certain or so definite that it can be reckoned with precision and in advance. This is merely an expression of the fact that the portion of his capital expended on labor power is the “variable” portion, which undergoes an increase in the process of production; for him the question is how great that increase will be. It thus becomes essential for the capitalist that control over the labor process pass from the hands of the worker into his own. This transition presents itself in history as the progressive *alienation of the process of production* from the worker; to the capitalist, it presents itself as the problem of *management* (Braverman 1974, pp. 57–8).

The subjective elements in the development and intensification of the capitalist labor process were of signal importance to Karl Marx and his successors. The intensification of the class struggle, they argued, would result from the homogenization of the conditions of the working class and the intensification of capitalist exploitation. This would result in an end in which the opposition inherent in the structural relationship between workers and capitalists would emerge as conscious warfare between classes.

Although the capitalist system and capitalist enterprises have demonstrated remarkable capacity to absorb, ameliorate, and/or displace class struggle, conflict has not been stifled entirely. Yet great attention has been paid by social scientists to those instances of labor–capital struggle that have taken a highly visible form: strikes, labor legislation, and the formation of worker-based economic and political movements. Only in

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recent years have Marxist and neo-Marxist social scientists recaptured Marx's original intense concern with the organization and development of the capitalist labor process. Studies by Braverman (1974), Burawoy (1979), Marglin (1974), Kraft (1977), and Noble (1978), among others, have reintroduced the labor process as a critical area for study.

Burawoy and Noble, in particular, make problematic the issue of cooperation between workers and capitalists in an effort to examine the development and implementation of the labor process. Burawoy argues, in part, that the consent of labor to participate in the inequality relationship is the product of the struggle on the shop floor. The organization of the labor process is itself an object of political as well as economic struggle (Burawoy 1979, Chapter 10). Conflicts in Burawoy's machine shop between machine operators and managers over rates and job specifications constitute part of the less visible class struggle. Struggle over the shape and terms of the labor process, Burawoy suggests, consists of, but is not restricted to, "rate setting" or "soldiering" on the shop floor. Rather, the effort to restrict the "detailing" of work and to wrest some degree of control over work activities is a continuous process in the capitalist enterprise. The capacity to absorb or ameliorate those conflicts constitutes the game that serves to generate consent among workers. Burawoy's analysis further reveals that the design and implementation of new work processes are also objects of struggle.

Noble's (1978) contribution to the analysis of the labor process concerns precisely this last aspect: the forces influencing the physical and social organization of production. The configuration of computer-controlled machining, Noble suggests, is not the end product of some inevitable or unidirectional technological flow; Noble rejects technological determinist arguments. Rather, technological development is tempered by real and potential struggle on the part of workers. Noble's study demonstrates that considerable attention is paid by both engineers and managers to anticipating how workers might undermine or retard their control over the labor process. Management's failure to produce a "conflict-free" labor process, in turn, substantiates Burawoy's thesis.

In our own study close attention will be paid to the organization of the labor process in agricultural production, especially within the lettuce industry. The questions that Burawoy and Noble use to study the labor process will be fundamental to the study of past and potential changes in lettuce production. We will, however, seek to enlarge the scope of the analysis in an effort to incorporate specific labor processes and activities connected to lettuce harvesting. That is, rather than confine the research to harvesting