The Social Analysis of Economic History and Theory: Conjectures on Late Nineteenth-Century American Development

James Livingston


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The social factors... are usually taken for granted by the inhabitants of a nation and often overlooked in explaining economic developments.

John W. Kendrick (Productivity Trends in the U.S., 1961)

Until recently, historians writing about the late nineteenth-century United States cast their story as if the hopelessly outclassed "people" inevitably lost whatever battle they happened to be fighting against "big business" or the larger but no less irresistible forces of market integration and technological innovation. Richard Hofstadter, Samuel Hays, and Irwin Unger, for example, differed with Fred Shannon, John Hicks, and Matthew Josephson on the sources and rationality of the majority's resistance to modernity in the form of corporate capitalism, but all assumed that the outcome was never in doubt, indeed, that another outcome would have been somehow unnatural.¹ Over the last fifteen to twenty years, new historiographical approaches have so deeply undermined this consensus that to retrieve its substance would require exhumation, not resuscitation.

The most important of these approaches are the new labor history and the new economic history. The new labor historians have demonstrated that the working class was perfectly capable of rational collective action, of winning its battles against

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big business, and of making history in its own right. 2 Meanwhile, a few of the new economic historians have suggested that the late nineteenth century could not have been altogether pleasant for big business because prices, profits, per capita output, and labor productivity growth declined alarmingly from 1870 to 1896. 3 The silence that has settled on the border between these two fields is particularly unfortunate, since both sides evidently agree that, in the late nineteenth century, big business simply did not have the political, economic, or cultural authority customarily ascribed to it.

This unacknowledged agreement between the new labor and new economic historians emerges at a moment when departures in political and cultural history lend powerful support to their revisionist theses. It is probably fair to say that from the remains of the old consensus a new one is already emerging, one which suggests that the late nineteenth century may best be characterized in terms of political, economic, and cultural stalemate. In any case, the recent literature shows that capitalists could not and did not make their social power legitimate or authoritative in any sphere of life until the last decade of the century. 4

This inadvertent consensus may be taken as an invitation to rewrite the history of the United States in the late nineteenth century. It suggests at the very least that

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the relation between market power, political power, and cultural authority was anything but linear between 1870 and 1900. But this insight raises a methodological problem that must be addressed before we accept the invitation to rewrite a part of U.S. history: how do we propose, describe, and test a historical relation between the political and economic events we can quantify and the social or cultural phenomena we cannot? To put it another way, how can we integrate the new economic and the new labor history?

One promising solution is to be found in economic theory, the discipline that, as Robert Fogel has suggested, is the source of the new economic history. Over the last twenty-five years, the lack of an adequate theory of distribution consistent with the principle of marginal productivity has driven many economists toward the post-Keynesian model that emerged from the Cambridge debate on neoclassical capital theory, from 1954 to 1970. The most striking and significant finding of this unfinished model—it is more a critique of neoclassical economics than a theory in its own right—reveals that, since no such thing as a "quantity of capital" can exist apart from a given rate of profit, one cannot deduce rates of profit and other elements of income distribution from that quantity, no matter how it is measured. Instead, economists must posit a real wage and a "rate of exploitation" of labor and then proceed to estimate incomes as if capital is a continuum of ownership, not a quantity of goods whose measurable value is determined by its prospective yield. It follows that the distribution of income depends fundamentally on the balance of social power between the active factors of production (capital and labor), and not, as neoclassical theory holds, on the marginal productivity of capital goods. At a higher level of argument, it also follows that economic events are explicable only by reference to the social relations within which they appear—by reference, that is, to historically specific contexts of production and exchange.5

The new economic history in the late 1960s rose on theoretical foundations that had been found inadequate to bear any appreciable load of quantitative data and measurement. It is only now, in the aftermath of the Cambridge debate, that we can see that the social and cultural context of economic change is not what the new economic historians have assumed it to be—an "exogenous factor" that can safely be ignored in building quantitative models of economic behavior and growth. We can see instead that Karl Marx, Thorstein Veblen, and Joseph Schumpeter were not so very wrong to claim that economic change and progress have social and cultural causes and to analyze economic history and theory on that assumption.

If these new historiographical tendencies represent an invitation to rewrite U.S. history of the late nineteenth century, the post-Keynesian critique of neoclassical theory provides a good reason to accept the invitation: a rationale for an attempt to reintegrate the economic and the social dimensions of that history.

This attempt begins with three hypotheses. First, the relative but significant retardation of growth rates after 1870 was the economic consequence of a social stalemate. Second, renewed economic growth after 1896 was but one aspect of a broader shift in the balance of social power and cultural authority. Third, the American version of the marginalist revolution in economic theory was part of a larger, pragmatic effort to grasp economic retardation as a problem of distribution—a social problem—and thus to describe the conditions under which capital could be defined as a factor of production and a legitimate claimant to a share of national income. Together, these hypotheses constitute an argument about the emergence of corporate capitalism that may be read as an alternative to both the new economic history and the so-called organizational synthesis; they suggest that the innovation we know as the modern corporate system was an economic solution to a stubborn social impasse, not merely an administrative response to market integration or technological imperatives.\(^6\)

throughout the same period. He derived his explanation for this general retardation from a straightforward but rigorous application of neoclassical growth theory: the relative decline after about 1873, he argued, was an inevitable product of the economy's adjustment to conditions generated by the Civil War, particularly to the extraordinary leap in the rate of gross savings between the 1850s and the 1870s. In other words, the rate of capital stock growth had to decline from the initially high levels induced by this "once-over savings rate change" to one approaching the constant rate of labor force growth.  

Williamson's resurrection of the Great Depression thesis has not gone unchallenged. His colleagues among the new economic historians are likely to suggest that he has created an analytical problem by capricious dating, or that he has ignored the effect of a declining rate of population growth on rates of economic growth. Many colleagues would dismiss his argument as a restatement of the myth invented in the late nineteenth century, by those in business, who, under the spell of "money illusion," complained constantly about declining profits, because they confused the nominal value of income with real purchasing power.

The empirical contours of economic retardation need to be established before we can reexamine its causes and consequences. To begin with, the secular decline of growth rates between 1870 and 1900 is not a statistical apparition created by an arbitrary selection of dates. The depression of 1873–78 was, in some respects, more severe than that of 1893–97; yet the retardation in the growth of gross national product per annum between 1870 and 1899 is clearly documented in standard sources.  

(See Table 1.) The decline in growth of GNP per capita, per worker, and per work-hour over the late nineteenth century is also clearly documented in the sources. (See Table 2.) Hence, the decline in the rate of population growth from 1870 to 1900 cannot begin to account for economic retardation over the same period. Finally, the claim that businesspeople confused deflation with depression, and so should be taken no more seriously than Williamson should, ignores two significant aspects of the relevant historical reality. First, the "money illusion" can account for late nineteenth-century complaints about falling profits and commercial depression only if output per worker—labor productivity—was increasing relative to money supply. As the accompanying tables show, that crucial condition was not met in the deflationary 1880s and 1890s. Second, business opinion on the question of profitability determines investment behavior and thus the broad pattern of economic growth in a market economy. Entrepreneurs and executives may well feel proud of their role in creating an abundance of commodities, but, in their own interest, they must be concerned more with the market-exchange value of commodities than with the use-value of commodities. Thus, they may define a period of unprecedented absolute growth in real output as a depression, because the market clears at prices that do not cover

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7 See Williamson, "Late Nineteenth-Century Retardation," and Late Nineteenth-Century American Development, chap. 5.
TABLE 2
Growth in GNP Per Annum

<table>
<thead>
<tr>
<th>Decade</th>
<th>Per Capita</th>
<th>Per Work-Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1874*–84</td>
<td>3.8%</td>
<td>3.2%</td>
</tr>
<tr>
<td>1884**–94</td>
<td>0.6%</td>
<td>0.6%</td>
</tr>
<tr>
<td>1889–99</td>
<td>2.3%</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

* 1869–78 decade average is centered on 1874.
** 1879–88 decade average is centered on 1884.

Overlapping Decades

<table>
<thead>
<tr>
<th>Period</th>
<th>Per Worker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1878–82 to 1888–92</td>
<td>1.0%</td>
</tr>
<tr>
<td>1883–87 to 1893–97</td>
<td>0.58%</td>
</tr>
<tr>
<td>1888–92 to 1898–02</td>
<td>1.50%</td>
</tr>
<tr>
<td>1893–97 to 1903–07</td>
<td>2.36%</td>
</tr>
</tbody>
</table>


Real costs or allow reasonable profits. In any case, we should not be surprised if businesspeople are not as eager to serve the public good as they are to preserve the incomes and discretion that accrue to private entrepreneurs in a market society.

Some economists and historians will accept the empirical contours of late nineteenth-century economic retardation as they are sketched here but will insist they are insignificant because the growth rate of the GNP per annum was higher then than it has been in the twentieth century. This line of argument fails to acknowledge, however, that the more inclusive measure of economic growth, GNP per capita, increases from the nineteenth to the twentieth century. As Williamson emphasized, the question is not whether overall growth took place between 1870 and 1900—of course, it did—but how to explain variations in the rate of growth: the real questions are why the rate of growth fell between 1873 and 1896, and why it increased thereafter.

Williamson’s neoclassical model served him well in explaining late nineteenth-century economic retardation, but he acknowledged that it cannot account for the “turn of the wheel” after 1896. This is not to suggest that a more-or-less Keynesian model has produced what is needed, a unitary explanation of the data on retardation and renewed growth. As Williamson pointed out, “None of the neo-Keynesians have offered an explicit test of the aggregate demand thesis.”


10 See Williamson, Late Nineteenth-Century American Development, 117–18.
several influential nineteenth-century economists developed and, in fact, tested a coherent explanation of economic retardation predicated on a concept of aggregate demand, which, accordingly, recognized no contradiction between a higher rate or volume of savings on the one hand and a "profit squeeze" or falling real interest rate on the other. In the terms of this model, the symptom, curse, and perhaps the cause of late nineteenth-century economic retardation was a shift in the distribution of income from profits to wages, or from capital to labor, a shift that was enforced by patterns of investment, production, and employment peculiar to the postwar era. From the standpoint of these economists, therefore, the condition of a faster rate of economic growth was a means by which capital could reclaim the income transferred from profits to wages after 1873.

The economists who developed this model in the late 1880s and early 1890s were David Wells, Edward Atkinson, Carroll D. Wright, Jeremiah Jenks, and Charles Conant. Each emphasized real, not monetary, factors in explaining what Wells, Atkinson, and Jenks, for example, defined as a prolonged depression that began in the mid-1870s. All of them suggested that inadequacies of aggregate demand were at the heart of the economic problem. More to the point, each of these observers used statistical evidence to argue that the consequence of late nineteenth-century depression was a shift in the distribution of income between capital and labor, which, by the late 1880s and early 1890s, had perhaps become a cause of economic retardation. Their calculations showing labor's gain at the expense of capital were designed, then, not as a defense of the status quo but as proof of the need to restate and reconstitute the conditions for capital's claim to a reasonable share of national income.

For example, in Wells's landmark study, Recent Economic Changes, he noted that "there may be... an amount of production in excess of demand at remunerative prices, or, what is substantially the same thing, an excess of capacity for production." He suggested, moreover, that this theoretical possibility of overproduction had become a depressing actuality after 1873. The consequences of production beyond effective or remunerative demand were, first, a general decline of prices, and second, a shift in the distribution of income from profits to wages. "If there is a progressive fall of prices without a corresponding fall of wages," Wells argued, "profits must fall progressively, and interest also, since the rate of interest is governed by the profits which can be made from the use of the capital. Now this is exactly what has happened in recent years. Profits and prices of commodities have fallen, except in a few special departments. Consequently the purchasing power of wages has risen, and this has given to the wage-earning class a greater command over the necessaries and comforts of life."

David Wells, Recent Economic Changes (New York, 1889), 84–86, 406–22. This is probably the most cited book of the period 1890–1910. That Wells and the others did not see the tendency of economic development any differently than their counterparts in the late nineteenth-century business community is documented in Willard Thorp's Business Annals (New York, 1926), 103, 131–37. As a theoretical proposition, Wells's argument here is questionable because it does not take productivity increases into account. But he was more interested in the empirical contours of economic change after 1873 and indeed refused to integrate his evidence on overproduction into a theory of business cycles.
Jeremiah Jenks, an economist at Cornell University who became counsel to the U.S. Industrial Commission in 1900, agreed with Wells in every important respect. In a review of *Recent Economic Changes*, Jenks observed that “the business depression of the last fifteen years” was a development worthy of the “careful study” Wells had devoted to it. And he, too, suggested that “the capitalists [had] suffered[ed] most, proportionally,” in this prolonged depression because the “remarkable reduction in prices” that characterized the era was the consequence of a “large increase” of output that, in the absence of remunerative demand, meant “small profits.” By contrast, Jenks emphasized, “Wages, on the whole, have steadily risen.”

Edward Atkinson, a Boston textile manufacturer and economist, also argued that the late nineteenth century was not a promising epoch for capital: “Since 1873 a great and general reduction of prices has taken place the world over. What has been called depression has been more common than activity in commerce.” His calculations showed that the purchasing power of skilled labor had risen about 100 percent since 1865, while the earning power of capital had declined “absolutely one half and relatively at least 75 percent since 1860.”

Carroll D. Wright, a distinguished commissioner of labor for Massachusetts and the U.S., was similarly interested in the distribution of national income and for the same reasons. He and Atkinson became consultants to Senator Nelson Aldrich’s Finance Committee when it set out, in 1890, to chart the disturbing and possibly dangerous relation between prices and wages. Wright’s sophisticated statistical studies (he used weighted averages to compute necessary expenditures for wage earners) showed that wages in industry rose almost 70 percent between 1860 and 1891, while the “prices of 223 commodities entering into consumption” fell about 6 percent over the same period.

Charles Conant, the country’s leading authority on banking and a prominent theoretician of banking reform from 1898 to 1913, summarized the effect of these tendencies in 1896: “Those laborers who continue to earn their customary wages are benefitted materially in a period of low prices, because of the greatly increased purchasing power of their earnings. An industrial enterprise which continues to operate without profit or at a loss during a depression . . . transfers all its benefits,


13 Edward Atkinson, *The Industrial Progress of the Nation* (New York, 1889), 111–21. That Atkinson’s calculations with respect to the earning power of capital were not mere figments of a paranoid imagination is demonstrated in Paul Uselding, “Factor Substitution and Labor Productivity Growth in Manufacturing, 1839–1899,” *Journal of Economic History*, 32 (1972): Table 1 at p. 672, col. 5.

therefore, to the wage earners, and their wealth is enhanced at the expense of the owners of inherited or accumulated capital." Since Conant, like Wells, Atkinson, Jenks, and Wright, equated civilization and progress with private investment and capital accumulation, the problem of income distribution so conceived involved more than equity in the short run.15

All these observers, it should be emphasized, were aware that economic growth after 1870 was, in absolute terms, unprecedented. Wells pointed out that, in the quarter-century after 1873, economic change was "more important and varied than during any former corresponding period of the world's history." The "greater control over the forces of nature" produced by this change was self-evident. The problem, again, lay in capital not receiving appropriate remuneration for its contribution to growth. By the 1890s, in other words, capitalists were in danger of becoming public servants, as E. S. Meade of the University of Pennsylvania suggested in 1900.16

Williamson has demonstrated that these observers had reasonable grounds for their concern about the character of economic growth in the late nineteenth century. But we need to know whether their more specific concern about a transfer of income from capital to labor was equally reasonable or is equally subject to verification by the use of modern techniques. Here, a post-Keynesian model becomes useful. It suggests that the key to income distribution between capital and labor is the "rate of exploitation." Assuming that we may translate and quantify this term as the rate of labor productivity growth, and that we can measure real wages over time, we can use the model to postulate changes in income distribution. The relation between growth in real wages and labor productivity is what concerns us, as Clarence D. Long explained in his monograph on late nineteenth-century wages and earnings: "So large is labor's share of national income that any substantial disparity between productivity and real wages would exert great impact on the other shares—either largely expropriating them or presenting them with huge windfalls."17 If real wages are increasing rapidly as a result of drastic price deflation, for example, and labor productivity is not increasing at a comparable rate, capital's share of national income will be to that extent "expropriated" by labor.

If we can judge from the data produced by the National Bureau of Economic Research (NBER) and other agencies, this hypothetical situation corresponds to


historical reality in the United States of the late nineteenth century. Price deflation and the consequent growth of real wages were not offset, it seems, by a comparable growth of labor productivity. But the disparity between growth in real wages and labor productivity is most noticeable in the later stages of the period, between 1884 and 1894. Productivity in the non-farm sector barely improved in these ten years, while real wages continued to increase rapidly, at a rate five to six times faster than productivity. Meanwhile, output per industrial worker calculated in dollar amounts declined 5 percent from 1874–83 to 1884–93, as earnings per industrial worker increased about 4 percent.  

This divergence is striking enough in itself, given what we know about absolute rates of growth in the period as a whole. But the 1880s also saw a doubling of the capital endowment per worker and the beginnings of a movement in industry toward the rationalization of work routines and cost control through “systematic management.” The growth of labor productivity did not suffer for lack of effort by capitalists and their representatives on the shop floor. Thus, concern about a transfer of income from capital to labor was becoming eminently reasonable by 1890; it is no accident that, between 1888 and 1896, many influential interpreters of nineteenth-century economic development began to worry about the implications of such a shift in the distribution of income.

In retrospect, the solutions to the problem of economic retardation seem obvious. On the supply side, capitalists had to reduce wages, speed up the mechanization of production, and, ultimately, seek to adjust output more nearly to demand, if they hoped to bring growth of real wages and labor productivity into line. On the demand side, their only hope—at least for the time being—was in foreign markets, because price stabilization was impossible without control of domestic supply. This need probably explains why empire was an inviting prospect in the 1890s. But the development of foreign markets was practically impossible without the economies of scale promised in large corporate enterprise, a conclusion that nineteenth-century analysts of the business system did not fail to draw. In this sense, every possible solution to the problem of retardation as

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defined by Wells and the others presupposed capital's effective control of the supply side. As a practical question, effective control meant control of that realm of social life we call the labor process. The key was to accelerate the pace of mechanization at the point of production, because that meant abolishing the high labor costs associated with craft skill.21

If we can judge from the work of the new labor historians, this acceleration is precisely what capitalists could not accomplish in the late nineteenth century. Until the mid-to-late 1890s, skilled workers were able to enforce social norms that sanctioned their control of machine production. Before then, the extent of the division of labor and the pace of mechanization in the factory were largely determined, it seems, not by management's new rules of efficiency and reasonable profitability, but by work rules first enacted spontaneously by skilled trades, then codified in union contracts, and ultimately enforced by strikes. The official historian of the Carnegie Homestead Works complained, for example, that, until the skilled workers' union was destroyed by a lockout in 1892, the "method of apportioning the work, of regulating the turns, of altering the machinery, in short, every detail of working the great plant, was subject to the interference of some busybody representing the Amalgamated Association." Extraordinary as it might sound, this complaint was neither unfounded nor confined to the steel industry.22

John Frey, an experienced iron molder and a leading labor journalist, ascribed the considerable power exercised by skilled workers at the point of production to the indivisibility of mental and manual labor that workers maintained, first as an unspoken cultural tradition and then, more consciously, through union work rules: "It is this unique possession of craft knowledge and craft skill on the part of a body of wage workers, that is, their possession of these things and the employers' ignorance of them, that has enabled the workers to organize and force better terms from the employers." But, as Frey recognized, the mechanization of industrial production threatened to remedy the ignorance of employers because it entailed a "separation of craft knowledge from craft skill"—that is, it promised to reconstitute and systematize in specialized machines the "scattered craft knowledge" of skilled workers, leaving them with only their "manual skill and dexterity" to sell in the labor market. "The machinery instead of the man is the brains," as a young machinist explained the result to a Senate committee in 1883.23


23 John Frey is quoted at length in Robert Hoxie, Scientific Management and Labor (New York, 1915), 132–37, emphasis in original. The machinist, John Morrison of New York, is quoted from his testimony before the Senate Committee on Education and Labor, Report of the Committee of the Senate upon Relations between Capital and Labor and Testimony taken by the Committee, 48th Congress, 2d sess., S. Report 1262
TABLE 3
Issues in Strikes, 1881–1905

<table>
<thead>
<tr>
<th></th>
<th>Strikes over Working Conditions*</th>
<th>Strikes over Working Conditions Excluding Union Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Including Hours Excluding Wages</td>
<td></td>
</tr>
<tr>
<td>1881–85</td>
<td>30.6%</td>
<td>22.8%</td>
</tr>
<tr>
<td>1886–90</td>
<td>51.1%</td>
<td>37.1%</td>
</tr>
<tr>
<td>1891–95</td>
<td>49.7%</td>
<td>34.3%</td>
</tr>
<tr>
<td>1896–1900</td>
<td>50.2%</td>
<td>34.3%</td>
</tr>
<tr>
<td>1901–1905</td>
<td>60.7%</td>
<td>31.6%</td>
</tr>
</tbody>
</table>

* working conditions = hours, union recognition and rules, employment of certain persons, method and time of payment, work rules, discipline, etc.


It was this fundamental division of mental and manual labor, not machine production or “industrialism” as such, that skilled workers and their allies fought with remarkable tenacity in the 1880s and 1890s. There are three ways to measure their success. First, wages were not reduced to the extent that managers wanted or sought between 1886 and 1894, largely because longer hours could not be imposed on workers. Second, the gross surplus available to manufacturers—the share of revenue from value added that industrial capitalists could retain after covering wages—declined noticeably over the same years.24 Third, the growth of productivity virtually ceased until 1895–96. But skilled workers were successful in these terms because they did not have to rely on the resources they could bring to bear at the point of production. They did not ignore or misuse their ultimate weapon, the strike—in fact, they struck more often when the battle over control of the workplace intensified in the late 1880s and 1890s.25 (See Tables 3 and 4.) Even so, skilled workers could not have been as effective as they were if their identification with and access to the sources of political power and cultural

(Washington, D.C., 1885), vol. 1: 763. From the standpoint of skilled labor, scientific management thus signified more than Frederick Winslow Taylor’s compulsive clockwork. To claim that scientific management was relatively unimportant because Taylor’s disciples were never able to transform industrial production according to their particular principles is, then, to miss the point.


TABLE 4

<table>
<thead>
<tr>
<th>Years</th>
<th>Strikes</th>
<th>Establishments</th>
<th>Won</th>
<th>Compromised</th>
<th>Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881–85</td>
<td>2,491</td>
<td>12,443</td>
<td>56.1</td>
<td>8.7</td>
<td>35.2</td>
</tr>
<tr>
<td>1886–89</td>
<td>4,849</td>
<td>27,270</td>
<td>44.2</td>
<td>13.1</td>
<td>42.8</td>
</tr>
<tr>
<td>1890–93</td>
<td>6,153</td>
<td>27,635</td>
<td>43.7</td>
<td>9.8</td>
<td>46.5</td>
</tr>
<tr>
<td>1894–97</td>
<td>4,668</td>
<td>29,123</td>
<td>53.0</td>
<td>15.1</td>
<td>31.9</td>
</tr>
<tr>
<td>1898–1901</td>
<td>7,556</td>
<td>35,282</td>
<td>54.4</td>
<td>15.0</td>
<td>30.6</td>
</tr>
<tr>
<td>1902–05</td>
<td>11,040</td>
<td>52,990</td>
<td>38.5</td>
<td>19.1</td>
<td>42.4</td>
</tr>
</tbody>
</table>


authority had not protected and enlarged the social meaning of their strikes. For example, external forces of "law and order" were usually neutralized during the strikes of the 1880s, since many local officeholders, editors, and shopkeepers supported striking workers (skilled and unskilled) against the large employers. This solidarity was possible partly because the market power of large capital had not yet been acknowledged as a permanent or legitimate dimension of American society. This situation made strikebreaking and union-busting more difficult and, to that degree, upheld skilled workers' claims at the point of production.\(^{26}\)

In the 1880s and, to a lesser extent, the 1890s, skilled workers were able to enforce, in contracts and by strikes, those social norms that presumed and sanctioned their control of machine production. In short, they won the battle against "systematic management." They lost the war, of course, as both the new and old labor historians have demonstrated. But the number, pattern, and resolution of strikes in the 1880s and early 1890s suggest that, by and large, skilled workers were successfully meeting the challenges of employers to effective control

\(^{26}\) See Herbert Gutman's work, "Class, Status, and Community Power," especially 269 and following; "Protestantism and the American Labor Movement: The Christian Spirit in the Gilded Age," AHR, 72 (1966): 74–101; "Work, Culture, and Society in Industrializing America," AHR, 78 (1973): 531–88, especially 567–71; "Trouble on the Railroads in 1873–74: Prelude to the 1877 Crisis?"; and "Two Lockouts in Pennsylvania, 1873–74," in Work, Culture, and Society in Industrializing America (New York, 1976), 295–343, especially 303, 307–12, 340–41. See also Dubofsky, Industrialism and the American Worker, 34–41; Walkowitz, Worker City, Company Town, 192, and following; Ozanne, Century of Relations, 26–28; Fink, Workingmen's Democracy, 25–33, 50–56, 119–26, 221–23; and Michael J. Cassity, Modernization and Social Crisis: The Knights of Labor and a Midwest Community, 1885–86,” Journal of American History, 66 (1979): 41–61, especially 43–47. The remarkable solidarity of skilled and unskilled workers may also be inferred from the anomalous ratios of skilled to unskilled workers' wages in manufacturing and building trades, from 1884 to 1899: at the moment of economic development when inequality should have been rising and pay ratios should have been widening, these pay ratios were doing no such thing. See Williamson and Lindert, American Inequality, 71–82, 163–64, and Appendix D at p. 307.
of machine production and were thus enforcing the disparity between productivity and real wages that transferred income from capital to labor. Skilled workers, by maintaining their control of machine production, may also have slowed the rate of "technological convergence"—the rate at which new metal-working techniques are exported from machine tool industries and adapted to wider uses in the capital goods sector—and thus may have prevented the kind of cost reductions, improved capital efficiency, and increased productivity that technological innovation in this sense often promotes. From either standpoint, late nineteenth-century economic retardation derived from a fundamental social stalemate.

The argument acquires more plausibility if the turn of the wheel after 1896 can be explained in similar terms, that is, as the product of a shift in the balance of social power. To begin with, we need to know how the existing relation between growth in real wages and labor productivity was reversed after 1894, so that capital's share of national income grew relative to labor's share. The pivotal question concerns labor productivity, for, as we have seen, a real wage increase does not necessarily entail a reduction of profits and a transfer of income from capital to labor.

An accelerated pace of mechanization in industry certainly contributed to the acceleration in the growth of labor productivity. But, as John W. Kendrick emphasized, the forces underlying growth in productivity are more complex than mere changes in technology. By his account, significant technological changes presuppose a "socio-economic organization or 'institutional' framework that enables or promotes the pursuit of efficiency." We should, then, be able to describe a connection between change in this respect and increased labor productivity. One way to do so is to posit the industrial corporations that emerged from the crisis of the 1890s as a new "institutional framework" through which capitalists could assert their control of an increasingly mechanized labor process.

There are, in turn, two ways to frame the hypothesis. On the one hand, we can ask whether the new industrial corporations were in fact the instrument through which the social power of skilled workers was challenged and broken. On the other, we can ask whether the corporate innovators perceived the corporations they formed as an instrument for this type of social renovation. In historiographical terms, the approach through perception is the more interesting, because it may provide the outline of an alternative to the so-called organizational synthesis;


28 Kendrick, Productivity Trends in the U.S., 177. No matter whose estimates of real wage growth are accepted, after 1895, such growth declined to at least half the rate of the period 1884–1894. Moreover, there is little controversy on the question of labor productivity growth in the period 1895–1914. On real wages, compare Paul A. Douglas, Real Wages in the U.S. 1890–1926 (New York, 1930), and Albert Rees, Real Wages in Manufacturing 1890–1914 (Princeton, N.J., 1961).
besides, there can be little doubt about the coincidence of the emergence of the large corporations, the mechanization and homogenization of the labor process, and the eclipse of the control of production by skilled workers from 1894 to 1919.29

Before we take up this approach, however, it should be noted that, in the late nineteenth century, the discussion of the "social question" normally implied or simply meant discussion of the "labor problem." The assumption that industrialization in the United States was producing a permanent working class and a class society according to the European model informed almost every contemporary analysis of economic development, regardless of the analyst's political sympathies. By the last decade of the century, equating the social question and the economic question had become typical. For capitalists as well as Populists, the reorganization or redefinition of the market economy became the only basis of social stability, progress, and justice.30

From the standpoint of the capitalists, coming to terms with the labor problem meant solving the problem of overproduction. As long as the determination of prices was left to the demand side, profits could be raised or reinstated only by cutting wages and breaking unions. Bitter class conflict appeared to be the inevitable result. In any case, wage cuts and lockouts did not always succeed in their purpose; at least, they had not between 1884 and 1892. The vice-chairman of the Chicago Conference on Trusts explained the dilemma this way: "A large part of the friction that has existed between capital and labor, causing strikes, lockouts and riots, was the result, in part, of overproduction. The product was unloaded at a loss, the owners tried to recompense themselves by cutting the wages of their workmen." Carroll D. Wright analyzed the problem in similar terms: "If there are more goods in the market than there is any demand for, and goods must be made at a loss, and there is no advantage in the purchase of raw material, labor is the only elastic feature in the [cost of the] product." Arthur T. Lyman, the treasurer of the Lowell Manufacturing Company, was more succinct: "When profits disappear wages must fall."31


30 This is why Woodrow Wilson could state in 1897 that "only currency reform can touch the cause of the present discontents." Public Papers of Woodrow Wilson, Ray S. Baker and William E. Dodd, eds., 3 vols. (New York, 1926), 2: 329, 354. Compare the preface to Conant's History of Modern Banks of Issue: "The issue of the present and of the immediate future ... is the best means of developing the possibilities of individual and national life. This issue is essentially an economic one"; p. vi.

Business leaders and influential interpreters of economic development had the same answer to the problem of overproduction: “combination,” a corporate consolidation of control over investment and production. They proposed to narrow the social basis of investment decisions by centralizing claims to productive assets through the legal device of corporations. For example, Jeremiah Jenks noted that the “waste of competition . . . which comes from the inability of adapting one’s plants and output to the needs of the market . . . can be partly saved by combination of many manufacturing establishments in one industry under one management.”

On this, the economists and the capitalists were practically unanimous.\(^2\) If prices could be stabilized at a level that allowed reasonable profits, because supply was adjusted to demand—if overproduction was to this extent abolished—then capitalists would not have to treat wages as the crucial variable in calculating the difference between costs and prices that equaled profits. Thus, resorting to class war would not represent the best alternative to operating at a loss. This corporate alternative presupposed a social agenda; for, if it were to succeed, the small or marginal entrepreneurs would have to be effectively disciplined or simply purged from the economic organism: they would have to give up their once-commanding role in resource allocation if overproduction were not to be resurrected from the supply side. William Jennings Bryan’s “broader class of businessmen” became an endangered species by the mid-1890s. “They are the ones who have been caught between the upper and the nethe; mill stones,” as James J. Hill of the Great Northern Railway put it, “they are the middlemen, and the small competitor who was unable to meet the larger concern in the open market.”\(^3\)

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\(^3\) J. Jenks, *Trust Problem*, 34–36. The evidence on this agreement is overwhelming. See, for example, vols. 1 and 13 of the U.S. Industrial Commission Reports; *Chicago Conference on Trusts; Proceedings of the American Economic Association*, 9 (1900); and Annals: *Corporations and the Public Welfare*, 12 (1900). For a summary, see chap. 2 of my *Origins of the Federal Reserve System*. It is worth noting that in the period 1886–96 “cooperation” took on a new meaning; instead of describing the outlook of the labor movement (particularly the Knights of Labor) and the Populists, “cooperation” became a word that described the outlook of corporate innovators and of those economists who were critical of laissez-faire capitalism, and who accordingly looked for an alternative in more civilized, more centralized forms of control over the investment system. On this semantic evolution and its corollaries, see Dorothy Ross, “Socialism and American Liberalism: Academic Social Thought in the 1880s,” *Perspectives in American History*, 11 (1977–78): 5–79, especially 23–44.
The social agenda announced in this corporate alternative to overproduction necessarily included more than an elimination of small-scale entrepreneurs. Control of supply under corporate auspices meant consolidating ownership of the separate companies and dispersed plants that had competed with each other for sales and profits within limited markets. It also meant establishing or consolidating managerial control at the point of production, where skilled workers held sway. In the view of the corporate innovators, bringing an end to "ruinous competition" was senseless unless the plants that remained in operation after a merger or reorganization could be made more efficient and productive. If wage rates were not flexible (as indeed they were not), the condition of greater efficiency and productivity was the further mechanization of the labor process. Charles R. Flint, a founder of the U.S. Rubber Company and perhaps the most outspoken promoter of corporate consolidation, explained how this condition could be met only within the new institutional framework of the corporate system: "The American workingman to-day earns higher wages than are paid in any other country. This condition has been made possible ... because the American workingman produces more, and he produces more because he has been supplied with the most perfect system of labor-saving machinery on earth. To supply this machinery, large capital is necessary. The individual manufacturer, standing alone, is not in a position to perfect his machinery in the same measure as the consolidated enterprise."\textsuperscript{34}

In these terms, the most important of the "economies of scale" to be realized by the large corporations was their capacity to finance greater investment in fixed capital while reducing the ratio of fixed costs to the value of total output. Of the "various economies" residing in the large scale of the corporations, Flint and his peers emphasized above all else that "centralized manufacture permits the largest use of special machinery."\textsuperscript{35} The corporation thus constituted a means to the end of mechanizing, and controlling, the labor process. Skilled workers and capitalists agreed that technological innovation at the point of production was a preeminently social process that would determine whether employers or employees controlled the labor process. A survey of production methods in industry by the U.S. Commissioner of Labor in 1898 found, for example, that cutting leather parts for shoes and boots could be (and was) done by hand in about half the time it took by machine. The apparent anomaly bothered the commissioner enough to query one respondent. "When called to the attention of the manufacturer he stated that the time was correct, and that a smart cutter unhampered by 'union rules' could perform the work in the time specified." The point of installing the cutting machinery was, then, to shift control of output from labor to capital, even though,

\textsuperscript{34} Flint, "Industrial Consolidations," 675.

as the commissioner's report noted, the "greatest efficiency is obtained under the primitive method."  

Labor unions had a role in the corporate dispensation, but they could not be allowed to exercise any meaningful control of machine production. If unions limited the use of new labor-saving machinery to preserve the indissolubility of craft skill and craft knowledge, the "economies of scale" promised in the mechanization of production could not be realized. This threat held special significance when corporate leaders contemplated the development of foreign markets, a field of enterprise in which the large corporations were indispensable. For example, Frank Vanderlip, the vice-president of New York's National City Bank, declared in 1903 that "controlling the world's industrial markets" was almost certainly the destiny of the United States. "The only serious obstacle in the way of that," he noted, "will be our labor organizations." Unions that sought to increase wages were perfectly acceptable. If they sought any role in determining rates of output, however, as they were accustomed to doing in the late nineteenth century, they would undermine American competitiveness in world markets: "We are surrounded by conditions that will permit us to pay two or three times as much wages as our foreign competitors and still meet successfully their competition, but we cannot, in addition to that handicap, of high wages, permit the workers to limit production and hope for a successful outcome in a world contest."  

The corporate innovators were ultimately able to abolish any formal control of output by skilled or unionized workers; they succeeded where the entrepreneurs had failed. The builders and promoters of the corporations explained the difference in social terms. Their new creations provided the "means to industrial managers to combat unfair demands on the part of labor organizations," as Vanderlip stated, "for they are better united and able to meet organization with organization." The great industrial combinations were, then, both cause and effect of a new social order, because the concentration of capitalists as well as capital was a natural result of the corporate movement. John E. Searles, a director of the American Sugar Refining Company from its founding in 1891, described the process this way: "Perhaps the greatest of all benefits in the centralization is the concentration of technical knowledge and ability of the people connected with the business . . . When the Trust was organized, these gentlemen were brought together and this technical knowledge and skill was concentrated and utilized for the common good." James B. Dill, a lawyer who drafted the New Jersey statute of 1889 under which four out of five corporations were chartered during the merger


37 Frank A. Vanderlip to James Phelan, 30 January 1903, from the Frank A. Vanderlip Papers, Rare Book and Manuscript Library, Columbia University. Vanderlip established his reputation on the question of foreign markets with his America's Commercial Invasion of Europe (New York, 1902). His distinction between acceptable and unacceptable trade unionism may help resolve, or at least clarify, the debate between labor historians and the historians of corporate liberalism (especially James Weinstein, in The Corporate Ideal in the Liberal State [Boston, 1968]) on the opinion of business leaders about labor's role in the new corporate society.
wave of 1898–1903, took a broader view: "Industrial combinations are producing a new class of financiers, a new order of corporation men."

According to its proponents, the corporate alternative to overproduction and class war established or entailed a social agenda that included at least three items. These were, first, the demise of those small, freely competing entrepreneurs who constituted the nineteenth-century version of a middle class; second, the creation of a new relation between workers and the mechanical conditions of work, through which control of the labor process could be shifted to employers and the growth of labor productivity could be guaranteed; third, the emergence of a new class of capitalists, a "new order of corporation men." In each case, the corporation represented the institutional means to the kind of social change that would allow economic recovery. Insofar as it destroyed the social basis of overproduction—a surplus of entrepreneurs—the corporation gave capitalists the opportunity and the resources to deal with the labor problem as a social question at the point of production.

The new leaders of business were forging, out of economic crisis, a new identity, a new concept of their role in a modern market society; in doing so, they were redefining American society. As many historians have shown, this social process was grudgingly acknowledged in the economics of Populism. But the work of economists who did not assume that capitalists were parasitic growths on the body politic has received rather less attention. We should ask if these economists were aware of the same social process and its economic consequences and, if so, whether that awareness would matter in the short or long run. A "social analysis" of economic theory can provide provisional answers, so long as it is assumed that economic theorists in the late nineteenth century recognized a world external to their systems and sought to comprehend that world systematically.

The mainstream of modern economic theory has broadened considerably in the last thirty years, but it is still dominated by commitment to the marginalist principles invented in the late nineteenth century by both Austrian and British economists. According to these principles, commodities had a certain value not because of what they cost in human labor—this is what the "classical" political economy had supposed—but because consumers found utility in them. The value of a commodity was greater or smaller according to the state of demand for it, not the quantity of labor-time necessary to produce it. Since less demand naturally followed from increased consumption of the same commodity, its utility would fall

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as its supply increased; the final or marginal unit demanded would determine, therefore, the utility—the value—of the entire supply.\textsuperscript{39}

The proponents of marginalist theory assumed their first task was to discredit the labor theory of value, because they understood themselves to be shifting the focus of political economy from the sphere of production to the sphere of consumption. Their starting point was the “psychological relation between individuals and finished goods,” not the social relations among individuals engaged in producing goods.\textsuperscript{40} In this respect, the mere statement of marginalist principles implied that production and consumption were not aspects of the same activity, and so were not directly connected in practice or theory. By focusing their theory on the demand side, the marginalists were announcing that the problem of supply (or production) had been solved, that the critical issue of the times was distribution. But marginalism cannot, on these grounds, be reduced to an “ideologically motivated” attempt to conceal the dark truths of capitalist production. The economic events of the late nineteenth century had demonstrated to pro-capitalist economists and socialists alike that the problem of distribution was indeed the critical issue, in theory and practice. The empirical evidence suggested that supply simply did not create its own demand.\textsuperscript{41}

The new theoretical puzzles framed by acknowledgment of this evidence were innumerable. For example, a model that defined demand as the central problem of economic theory and policy in effect proposed that the market might not be “self-regulating.” It followed that the non-legal and non-deliberative forces of social control and harmony that had stabilized the “self-regulating” market would somehow have to be reconstituted through the law and formal institutions.\textsuperscript{42} More important, however, marginalism’s focus on the issues of demand and distribution represented, or implied the possibility of, a new orientation toward the working class: the habits, desires, and demands of the majority now became a proper object


\textsuperscript{40} See, for example, W. Stanley Jevons, *The Theory of Political Economy* (London, 1870), vi–vii, 47, 51–63, 82, 139–60; the quote is from Meek, *Economics and Ideology*, 208. Note that Meek’s formulation could be applied to the psychological character of modern culture, which was invented in the same period.


of high theory (and so, not incidentally, the discipline of economics became that much more policy-relevant, even in strictly political terms).

This new orientation meant that the marginalist revolution, even at its most abstruse extremes, was immediately conditioned by and deeply concerned with the social question—with the implications of a permanent proletariat whose organized power and avowed purposes were not necessarily consistent with the requirements of either profitable production or social stability. This was especially true in the United States, where, as C. D. W. Goodwin pointed out, an “intense preoccupation” with “urgent policy issues” characterized the marginalist vanguard, and where the labor problem was understood to be particularly acute.43 Hence, a good way to demonstrate the meaning of marginalism as a social theory is to explore its emergence in this country.

By the 1920s, scholars generally agreed that the enduring contributions of the marginalist revolution in the New World were developed within the province of theory that attempted to explain the distribution of income between various claimants on or factors of production. The American marginalists were the first to articulate an elaborate concept of the capitalist’s active function in commodity production and, from this, to propose theories of cost, profit, and interest that fit the new “subjective” bent of economic analysis.44 American economists of the late nineteenth century seemed to be obsessed with meeting the challenge Henry Sidgwick laid down in 1879, in his review of Francis A. Walker’s Wages Question: “While Professor Walker’s argument gives a coup de grâce to the wages fund theory, it supplies no substitute for it; it leaves us with no theoretical determination whatever for the average proportions in which produce is divided between labor and capital.” Walker himself established the pattern of response with “The Source of Business Profits” in 1887. He overthrew the empiricist dictum of the Wages Question (“what we need is not a nice theoretical classification, but a just and strong exhibition of the great groups of our modern industrial society”) and offered a down payment on “a complete and consistent body of doctrine regarding the distribution of wealth.”45 The efforts of Walker’s contemporaries and successors


in the United States may be viewed as either further installments or final payments, according to whether or not one thinks Marx and Veblen have to be brought into the bargain.

In 1903, J. H. Hollander of Johns Hopkins University tried to explain his generation’s obsession with distribution. He suggested that Walker’s attempt at a complete theory of distribution was “a reaction born of intimate acquaintance with American economic conditions from the traditional doctrines of the English classical political economy.” Walker’s acquaintance with those economic conditions was gained at first hand. For example, he served, along with Atkinson and Wright, as a consultant to the Senate Finance Committee during its investigation of wages and prices in the early 1890s. The most significant of the conditions Walker discovered appeared to be that capitalists had become, or were fast becoming, public servants. As Hollander noted, it seemed in the United States that “the laborer, and not the entrepreneur, received, or might receive if he asserted his claim thereto, whatever economic surplus or unearned increment resulted from industry.” For late nineteenth-century economists, the question that followed was, on what grounds could entrepreneurs legitimate their claims to a share of a national income, assuming it was possible for wage earners to receive “whatever economic surplus” results from industrial production. The answers Walker and his successors provided were predicated on a theory of “marginal productivity,” which hypothesized that measuring the product of capital assets was analogous to measuring the rent of land. The theoretical question they addressed in this manner was essentially the same as that which Wells, Atkinson, Wright, Jenks, and Conant understood to be a pressing practical question best conceived in historical and statistical terms. As Joseph Schumpeter realized, Sidgwick’s challenge—the challenge for late nineteenth-century economic theory and practice—was “to define capital in a way that would qualify it to stand, in production and distribution, on a par with the labor factor and the land factor.”

Schumpeter dismissed the possibility that this challenge was political: the marginalists had a “strong analytic interest” in so defining capital, but it was “ridiculous,” he insisted, “to speak of a political one.” Most historians of economic thought would probably agree, mainly because they normally see progress or change in modern theory as the product of debate over technical puzzles within a professional community of scholars or scientists. Yet Walker and his most


48 Schumpeter, History of Economic Analysis, 899.

celebrated successor, J. B. Clark, hoped that their new theories of distribution would have broad political consequences. Walker concluded his essay on the sources of profits with the following remarks: "The bearing of this view of the source of business profits upon the socialist assumption that profits are but unpaid wages is too manifest to require exposition. That this view of business profits, if fully understood and accepted by the wages class, would have a truly reconciling influence upon the always strained and often hostile relations between employer and employed, cannot be doubted." 50 In the opening chapter of his opus, *The Distribution of Wealth*, Clark announced, "To each agent a distinguishable share in production, and to each a corresponding reward—such is the natural law of distribution. This thesis we have to prove; and more hinges on the truth of it than any introductory words can state. The right of society to exist in its present form, and the probability that it will continue so to exist, are at stake . . . The welfare of the laboring classes depends on whether they get much or little; but their attitude toward other classes—and therefore, the stability of the social state—depends chiefly on the question, whether the amount they get be it large or small, is what they produce. If they create a small amount of wealth and get the whole of it, they may not seek to revolutionize society; but if it were to appear that they produce ample amount and get only a part of it, many of them would become revolutionists, and all would have the right to do so." 51 The original American marginalists did not compartmentalize, and they apparently did not think it was possible or appropriate to separate, their "analytic" and their "political" interests in the new theories of capital and distribution. In their view, the theoretical and practical meanings of marginalism were integrally related.

From the standpoint of the late twentieth century, this faith in the healing power of economic theory may seem slightly embarrassing. At least it was to Lionel Charles Robbins: "It has sometimes been argued—J. B. Clark is perhaps the chief culprit—that a proof that, under competitive conditions, productive agents are paid according to the value of their marginal physical product is a proof that such a society is just. This of course is a complete non sequitur." 52 Walker, Clark, and their allies in the marginalist vanguard apparently did not see it that way. Before we assume, as Robbins did, that the "scientific" content of marginal productivity can be removed intact from its original "ideological" form, we should ask why its American inventors did not notice the logical contradiction in which they had seemingly implicated themselves and their students.

In effect, the question is why the marginalists in the United States saw the need for a new language or a new market model of political obligation—why they felt they had to specify new conditions of mutuality, harmony, or equality among the competing interests that made up civil society. To begin with, the American

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51 Clark, *Distribution of Wealth*, 3-4.
marginalists assumed that what Veblen called the principle of "natural liberty" was no longer adequate to explain or justify entrepreneurial conduct and income. Alfred Marshall, the English economist with whom Walker and Clark (and, for that matter, Arthur Hadley) had most in common in their search for a theory of distribution, explained that "the tendency of careful economic study is to base the rights of private property not on any abstract principle, but on the observation that in the past they have been inseparable from solid economic progress." While the natural right of property went unquestioned, the classical political economy's "failure to realize a positive service of capital in production" was not an omission that could undermine social harmony. But once civil society could no longer be defined in terms of individual proprietors who were equally subject to the anonymous laws of the market—once a certain concentration of wealth and the permanence of a propertyless "wages class" were acknowledged—the probability of agreement among the constituent elements of a civil society on the most basic rights and obligations (of property, for instance) could not be assumed. Arthur Hadley, an authority on railroads from Yale University, who became another leader of the marginalist vanguard, described the problem: "We thus have a separation of the community into more and more rigidly defined groups, different in industrial condition, distinct in ideals, and oftentimes antagonistic in their ambitions and sympathies. This separation of laborers and capitalists into distinct classes involves serious dangers to society as a whole . . . It involves a contradiction between our political theories and the facts of industrial life. A republican government is organized on the assumption that all men are free and equal. If the political power is thus equally distributed while the industrial power is in the hands of a few, it creates danger of class struggles and class legislation which menace both our political and our industrial order." 

The search for a theory of distribution that attributed to capitalists a positive service in production was, then, a search for the principles and sources of harmony, mutuality, or equality among individuals aggregated according to economic function or social class. It was an anguished search made necessary by the rise of the "labor problem," by the demise of equality among individuals, and by the concurrent emergence of a modern class society. In that sense, the marginalists in this country may be said to have faced the question of class struggle squarely. Because they did not try to avoid the issues raised by the "socialistic writers," they were successful in enunciating a new language of political obligation that stressed the active service and progressive functions of capital.

At this practical level, marginalism was a realistic approach to the central problem of modern industrial society. As such, it constitutes a significant

54 Hadley, Economics, 571–72.
55 Again, see Dorothy Ross, "Socialism and American Liberalism," and Furner, Advocacy and Objectivity.
contribution to what we know as modern liberalism. Like corporatism, modern
liberalism proposes equity of functional groups, not equality of individuals, as the
central principle of political obligation in a society characterized by the concen-
tration of wealth and income. 56 But it is difficult to account in those terms for the
success of marginalism as a teaching device in the universities and a model relevant
to policy-making in the industrial sector. We need to know what made it realistic
in these spheres of enterprise. We need to ask, in other words, why it was not until
the 1890s that marginalist analysis was finally recognized as “useful in solving
practical economic problems.” 57

If we can judge from discussion among the leaders of the business community,
the events of 1884–94 had defined the relation between costs, prices, and returns
on capital investment as the critical and immediately practical economic problem.
Their solution was to consolidate competing firms and to integrate separate
industries. This strategy of “rationalization” would reduce fixed costs as a
proportion of the value of finished products and, in the longer run, allow the
conscious adjustment of supply to demand and price to cost. But if supply rather
than price or profit was to be the new, managed variable in the new market-
investment system, the technical and administrative problem of cost allocation
among different kinds and different uses of capital assets acquired a practical
significance it did not and could not have so long as the determination of prices
and profits was left to the demand side. Marginalist analysis acquired special
relevance in this context. The theory of opportunity cost, for example, by which
one can calculate the utilities that could have been produced with the same
resources that went into what actually was produced, is essentially a method of
establishing priorities in economic planning, for it assumes that one can choose
between at least two different uses of assets. The principle of substitution (capital
for labor and vice versa), which underlies neoclassical capital theory, is similarly
predicated on the assumption that investment decisions are not forced on
capitalists by external circumstances, as Jenks suggested they were as late as 1890:
“No sooner has the capitalist fairly adopted one improved machine, than it must
be thrown away for a still later and better invention, which must be purchased at
dear cost, if the manufacturer would not see himself eclipsed by his rival.” 58

Marginalism could not become useful in solving the practical economic
problems of cost allocation and long-term investment planning until the corporate
alternative to unrestricted competition among capitalists made them practical
problems. By the same token, marginalism’s broader view of the capitalist’s active

56 William A. Williams and Ellis Hawley are among the few historians who have explored this aspect
Hawley, “Herbert Hoover, the Commerce Secretariat and the Vision of an Associative State,” Journal
18, and Schumpeter, History of Economic Analysis, 900–17. See David I. Green, “Pain-Cost and
Opportunity Cost,” Quarterly Journal of Economics, 8 (1894): 218–29, for the original American
formulation of a theory of cost that went beyond the framework of “abstinence” and “waiting” as
explanation of entrepreneurial income.
function in production could not be considered plausible until managers displaced skilled workers as the arbiters of the division of labor in the factory and elevated their mental labor to a position of dominance. From this standpoint, the marginalists carried the day in the last decade of the nineteenth century because they offered a model of modern industrial society that presupposed changing it so that capital's solidarity and discretion could realistically be depicted as the conditions of economic growth and social harmony. Marginalism was, in sum, both symptom and attempted cure of the late nineteenth-century's prolonged crisis of competitive capitalism. As Hollander suggested, "the successive aspects of the theory become intelligible as the interpretation, graphic, though not ultimate, of contemporary industrial life."\textsuperscript{59} The marginalist revolutionaries of late nineteenth-century America understood that the point of their theory was to change industrial life, and they were able to help change it because their theory did in fact comprehend their times.

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These propositions bring the social analysis of late nineteenth-century economic history full circle, for the rationale of that analysis is derived from the post-Keynesian critique of marginalist distribution theory. But if marginalism triumphed because it was realistic or became realistic under corporate conditions, what validity can the critique and the rationale be said to retain?

Political economy began as moral philosophy, a fact often cited as an irony of modern times. But it is not ironic, for a simple reason: the explanatory scope and value of moral philosophy and economic theory must ultimately be judged according to the same social criterion. Both species of argument seek systematically to explain the relation between intentions and actions; they assume that a relation specified in the argument can be embodied in the real world.\textsuperscript{60} Economic theory is usually more pointed about its claim to validity in the real world, but the difference between economic theory and moral philosophy in this regard is one of degree, not kind. The world that marginalism would embody, if transposed from theory to practice, is a world in which the "psychological relation between individuals and finished goods" dominates or replaces social relations: in other words, it describes a world not very different from the one we inhabit. Hence, marginalism is not merely realistic; it is elemental reality. But that does not mean it is immune to criticism. Reality is not necessarily rational except in the sense that it is explicable in historical terms.

The analysis offered here does not purport to make the historical reality of the late nineteenth-century United States completely explicable. It probably raises more questions than it settles. For example, if the corporate system was indeed an economic solution to a social stalemate, how can we measure its success in social terms? What sort of historiographical agenda is outlined by provisional acceptance of a "social analysis" of late nineteenth-century economic history and theory? Will more dialogue between fields suffice? Or must we yet again confront the

\textsuperscript{59} Hollander, "Residual Claimant Theory of Distribution," 278.

\textsuperscript{60} See Alasdair MacIntyre, After Virtue (London, 1981), chaps. 3, 15.
methodological issues raised by Marx, Veblen, and Schumpeter with respect to the character of economic change and innovation?

A new interpretation of late nineteenth-century U.S. history cannot, of course, be established by historiographical controversy, that is, without further research on the period. But we may be in a position to question the explanatory adequacy of the new economic history and the "organizational synthesis," and so to ask new questions about the nature of historical change in American society after 1870.