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The Development of Large-Scale Economic Organizations in Modern America

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## *The Development of Large-Scale Economic Organizations in Modern America*

SCHOLARS interested in modern industrial economies have for years devoted substantial attention to the growth and performance of large-scale organizations. Many of their studies have been the intellectual heirs of Max Weber's brilliant analysis of bureaucracy, for it is the bureaucratic structure of authority which most often characterizes such organizations in the modern period. Economists, historians, and sociologists are all in debt to Weber for the basic ideas which have made the analysis of large-scale organizations so fruitful.<sup>1</sup>

The authors of this paper find it convenient to divide the previous studies of economic organizations with bureaucratic attributes into two camps. On one side we place the generalizers. These scholars use high-powered binoculars which enable them to see across national frontiers and narrow chronological boundaries. In their view the historical process of organizational change tends to be diminished to two points in time: at one point, societies are organized along non-bureaucratic lines; at the next stopping point, bureaucracy is the common mode of organization. One can perhaps assume that a gradual, linear process of change took place between these two points, but for the most part, the generalizers are interested in the results, not the historical process, of change. Individuals, men in a time and place, do not really direct organizational development, although they necessarily participate in it. In this view, the forces of history shape the course of events.<sup>2</sup> A sense of inevitability and,

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<sup>1</sup> Max Weber, *The Theory of Social and Economic Organization* (Glencoe: The Free Press, 1947), especially pp. 324-41.

<sup>2</sup> See, for example: Peter M. Blau, *Bureaucracy in Modern Society* (New York: Random House, 1956). Kenneth E. Boulding, *The Organizational Revolution* (New

indeed, of inevitable pessimism, exists in this camp.<sup>3</sup> Political parties rise and fall. The state of the economy changes. But all the while, beyond these ephemera, the giant organizations march on.

Across the way, amongst the particularizers, one finds a different viewpoint. These scholars turn the binoculars around and peer at the fine work of one organization or small group of organizations. They discover that changes were always introduced by individuals who can be identified, given names and a niche in history. These particular men may have had problems, but they usually solved them; indeed, this brand of history is often very optimistic. There is here no sense of inevitability. The general forces of history, insofar as they are included at all, work through the unique individual on the unique organization. Often the historical perspective is so particularized, so fragmented, that one leaves such case studies with the feeling that no general pattern or process could be found. Many business histories give the reader this impression, as do the studies of individual trade unions and government organizations.<sup>4</sup>

Our purpose is to establish a third position, some place between the particularizers and the generalizers. We offer an intermediate historical framework, which we hope will improve communications between the two existing camps. We would like also to achieve a better understanding of the complex historical processes which were involved in the rise of large-scale economic organizations in modern society. We further hope that our approach might prove useful in analyzing certain facets of the inevitable conflicts resulting from a century of rapid industrialization and technological change. Large organizations were involved in these conflicts primarily because they quickly became centers of power for the groups who developed them to meet specific economic needs.

To serve these purposes, we have developed a two-period analysis of organizational evolution, based on the American experience. We have focused primarily on four types of formal organizations: business corporations; unions; trade associations; and governmental organizations. Where possible, we have also tried to show how our

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York: Harper & Brothers, 1953). R. K. Merton, *et al.*, eds., *Reader in Bureaucracy* (Glencoe: The Free Press, 1952).

<sup>3</sup> This interpretation is discussed in Alvin W. Gouldner, "Metaphysical Pathos and the Theory of Bureaucracy," *American Political Science Review*, XLIX (June 1955), 496-507.

<sup>4</sup> The business histories are surveyed in Louis Galambos, "American Business His-

framework is relevant to professional associations and other types of private organizations. The major criterion for determining our chronological periods was an evaluation of what we felt was the central thrust of organizational change during the particular years involved. We fully realized that any single pattern would leave out many of the changes taking place in a large and diverse society; but we decided that minor themes could be developed most effectively after some major outlines were drawn.

Once our chronological periods were established, we did two things: First, we tried to determine causal links between the periods, insofar as these were organizational in nature. Second, we looked for patterns of change in the organizations' external relations. This latter inquiry involved the general historical problem of legitimation: how did society respond to the control of great power and wealth by these new, large-scale organizations? To keep this question within reasonable bounds, we limited ourselves to a few significant aspects of legitimation which seemed most closely related to the two periods established in our analysis.

## I

In the American economy there were, we suggest, two distinct periods in the process of organizational growth. The first stage spanned the years from around 1870 to the early 1930's; the second from the 1930's through the 1950's. During the first of these periods, the major thrust of organization building centered about the creation and refinement of primary organizations which had the following characteristics: (1) they tended to be national in organization and scope of operations; (2) they were largely in the private, not the public, sector of the economy; (3) they centralized authority along bureaucratic lines; and (4) they were constrained in their internal and external development by a particular set of boundaries which were traditionally or historically defined. The first three traits—nationalization; rapid growth in the private sector; and a high degree of centralization—are familiar. Numerous historians have discussed the creation of the national market and of the large firms, trade unions and professional associations which operated in it. Similarly, most students of bureaucracy have touched upon the centralization

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tory" (Washington: Service Center for Teachers of History, 1967). Also, see, Philip Taft, *The A. F. of L. in the Time of Gompers* (New York: Harper & Brothers, 1957).

of authority in these private organizations.<sup>5</sup> The last aspect, however, probably needs to be illustrated.

By traditional boundaries we mean the kind of constraint exerted by the idea that a business firm in the iron and steel industry should continue to focus almost exclusively on the production of iron and steel goods. Was this necessary? Obviously not. But that was the way things had always been done—or seemed to have been done. Thus, the historically defined industry functioned as a constraint upon the expectational horizon of the firm's managers.<sup>6</sup> The same thing could be said for the idea of a craft or skill and its impact upon trade union development. The concept of the profession—of engineering or social work—had similar effects upon professional organizations developing during these years. The boundaries of these bureaucracies were not determined solely by common interests or the existing ability to communicate information; historical categories of thought had important effects upon the way in which even group interests were perceived.

Within the primary organizations, this type of idea tended to constrain the process of internal differentiation. In the typical business firm, it was common to set up functional groups, such as those engaged in selling, in operating, or in financing the firm's activities. Again, these were traditional categories, although they were now restructured according to a new set of bureaucratic principles. In much the same way the trade unions organized shops in traditional crafts along regional lines. The shops in one city or district became

<sup>5</sup> Many of the organizations which we discuss do not meet all of Weber's criteria for a bureaucratic organization. But as Weber so strongly emphasized, his was an intellectual construct—an ideal type. All bureaucracies had some of the characteristics that he outlined, but none had all. In the U.S. the large corporations and government agencies come closest to the Weberian ideal type; the unions, trade organizations, and professional associations fall short of this type, in varying degree. The unions developing during these years certainly did not possess in full measure all of the characteristics of Weber's ideal bureaucracy: in particular, the unions did not create formidable administrative staffs. Nevertheless, the process of systematization which went on within the evolving national unions meets most of Weber's standards for this type of organization. Furthermore, the unions were developing along lines which gradually brought them closer to the ideal type. On these grounds, then, we have included the national unions as primary organizations with bureaucratic attributes. Lloyd Ulman, *The Rise of the National Trade Union* (Cambridge: Harvard University Press, 1955), especially ch. 4-11.

<sup>6</sup> Edgar O. Edwards and Philip N. Bell, *The Theory and Measurement of Business Income* (Berkeley: University of California Press, 1961), p. 35, discusses the "expectational horizon." Of course men's actions are always constrained by ideas they inherit; our concern is to define, more specifically, the special way ideas affected organizational development in the American economy at this time.

the local and these united to form the national union. Yet a regional craft structure was soon outdated in many of the most rapidly growing, technologically advanced industries; production became concentrated in factories, so there were often the "shops" of several different craft unions in a single plant. These rarely joined forces to bargain for the workers in the plant. Like the business firms, the unions were constrained by traditional concepts.

During the years 1870-1930, organization building was concentrated in these primary bureaucracies—that is, large-scale, complex organizations which were essentially concerned with the job of organizing people in order to provide goods or services. The activities of the primary organizations created a new need, however, for a type of organization which could perform liaison and coordinating functions. Out of this need arose a second kind of large-scale organization which was largely concerned with coordinating the activities and with communicating between other organizations. These secondary organizations included trade associations, union federations, and some governmental agencies.<sup>7</sup> Some secondary organizations were public, some private. Occasionally, large organizations (although not most) performed both primary and secondary functions. Some changed over time. Still, we think that most bureaucracies can be classified as either primary or secondary, and that this is an important distinction insofar as the history of organizational change in modern America is concerned.

One of the outstanding characteristics of the secondary organizations during this period (1870-1930) was their relative weakness. In terms of wealth, power, and prestige, they lagged far behind the primary organizations. In part, this reflected the widespread assumption that the relations between organizations would be determined, as they had been in the pre-bureaucratic age, by such natural forces as the gold standard or competition. This idea remained important even among leaders who were successfully achieving a substantial measure of rational control over the internal and external

<sup>7</sup> The professional association was thus a primary unit insofar as it directly organized its individual members and provided them (and others) with services. By contrast, the normal trade association was a secondary organization because it brought together representatives of businesses in order to coordinate the actions of their firms. Nominally, the members of the trade associations often joined the organizations as individuals, but in reality, they were representing their firms. In the early twentieth century, many of these associations acknowledged this fact by changing the form of their membership, from individual to corporate representation.

relations of their organizations. The need for inter-organizational coordination and communication normally was acknowledged only after a significant crisis of some sort. Crises did occur, however, and after it was recognized that coordination was needed, this function was most often performed by weak federations in the private sector.

A glance at labor history illustrates our point. The major organizational developments in labor during these years centered about the rise of the national trade unions. Coordination of their activities was achieved through the AFL, a federation with very little power over its constituent unions. The AFL's officers attempted on many occasions to persuade the nationals to adopt certain policies. But aside from withholding support—itsself a dangerous alternative—the Federation could do little to its constituent primary groups.<sup>8</sup>

In the present day, we have become accustomed to thinking of the government as a coordinating mechanism. Furthermore, a number of scholars (many of them affiliated with the Economic History Association; some sponsored by it) have demonstrated that nineteenth-century America was not the laissez faire haven it was once felt to have been.<sup>9</sup> Nevertheless, before the 1930's there were few public bureaucracies which performed the special function of coordinating the actions of primary groups. True, there were populist and progressive reform movements which focused attention on business-government relations and the need for more regulation. One result was a set of new agencies, many of them independent regulatory commissions. But the major theme of their activities was the effort to discipline the behavior of individual primary organizations. The commissions tried to ensure that the new groups adopted the correct standard of organizational behavior in both their internal and external relations. Negative restraints were proclaimed, and occasionally invoked. Limits were established for organizational growth. But there was little consideration of, and even less action concerned with, the function of coordination. The first important exception to this rule came in the coordination and control of the nation's monetary supplies by the Federal Reserve System after 1913. To a lesser extent, the ICC after the passage of the Transportation

<sup>8</sup> Philip Taft, *The A. F. of L. in the Time of Gompers*, pp. 163-83, 185-210.

<sup>9</sup> The literature on this subject is conveniently reviewed in Robert A. Lively, "The American System: A Review Article," *Business History Review*, XXIX (March 1955), 81-96.

Act of 1920, came to have the same type of function among the nation's railroads.

The rule, however, remains: most regulatory activity was aimed at producing an economy in which each separate business or labor group behaved in the "proper" manner. If each of the organizations was "good," so to speak, it was assumed that the function of coordination would be performed by those natural forces which had seemed to work in the past. This represented a break with the classical position, which had been founded on the assumption that natural forces would ensure that individual behavior was proper, and out of the good behavior would flow the necessary coordination. Now it was widely felt that good behavior would ensure the necessary degree of coordination, but that the behavior might have to be achieved by exercising some control. These were the ideas that Theodore Roosevelt expressed with engaging simplicity when he made the distinction between good and bad trusts.

Roosevelt's effort to set rules of conduct for the nation's giant firms was one aspect of a general social crisis over the new organizations. During the first stage of their creation and internal organization building, 1870-1930, the primary bureaucracies generated numerous tensions. In part these conflicts were a product of new distributions of power and status. By their very nature bureaucracies are, as Weber so strongly emphasized, highly efficient instruments of human action. Developed to carry out economic functions, they soon came also to be used by their members to advance and protect their group interests. Most of the voluminous literature on the conflict between different social and economic groups has focused on elections and legislative action or on conflicting ideologies. We suggest that the development and outcome of these struggles for group power or protection should also be studied from the viewpoint of the inter- and intra-organizational activities involved.

Great size and bureaucratic controls created novel tensions, adding fuel to the existing socio-economic protest resulting from the redistribution of wealth and power. Local and regional systems were forced to give way before the nationally oriented bureaucracies; the new organizations usually severed relations with the kinship groups which had long played an important role in the economy. An interesting exception is provided by the duPont explosives combine. In this firm and in General Motors, Pierre S. duPont was able to blend

family control with bureaucratic management. But even in the duPont case, one can clearly see the conflict between the demands of the family and of the firm.<sup>10</sup> In most large-scale businesses, the family gave way and professional managers soon occupied the leading positions of authority.

In part, too, the social crisis involved a fundamental conflict over values. Primary organizations, which stressed universalistic norms and group-oriented behavior, could hardly avoid trouble in a society geared to particularistic, individualistic values. National trade unions and large corporations subordinated the individual's special interests to those of the craft and the firm. The "soulless" corporation stood arrayed against the diffuse style of relationship which had always characterized the agrarian community. As these large organizations matured, they began to introduce norms which stressed neutral, not affective, responses—again this involved an important shift in values.<sup>11</sup>

Another related cause of tension was the development within the organizations of new social roles. Roy Lubove has shown how this type of conflict arose between professional and voluntary social workers during the years 1900-1930: "The formal organization imposed rational system and order wherever possible and in the social agency the supervisor played a key role in reducing the influence of personal whim, emotion, and impulse. Undoubtedly the tendency of formal organizations to favor conditions which enhanced the possibilities of rational calculation hastened the substitution of paid, trained workers for volunteers."<sup>12</sup> Within business firms similar tensions developed when, for instance, heretofore independent salesmen were forced to conform to a new set of controls and role expectations. Understandably, this type of change generated a great deal of hostility toward the new bureaucracies.

By the early 1930's, however, many of these tensions had been relieved; the process of legitimation was well underway. This process cannot be understood solely in terms of power relations. In some

<sup>10</sup> This theme is developed in Alfred D. Chandler, Jr. and Stephen Salsbury's forthcoming biography of Pierre S. duPont.

<sup>11</sup> This problem has been tentatively explored in Louis Galambos, "The Agrarian Image of the Large Corporation, 1879-1920," *JOURNAL OF ECONOMIC HISTORY*, XXVIII (Sept. 1968), 341-62, and in "The A. F. of L.'s Concept of Big Business" (forthcoming).

<sup>12</sup> Roy Lubove, *The Professional Altruist* (Cambridge: Harvard University Press, 1965), p. 170.

cases, particular groups were able to achieve countervailing power and this eased their fear of the new organizations. Also, the performance of some of the primary organizations changed over the years. For the most part, however, the primary organizations retained and added to the wealth and power they had already acquired. Still, public hostility declined. The most important factor making for accommodation was undoubtedly the successful performance of the economy in the years 1900-1930. In a pragmatic, achievement-oriented society, such results were influential—whether they had anything to do with the new organizations or not. Then, too, the relative weakness in America of older, pre-industrial institutions such as the extended kinship group made for a quick triumph on the part of the organizations. Many political measures also had a significant effect upon attitudes, even though we think that they were somewhat less important than progressive historians have suggested. The laws, the commissions, even the injunctions against unions, seldom worked in exactly the manner envisioned by their promoters, liberal or conservative; yet, as a symbolic response, political measures focused and handled discontent, easing relations between the public and the organizations. Those citizens troubled by the power and performance of the organizations could feel that the government was taking positive action to uphold the older values. As a result of these several factors, the process of accommodation was well along by the 1920's. Indeed, by that time bureaucratic values and perspectives on society were well entrenched in urban, industrial America.<sup>13</sup>

There were, however, problems inherent in this new structure of interrelated but loosely coordinated organizations, problems that were exposed by the Great Depression and by mobilization during the Second World War. One problem for the centralized business firm was the inherent limitation that centralization imposed upon growth. With highly concentrated control, top executives were so burdened with administrative data and decisions that they were unable to devote sufficient time to long-range, entrepreneurial decisions. Entrepreneurship suffered. Looking at this type of bureaucratized firm, Joseph Schumpeter clearly recognized that the administrative and the entrepreneurial functions were in conflict; in the long run, he

<sup>13</sup> Robert H. Wiebe, *The Search for Order, 1877-1920* (New York: Hill and Wang, 1967), provides the best general study of this shift in values.

felt, administration would win.<sup>14</sup> Furthermore, the single-industry and craft concepts tightly constrained organizational expansion. There was also a severe imbalance between the powerful primary organizations and the weak coordinating ones. In effect, the primary groups had partially freed themselves from traditional controls such as the market, without substituting organizational restraints of equal magnitude. The business bureaucracies had sacrificed the flow of information that the market had once given (automatically but not painlessly) to competing firms; the new means of acquiring such information were not equally efficient. Many of these weaknesses in the existing system were brought to light by the economic crisis of the 1930's.

A second major period of rapid organizational change began in the thirties. Now the central thrust of organizational development involved the coordinating units, particularly those in the public sector. Indeed, to many observers the Great Depression was a crisis of coordination. The secondary coordinating organizations in the private sector had failed; even when they were given a second chance and government support under the National Recovery Administration, they could not stimulate recovery. After 1935, attention increasingly turned to public, not private, organizations.

The new governmental policies which performed this function are familiar and do not call for any elaborate treatment here. Fiscal policy along Keynesian lines provided the major new tool. But in conservation, in agriculture, in money and banking, and in labor relations, new government agencies coordinated and guided economic activities in new ways.

Important changes also took place among the primary organizations. These organizations began to break out of the traditional, historically defined categories which had constrained their development in the years 1870-1930; administrators began to apply new and broader concepts of organizational potential. While of course the new categories also imposed constraints upon growth, the expectational boundaries were now far broader than they had been before the 1930's. This was certainly the case among labor organizations. The craft-oriented AFL unions were unable to prevent the rise of new industrial organizations. During these same years, many businesses began to diversify, to break away from the traditional con-

<sup>14</sup> Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy* (New York: Harper & Brothers, 1942), pp. 131-4, 139-42.

cept of the single-industry firm. DuPont and a few other companies had already adopted this policy, but during the 1930's and 1940's, the strategy of diversification spread throughout the industrial economy. With diversification came decentralization of authority within the firm. This structural innovation enabled managers to cope with the demands for both systematic management and vigorous entrepreneurship; decentralization was itself a basic innovation which Schumpeter could not foresee when he wrote *Capitalism, Socialism and Democracy*. By employing this new structure, firms were no longer limited by the growth rate of a single industry; geographical constraints on firm size also appear to have been pushed back dramatically. The large corporation could now handle far more complex and variegated problems.<sup>15</sup>

In this second phase—that is, from the 1930's through the 1950's—the external relations of the large-scale organizations also developed along new lines. The changes in the industrial firm were hardly noticed, let alone opposed; they were accepted as merely a slight variation on the earlier form of centralized company. During the 1930's, the regulation of big business became a political issue only briefly. Franklin D. Roosevelt revived the anti-trust movement and received academic confirmation in the TNEC reports. But this episode had little impact upon legislation and never became a major political issue.

Opposition in the late thirties and the forties to the growth of industrial unions and the expansion of the new federal “coordinating” agencies seems, however, to have been similar to the hostile reactions which the primary units had encountered at the turn of the century. At first glance, the protest of farmers, small businessmen, and professional people against big government and against big labor had much the same tone—and indeed some of the same rhetoric—as the earlier outcry against big business and the emerging craft unions. This response has been carried on into the sixties by the New Left, particularly its more youthful adherents, and also by the radical right as a protest against powerful bureaucracies and their behavior.

<sup>15</sup> Alfred D. Chandler, Jr., *Strategy and Structure* (Cambridge: The M. I. T. Press, 1962). Robert Cuff has suggested that one of the important developments of the thirties was the tendency of some government agencies to perform both primary and secondary functions (TVA, for instance). This, in turn, may well have sharpened the hostile reactions of those who could approve of the government as a coordinating agent, but not as a primary organization.

We suggest, however, that there were essential differences between the two stages in both the quality and quantity of the responses. In the first place, the negative reactions to large-scale organizations in the second period were weaker because of the previous accommodation with the primary units. Organizational values and roles were already firmly planted in America before the New Deal. This fact, as well as the atmosphere of crisis engendered by the Great Depression and the Second World War, made it relatively easy for Americans to accept the new primary and secondary organizations. From the perspective of the 1930's, the innovations in government alone seemed revolutionary and the resistance fierce; from the vantage point of the late 1960's, however, both the revolutionary quality of the changes and the strength of the opposition seem diminished. This is particularly true when the public reactions to these measures are compared with the far stronger responses aroused during the 1890's by the early primary organizations.

The most important dimension of organizational innovation in the 1930's was provided not by widespread ideological protests, but by the elaborate relationships among the organizations themselves. Every change in large-scale public and private institutions came under the scrutiny of existing, powerful organizations. The bureaucratic environment of the 1930's was far more complex than that of the 1890's. The primary and secondary organizations were well prepared to defend their special interests. It was the interaction of these various organizations which provided the most important aspect of the social response to organizational change during the thirties and forties. While these units vied for public support (in a characteristically systematic, rationalized way), the new type of inter-bureaucratic competition did not involve the same sort of fundamental social protest which had characterized the earlier response to the powerful primary organizations.

## II

While this view of the development of large-scale economic organizations is highly simplified, we feel that it may be useful to historians working on the institutional aspects of change in the modern economy. To illustrate how it might be employed, we would first like to examine, very briefly, two episodes in American history from the vantage point provided by our framework. Our subjects are the mobilization of the economy during the first and second world wars.

Mobilization during the First World War has customarily been described as a haphazard, chaotic process. Government officials had few if any clear precedents. The basic information necessary to decision-making was not available. Gradually, however, a few strong administrators—men such as Bernard Baruch in the War Industries Board—worked out more efficient administrative procedures; finally, they coordinated the flow of goods and services through the national economy. Baruch, according to Arthur Link, the foremost historian of the Wilson period, “established the WIB as the most powerful agency in the government, with himself as economic dictator of the United States and, to a large extent, of the Allied countries as well. And before many months had passed the Board had harnessed the gigantic American industrial machine and brought such order into the mobilization effort that criticism almost vanished.”<sup>16</sup>

Recently, this highly personalized interpretation has come under attack. Robert Cuff concludes that Baruch consciously created this image of himself; in reality, Cuff says, Baruch’s role in the WIB was not that of an economic dictator. Baruch mediated between powerful organizations. He depended upon a host of minor bureaucrats, most of them recruited from the private sector; he used the available organizations and appeared to be all-powerful only when he was able to achieve a compromise, a resolution of these existing forces. Cuff concludes that what really needs to be studied is the underlying organizational environment which dominated the activities of Baruch and his colleagues.<sup>17</sup>

We agree with this re-interpretation and feel that our synthesis might be useful in analyzing the organizational environment that existed in 1917 and 1918. In the terms of our framework, the United States confronted the demands of wartime mobilization just as the new, centralized, national organizations were coming to power. The successful leaders of these organizations were attuned to the need for centralized authority and communications; centralization was the essential element in their organizational experience. Their concept of coordination involved an emphasis upon loose federations which arranged compromises (where possible) but did not really

<sup>16</sup> Arthur S. Link, *American Epoch* (New York: Alfred A. Knopf, 1959), p. 208.

<sup>17</sup> Robert D. Cuff, “Bernard Baruch: Symbol and Myth in Industrial Mobilization,” *Business History Review*, XLIII (Summer 1969), 115-33. Cuff further develops this interpretation in a paper delivered at the 1969 meeting of the Canadian Historical Association; the paper is entitled “Organizing for War: Canada and the United States During World War I.”

direct the activities of their constituent primary bureaucracies. When the wartime agencies were staffed with these men and began to deal with the primary organizations, the result was a de facto decentralization of power and responsibility. This did not result from a conscious commitment to decentralization, as such. The administrative tools for implementing an effective, decentralized program did not even exist at this time, nor were they developed during the war. Decentralization was the unplanned consequence of two factors: (1) a set of leaders who had a particular attitude toward organizational prerogatives; and (2) an environment in which the primary organizations were powerful and the secondary organizations weak and inexperienced. Given this organizational and intellectual setting, it is hardly surprising that such men as Baruch, as head of the WIB, Charles M. Schwab, as chairman of the Emergency Fleet Corporation, and even Newton D. Baker, the Secretary of War, became organizational mediators, not economic czars.

In World War II, the organizational setting and the patterns of mobilization were substantially changed. True, the mobilizers could now draw upon the experience gained in World War I. But equally influential were the new patterns of organizational development which had already begun to take shape before 1941. Wartime leaders from the government and from the private sector were attuned to the need for coordinated action—whether they had been implementing it or fighting it. In some cases, administrative experience with inventory control, forecasting methods, and formal decentralization in the private sector could be applied to the government's problems.<sup>18</sup> The planners could draw upon the data generated by New Deal coordinating bureaucracies.

A significant example of the new situation is provided by the techniques developed to handle the most critical problem of mobilizing an economy for war—the allocation of basic, scarce materials. At first the war planners followed the pattern of World War I and made their allocation by setting priorities. As the priorities were soon being made on materials and components which were not yet produced, they became merely cards used by agencies and corporations in bargaining for goods. The solution came when the statistical and forecasting techniques developed by large industrial firms to coordinate the flow of goods through their organizations were mod-

<sup>18</sup> R. Elberton Smith, *The Army and Economic Mobilization* (Washington, D. C.: Office of the Chief of Military History, Department of the Army, 1959), ch. 25.

ified to coordinate the flow through the economy itself. Before the adoption of the Controlled Materials Plan in 1942 and the Components Schedule Plan (which was approved a few months later), the War Production Board carried on much like its World War I counterpart, Baruch's WIB. Even in drawing up the new plans it acted as a mediator between powerful organizations. But once these plans were instituted, mobilization proceeded much more smoothly and effectively.

Under the schedule set up by these two programs, goods moved steadily and directly from the producers of materials and components to the processor or assembler on the basis of forecasted production. The producers of a few of the most critical and scarce items sent forecasts of their output for the next three months to the War Production Board, which then made allocations of expected output to the claimant agencies—that is, the Army, Navy, Shipping Board, Lend-Lease, synthetic rubber and high octane gasoline programs. These agencies (very large bureaucratic consumers) notified their prime contractors (large bureaucratic producers) of their quotas two months before the materials were scheduled to appear; then they allocated these materials to their sub-contractors one month prior to production.

The result was planned coordination and decentralization. As the New York investment banker who proposed the plan explained: "The above system has the merit of confining decisions at the highest level to broad questions and decentralizing the detail. . . . The basic distribution of materials between the military, basic economic, Lend-Lease and other exports would be made by the War Production Board . . . but the actual scheduling and directing of materials, particularly in the military field, would be taken over by those responsible for procurement and production, which cannot be carried out without control of the flow of materials in accordance with their schedules."<sup>19</sup> Such carefully planned coordination made it easier to use effectively the other controls which were developed, such as those on prices. In general, these new modes of control allowed a much more massive mobilization of the economy in 1942 to proceed more smoothly than it had in 1917 and 1918.

As these developments illustrate, the patterns of mobilization in these two wars differed substantially, and one reason for the differ-

<sup>19</sup> *Ibid.*, pp. 567-70.

ence was the contrasting organizational environments of 1917 and 1941. Our analysis highlights these differences and thus, we think, helps the historian to develop a better understanding of these important episodes in American economic history.

We hope, too, that the framework will provide a tool for comparative analysis. It is clear that other countries followed different patterns of organizational development. In France, for instance, and in certain Latin American countries, the changes that we have described in our first stage appear to have been retarded. The centralized primary organizations did not sweep the field as they did in the United States. For one thing—as David Landes and John Sawyer have pointed out—the kinship group provided a more substantial barrier to bureaucratization in the private sector in France than it ever did in the United States.<sup>20</sup> The same was true, Professor Cochran has shown, in Latin America.<sup>21</sup>

On the other hand, coordinating organizations achieved greater power in France than in the United States. Usually this contrast has been associated with the overwhelming American opposition to government control in any form. Our framework suggests, however, that this problem needs some reconsideration. It seems likely that the high degree of bureaucratization in the American private sector prior to the 1930's was actually more important in determining the outcome of policy than the oft-cited public resistance to governmental interference. Each new policy, each new measure of control had to be pushed through an incredibly dense organizational environment. This environment, we think, had a decisive influence upon the degree of coordination achieved and upon the particular modes of implementing that policy.

Organizational analysis might also be used in growth studies. For one thing, such a framework should help us analyze and appreciate the social conflicts inevitably generated by the process of organizational change. In America, these conflicts were particularly severe during the late nineteenth and early twentieth centuries, when the

<sup>20</sup> John E. Sawyer, "The Entrepreneur and the Social Order: France and the United States," in William Miller, ed., *Men in Business* (Cambridge: Harvard University Press, 1952), pp. 7-23. David S. Landes, "French Business and the Businessman: A Social and Cultural Analysis," in E. M. Earle, ed., *Modern France* (New York: Russell & Russell, 1961), pp. 334-53. David S. Landes, *The Unbound Prometheus* (Cambridge: The University Press, 1969), pp. 131-3, 209-10.

<sup>21</sup> Thomas C. Cochran, "Cultural Factors in Economic Growth," *JOURNAL OF ECONOMIC HISTORY*, XX (Dec. 1960), 513-30.

primary organizations were first acquiring great power and wealth. How much more serious would such tensions be in a society which is simultaneously introducing both primary and secondary organizations? This, it seems, is the policy adopted in many plans for modernization today, and we suggest that attempts might well be made to analyze more accurately the cost—both psychological and economic—of such a policy.

At any rate, we hope that these examples will serve to illustrate some of the ways historians might use middle-level generalizations about organizational development. Perhaps this synthesis can be used by future particularizers in case studies of economic organizations; such research, we trust, will eventually modify and improve our framework, and, incidentally, strengthen the historical dimension of the work done by the generalizers. If nothing else, we will be pleased if our own historical view encourages further research on the changing nature and external relations of economic institutions in modern America and abroad.

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