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STRATEGY AND STRUCTURE

Chapters in the History of the Industrial Enterprise

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INTRODUCTION—STRATEGY AND STRUCTURE

Motives and Methods

This investigation into the changing strategy and structure of the large industrial enterprise in the United States began as an experiment in the writing of comparative business history. The initial thought was that an examination of the way *different* enterprises carried out the *same* activity — whether that activity was manufacturing, marketing, procurement of supplies, finance, or administration — would have as much value as a study of how a *single* firm carried on *all* these activities. Such a comparative analysis could permit deeper probes into the nature of the function studied, and so provide more accurate interpretations and more meaningful evaluations of the performance of several different enterprises in that activity than could a whole series of histories of individual firms. It could thus indicate more clearly the ways in which American businessmen have handled that activity over the years.

Of the several activities carried on in American business, that of administration appeared to be among the most promising for such an experiment in comparative history. Business administration has a particular relevance for today's businessmen and scholars. The enormous expansion of the American economy since World War II has led to the rapid growth of a multitude of industrial companies. Their executives are faced with complex administrative problems that before the war concerned only those of the largest corporations. At the same time, the growth of units that carry on political, military, educational, medical, as well as business activities has brought their administration to the attention of sociologists, anthropologists, economists, political scientists, and other scholars. Yet the historians have provided social scientists with little empirical data on which to base generalizations or hypotheses concerning the administration of great enterprises. Nor have the historians formulated many theories or generalizations of their own.

If changing developments in business administration presented a challenging area for comparative analysis, the study of innovation seemed to

furnish the proper focus for such an investigation. Historically, administrators have rarely changed their daily routine and their positions of power except under the strongest pressures. Therefore a study of the creation of new administrative forms and methods should point to urgent needs and compelling opportunities both within and without the firm. For a study of such forms, that of the organizational structure used to administer the largest and most complex of American industrial enterprises seemed to offer the widest possibilities.

What then has been the structure used to administer such great enterprises? And who were its innovators? A preliminary survey of the experience of fifty of the largest industrial companies in the United States helped to answer these questions.[1] This survey showed that in recent years what may be called the multidivisional type of organization has become generally used by industrial firms carrying on the most diverse economic activities. In this type of organization, a general office plans, coordinates, and appraises the work of a number of operating divisions and allocates to them the necessary personnel, facilities, funds, and other resources. The executives in charge of these divisions, in turn, have under their command most of the functions necessary for handling one major line of products or set of services over a wide geographical area, and each of these executives is responsible for the financial results of his division and for its success in the market place. This administrative form, often known in business parlance as the "decentralized" structure, is depicted in Chart 1 (page 10).

The first companies to devise this "decentralized" form, according to the preliminary study, included the E. I. du Pont de Nemours & Co., General Motors Corporation, Standard Oil Company (New Jersey), and Sears, Roebuck and Company. Du Pont and General Motors began to fashion their new structure shortly after World War I. Jersey Standard started its reorganization in 1925, and Sears started its in 1929. Five other firms among the fifty studied—United States Rubber, B. F. Goodrich, Union Carbide & Carbon, Westinghouse Electric, and The Great Atlantic & Pacific Tea Co.—initiated comparable changes between 1925 and 1932. Except for the last, the A. & P., these administrative reorganizations proved to be less creative innovations than those in the first group.[2] Therefore du Pont, General Motors, and Jersey Standard were selected for study. And of the two innovators of the new multidivisional form in the merchandising field, Sears was picked instead of A. & P. because its activities were more complex and because information about the company was more readily available.

Possibly, other large corporations not on the list of the top fifty began to set up the "decentralized," multidivisional structure in the 1920's and

even earlier. But the four selected—du Pont, General Motors, Jersey Standard, and Sears—were among the very first to initiate major reorganizations of this kind. What is important for this study is that the executives of these four began to develop their new structure independently of each other and of any other firm. There was no imitation. Each thought its problems were unique and its solutions genuine innovations, as brand new ways of administering great industrial enterprises. In time, the innovations became models for similar changes in many American corporations.

As my investigation of organizational innovation in these four companies progressed, several important facts became clear. First, a meaningful analysis of the creation of the new administrative form called for accurate knowledge about the firm's previous organization and in fact about its entire administrative history. Second, changes in organizational structure were intimately related to the ways in which the enterprise had expanded. An evaluation of administrative change, therefore, demanded a detailed understanding of the company's methods of growth. Third, these patterns of growth, in turn, reflected changes in the over-all American economy, particularly those affecting the market or demand for the enterprise's products. Finally, the reorganizations were influenced by the state of the administrative art in the United States at the time they were being carried out. The first two of these points required further investigation into the history of the four companies selected. The third and fourth called for a broader awareness of the history of the American business economy.

This need to enlarge the scope of the study made possible a broadening of its objectives. One way to ascertain the impact of the more general economic and administrative developments on the growth and organization of these industrial enterprises was to compare the experience of the four studied with that of many other similar large corporations. Such an expanded comparison not only could make the process of innovation in the four selected companies more comprehensible, but could also provide information on which generalizations might be made about the history of the industrial enterprise as an institution, and one of the most critically important of modern institutions at that. In this way what began as an experiment in comparative business history was broadened into one in the writing of institutional history.

To carry out these broader objectives, the administrative histories of close to a hundred of America's largest industrial enterprises were briefly examined. The companies included the fifty with the largest assets in 1909 and seventy of the largest by assets in 1948.[3] The latter group consisted of the fifty used in the preliminary study which had determined

what was the most modern administrative form and who were its innovators. Twenty of the next largest were added in order to get a wider representation in various industries. These companies and their relative sizes are listed in Tables 1 and 2. (For the second group, size in 1959 as well as in 1948 is indicated.)

The information on these many companies came primarily from readily available materials such as annual and other company reports, government publications, articles in periodicals, and occasionally business histories and biographies. In eighteen of the more significant of these companies, interviews with senior executives helped supplement the printed record. The far more detailed analyses of organizational innovation at du Pont, General Motors, Standard Oil (New Jersey), and Sears, Roebuck were based, on the other hand, largely on internal company records—business correspondence, reports, memoranda, minutes of meetings, and the like. These historical documents were supplemented by interviews with men who had participated in the organizational changes.

Using these data, I have attempted to say something about the history of the large industrial enterprise as a basic, modern American institution. In so doing, this book also provides information about the history of business administration in the United States and about changes in the larger American economy. It tells still more about the history of the individual companies examined. The book attempts to provide this information by focusing on the innovation and spread of the modern "decentralized" form of organization in American industry. The major portion of the work is devoted to the administrative histories of the four companies that first created the new form. As studies in organizational innovation, these stories indicate why du Pont, General Motors, Standard Oil (New Jersey), and Sears, Roebuck enlarged their business, took on new functions, moved into new lines of businesses, and why each such move required a new design for administration. They trace the way in which busy executives worked out, often slowly and painfully, new methods and means for coordinating, appraising, and planning the effective use of vast and varied assortments of men, money, and materials. To make the case studies more meaningful, they are preceded by a broad survey of changing patterns in the growth and administration of the large enterprise in the United States, based on the experience of many of the largest companies. The case studies are then followed, first by a comparative analysis of organizational innovation in the four companies, and then by an extensive investigation into what other industrial enterprises accepted or rejected the new "decentralized" structure, and why and how they did so.

The story of how each of the four innovators met its changing admin-

TABLE 1

The Largest Industrials—1909

Numbers indicate relative size according to 1909 assets. Adapted from A. D. H. Kaplan, *Big Enterprise in a Competitive System* (Washington, 1954.)

I.

Steel

1 U. S. Steel
17 Colo. Fuel & Iron
20 Lackawanna Steel
25 Republic Steel
28 Bethlehem Steel
31 Cambria Steel
37 Crucible Steel
38 Lake Superior Corp.
46 Jones & Laughlin

Nonferrous

5 Amalgamated (Anaconda) Copper
11 American Smelting & Refining
14 Pittsburg Coal
19 American Can
23 Consolidation Coal
27 International Paper
34 Calumet & Hecla
39 U. S. Smelting, Refining, & Mining Co.
40 United Copper
41 National Lead
43 Phelps, Dodge
44 Lehigh Coal & Navigation
48 American Writing Paper
49 Copper Range Consolidated

II.

Agricultural Processing

3 American Tobacco
6 Central Leather
8 Armour & Co.
9 American Sugar Refining
13 Swift & Co.
18 Corn Products Refining Co.
21 American Woolen Co.
30 National Biscuit
33 Distillers Securities Corp.
50 United Fruit

Oil

2 Standard Oil
33 Associated Oil

Rubber

10 U. S. Rubber

III.

Electrical

15 General Electric
22 Westinghouse

Machinery

4 International Harvester
7 Pullman
12 Singer Mfg. Co.
16 American Car & Foundry
29 American Locomotive
36 Allis-Chalmers
45 International Steam Pump
47 Baldwin Locomotive Works

Miscellaneous

24 Du Pont (Explosives)
26 Va.-Carolina Chem. (Fertilizer)
35 Am. Agri. Chemical (Fertilizer)
42 Sears, Roebuck
51 Eastman Kodak

TABLE 2

Seventy Largest Industrials—1948 and 1959

Numbers indicate relative size according to 1948 and 1959 assets. Data for 1948 adapted from A. D. H. Kaplan, *Big Enterprise in a Competitive System* (Washington, 1954), and data for 1959 from *Fortune*'s "Directory of the 500 Largest Industrial Corporations."

I.

1948	*Steel*	*1959*	*1948*	*Nonferrous*	*1959*
3	U. S. Steel	3	20	Anaconda	25
12	Bethlehem Steel	12	24	Kennecott Copper	47
29	Republic Steel	26	28	Aluminum Company of America	22
35	Jones & Laughlin	42	44	International Nickel	
43	National Steel	33	45	International Paper	30
49	Armco Steel	27	54	American Smelting and Refining	86
50	Youngstown	55	57	American Can	36
53	Inland Steel	43	58	Phelps Dodge	89
			70	Pittsburgh Plate Glass	61

II.

1948	*Agricultural Processing*	*1959*	*1948*	*Oil*	*1959*	*1948*	*Rubber*	*1959*	*1948*	*Mass Merchandising*
18	American Tobacco	46	1	Standard Oil (N. J.)	1	32	Goodyear	28	13	Sears, Roebuck
26	R. J. Reynolds	40	4	Standard Oil (Ind.)	9	37	U. S. Rubber	57	23	Montgomery Ward
27	Swift	68	5	Socony-Vacuum	7	39	Firestone	39	36	A. & P.
30	Armour	92	6	Texaco	6	62	B. F. Goodrich	66	40	F. W. Woolworth
31	Liggett & Myers	91	7	Gulf Oil	5				60	J. C. Penney
38	Distillers-Seagrams	85	11	Standard Oil (Calif.)	10					
41	Schenley Industries	77	16	Sinclair Oil	18					
46	United Fruit		21	Shell Oil	14					
47	National Dairy Products	58	22	Phillips Petroleum	16					
48	Procter & Gamble	35	34	Atlantic Refining	45					
73	General Foods	80	61	Continental Oil	48					
67	Borden [General Mills]	101	69	Standard Oil (Ohio)	90					

III.

1948	*Electrical and Electronics*	*1959*	*1948*	*Auto and Power Machinery*	*1959*	*1948*	*Chemical*	*1959*
9	General Electric	11	2	General Motors	2	8	Du Pont	8
17	Westinghouse Electric	17	10	Ford Motor	4	15	Union Carbide	15
66	RCA	44	19	International Harvester	24	33	Eastman Kodak	32
68	IBM	20	25	Chrysler	21	42	Allied Chemical & Dye	50
			63	Deere	60	52	Dow Chemical	37
			65	Allis-Chalmers	72	64	Celanese	93
						71	American Viscose	129
						86	Monsanto Chemical [Hercules]	54

istrative needs and problems which resulted from the expansion of its business has been told as though it were a chapter in the company's history. Each case study presents the events from the point of view of the busy men responsible for the destiny of their enterprise. Only by showing these executives as they handled what appeared to them to be unique problems and issues can the process of innovation and change be meaningfully presented. Only in this way can the trials of harassed executives faced with novel and extremely complex problems be clearly pictured, and the impact of specific personalities and of historical or accidental situations on over-all change be adequately presented. Moreover, if the chronological development of the story is kept intact and if it can be presented as it appeared to the actors in the story, the data should have more value to businessmen and scholars interested in the growth and government of the great industrial corporation than if they were selected and arranged to develop or illustrate one particular historian's theses.

At the same time, by carefully and explicitly comparing the separate chronological stories with one another and then with similar developments in other great industrial companies, these stories can become more than mere case studies in the meeting and solving of administrative problems resulting from growth. They can provide otherwise unobtainable information essential to the understanding of the history of one of the most significant of today's institutions. Such a comparative and institutional study of American business would seem to have some real advantages over the more traditional histories of individual firms or the more general surveys of the American business economy. Not only does it permit an analysis of significant decisions in far greater depth and detail than is possible even in a multivolume history of a single great company, but it also makes it possible to relate these detailed analyses more clearly and more precisely to broader historical developments.[4] On the other hand, complex decisions, actions, and events are not taken out of context and presented as mere illustrations as they would have to be in a general history of American business or of the American economy. They are not used to illustrate generalizations; they are the data from which the generalizations are derived.

Some General Propositions

If useful comparisons are to be made among four companies and then fourscore more, and if decisions and actions in these firms are to indicate something about the history of the industrial enterprise as an institution, the terms and concepts used in these comparisons and analyses must be carefully and precisely defined. Otherwise comparisons and findings can be more misleading than instructive. The following set of general or

theoretical propositions attempts to provide some sort of conceptual precision. Without reference to historical reality, they try to explain in fairly clear-cut, oversimplified terms how the modern, "decentralized" structure came into being.

Before developing these propositions, the term *industrial enterprise* needs to be defined. Used in a broad sense, it means here a large private, profit-oriented business firm involved in the handling of goods in some or all of the successive industrial processes from the procurement of the raw material to the sale to the ultimate customer. Transportation enterprises, utilities, or purely financial companies are not then included in this study, while those firms concerned with marketing and with the extraction of raw materials as well as those dealing with processing or manufacturing do fall within this definition. An industrial enterprise is thus a subspecies of what Werner Sombart has described as the capitalistic enterprise, which as "an independent economic organism is created over and above the individuals who constitute it. This entity appears then as the agent in each of these transactions and leads, as it were, a life of its own, which often exceeds in length that of its human members."[5]

While the enterprise may have a life of its own, its present health and future growth surely depend on the individuals who guide its activities. Just what, then, are the functions of the executives responsible for the fortunes of the enterprise? They coordinate, appraise, and plan. They may, at the same time, do the actual buying, selling, advertising, accounting, manufacturing, engineering, or research, but in the modern enterprise the execution or carrying out of these functions is usually left to such employees as salesmen, buyers, production supervisors and foremen, technicians, and designers. In many cases, the executive does not even personally supervise the working force but rather administers the duties of other executives. In planning and coordinating the work of subordinate managers or supervisors, he allocates tasks and makes available the necessary equipment, materials, and other physical resources necessary to carry out the various jobs. In appraising their activities, he must decide whether the employees or subordinate managers are handling their tasks satisfactorily. If not, he can take action by changing or bringing in new physical equipment and supplies, by transferring or shifting the personnel, or by expanding or cutting down available funds. Thus, the term, *administration,* as used here, includes executive action and orders as well as the decisions taken in coordinating, appraising, and planning the work of the enterprise and in allocating its resources.

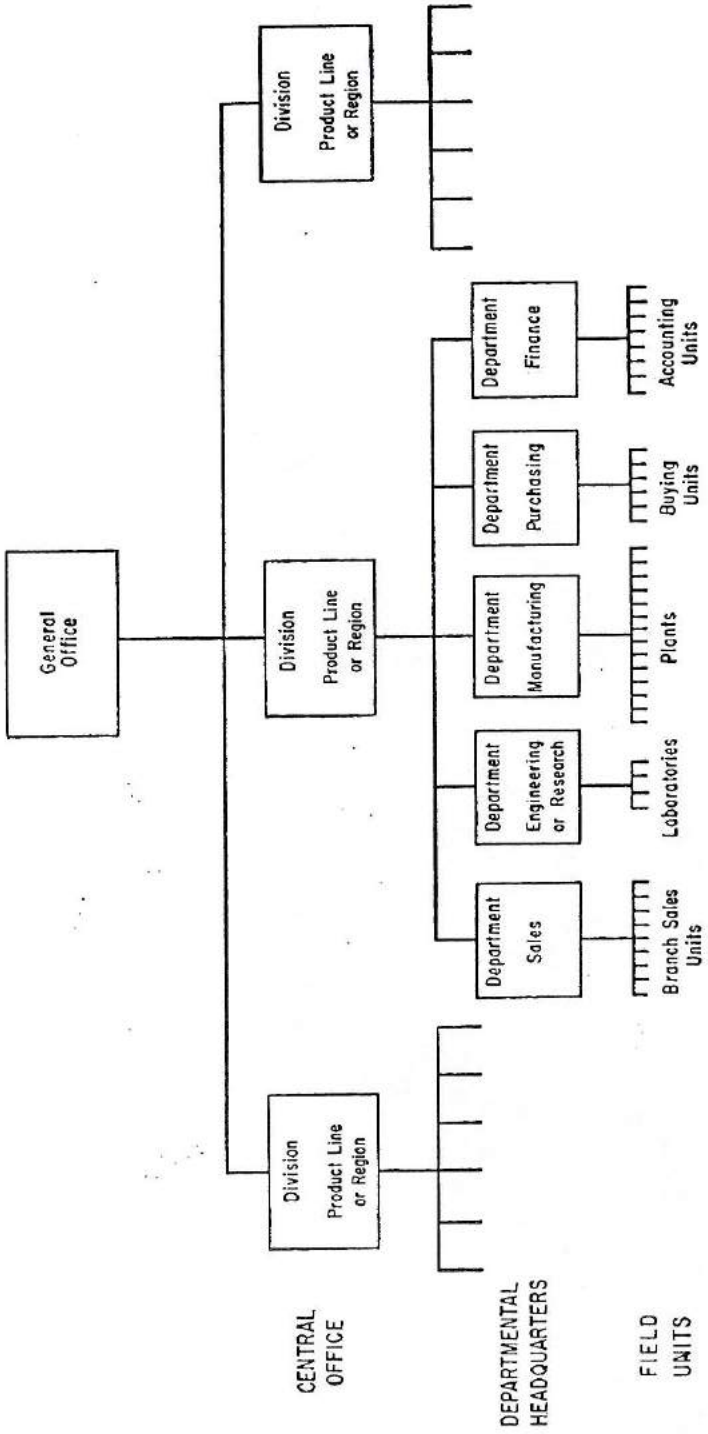
The initial proposition is, then, that administration is an identifiable activity, that it differs from the actual buying, selling, processing, or transporting of the goods, and that in the large industrial enterprise the

concern of the executives is more with administration than with the performance of functional work. In a small firm, the same man or group of men buy materials, sell finished goods, and supervise manufacturing as well as coordinate, plan, and appraise these different functions. In a large company, however, administration usually becomes a specialized, full-time job. A second proposition is that the administrator must handle two types of administrative tasks when he is coordinating, appraising, and planning the activities of the enterprise. At times he must be concerned with the long-run health of his company, at other times with its smooth and efficient day-to-day operation.[6] The first type of activity calls for concentration on long-term planning and appraisal, the second for meeting immediate problems and needs and for handling unexpected contingencies or crises. To be sure, in real life the distinction between these two types of activities or decisions is often not clear cut. Yet some decisions clearly deal very largely with defining basic goals and the course of action and procedures necessary to achieve these goals, while other decisions have more to do with the day-to-day operations carried out within the broader framework of goals, policies, and procedures.

The next few propositions deal with the content of administrative activities handled through the different types of posts or positions in the most complex administrative structures. The executives in a modern "decentralized" company carry out their administrative activities from four different types of positions (see Chart 1). Each of these types within the enterprise has a different range of administrative activities. Normally, each is on a different level of authority. At the top is a *general office.* There, general executives and staff specialists coordinate, appraise, and plan goals and policies and allocate resources for a number of quasi-autonomous, fairly self-contained divisions. Each division handles a major product line or carries on the firm's activities in one large geographical area. Each division's *central office,* in turn, administers a number of departments. Each of these departments is responsible for the administration of a major function — manufacturing, selling, purchasing or producing of raw materials, engineering, research, finance, and the like. The *departmental headquarters* in its turn coordinates, appraises, and plans for a number of field units. At the lowest level, each *field unit* runs a plant or works, a branch or district sales office, a purchasing office, an engineering or research laboratory, an accounting or other financial office, and the like. The four types of administrative positions in a large multidivisional enterprise are thus: the field unit, the departmental headquarters, the division's central office, and the general office. These terms are used throughout this study to designate a specific set of administrative activities. They do not, it should be stressed, refer to an enterprise's office

CHART 1

The Multidivisional Structure



buildings or rooms. One office building could house executives responsible for any one of the positions or conceivably those responsible for all four. Conversely, the executives in any one of the posts could be housed in different rooms or buildings.

Only in the first, the field unit, are the managers primarily involved in carrying on or personally supervising day-to-day activities. Even here, if the volume of activity is large, they spend much of their time on administrative duties. But such duties are largely operational, carried out within the framework of policies and procedures set by departmental headquarters and the higher offices. The departmental and divisional offices may make some long-term decisions, but because their executives work within a comparable framework determined by the general office, their primary administrative activities also tend to be tactical or operational. The general office makes the broad strategic or entrepreneurial decisions as to policy and procedures and can do so largely because it has the final say in the allocation of the firm's resources — men, money, and materials — necessary to carry out these administrative decisions and actions and others made with its approval at any level.[7]

It seems wise here to emphasize the distinction between the formulation of policies and procedures and their implementation. The formulation of policies and procedures can be defined as either strategic or tactical. *Strategic* decisions are concerned with the long-term health of the enterprise. *Tactical* decisions deal more with the day-to-day activities necessary for efficient and smooth operations. But decisions, either tactical or strategic, usually require *implementation* by an allocation or reallocation of resources — funds, equipment, or personnel. Strategic plans can be formulated from below, but normally the implementation of such proposals requires the resources which only the general office can provide. Within the broad policy lines laid down by that office and with the resources it allocates, the executives at the lower levels carry out tactical decisions.

The executives who actually allocate available resources are then the key men in any enterprise. Because of their critical role in the modern economy, they will be defined in this study as entrepreneurs. In contrast, those who coordinate, appraise, and plan within the means allocated to them will be termed managers. So *entrepreneurial* decisions and actions will refer to those which affect the allocation or reallocation of resources for the enterprise as a whole, and *operating* decisions and actions will refer to those which are carried out by using the resources already allocated.

Just because the entrepreneurs make some of the most significant decisions in the American economy, they are not all necessarily imbued

with a long-term strategic outlook. In many enterprises the executives responsible for resource allocation may very well concentrate on day-to-day operational affairs, giving little or no attention to changing markets, technology, sources of supply, and other factors affecting the long-term health of their company. Their decisions may be made without forward planning or analysis but rather by meeting in an *ad hoc* way every new situation, problem, or crisis as it arises. They accept the goals of their enterprise as given or inherited. Clearly wherever entrepreneurs act like managers, wherever they concentrate on short-term activities to the exclusion or to the detriment of long-range planning, appraisal, and coordination, they have failed to carry out effectively their role in the economy as well as in their enterprise. This effectiveness should provide a useful criterion for evaluating the performance of an executive in American industry.

As already pointed out, executives in the large enterprise work in four types of offices, each with his own administrative duties, problems, and needs. The four types operate on different scales, and their officers have different business horizons. The managers in the field unit are concerned with one function—marketing, manufacturing, engineering, and so forth—in one local area. The executives in the departmental headquarters plan, administer, and coordinate the activities of one function on a broad regional and often national scale rather than just locally. Their professional activities and their outside sources of information concern men and institutions operating in the same specialized function. The divisional executives, on the other hand, deal with an industry rather than a function. They are concerned with all the functions involved in the over-all process of handling a line of products or services. Their professional horizons and contacts are determined by industry rather than functional interests. Finally, executives in the general office have to deal with several industries or one industry in several broad and different geographical regions. They set policies and procedures and allocate resources for divisions carrying out all types of functions, either in different geographical areas or in quite different product lines. Their business horizons and interests are broadened to range over national and even international economies.

While all four types of offices exist in the most complex of industrial enterprises, each can of course exist separately. An industrial enterprise can include one, two, three, or all four of these offices. Many small firms today have only a single office managing a single plant, store, laboratory, financial operation, or sales activity. Larger companies with a number of operating units carry out a single function—such as sales (wholesale or retail), manufacturing, purchasing, or engineering. Their over-all

administrative structure comprises a headquarters and field offices. So also today there are integrated industrial enterprises that handle several economic functions rather than just one. Finally, there are the great diversified industrial empires, carrying on different functions and producing a variety of goods and services in all parts of the globe.

Since each type of position handles a different range of administrative activities, each must have resulted from a different type of growth. Until the volume or technological complexity of an enterprise's economic activities had so grown as to demand an increasing division of labor within the firm, little time needed to be spent on administrative work. Then the resulting specialization required one or more of the firm's executives to concentrate on coordinating, appraising, and planning these specialized activities. When the enterprise expanded geographically by setting up or acquiring facilities and personnel distant from its original location, it had to create an organization at a central headquarters to administer the units in the field. When it grew by moving into new functions, a central office came to administer the departments carrying on the different functions. Such a central administrative unit proved necessary, for example, when in following the policy of vertical integration a manufacturing firm began to do its own wholesaling, procuring of supplies, and even producing raw materials. Finally, when an integrated enterprise became diversified through purchasing or creating new facilities and entered new lines of business, or when it expanded its several functional departments over a still larger geographical area, it fashioned a number of integrated divisional units administered by a general office.

The thesis that different organizational forms result from different types of growth can be stated more precisely if the planning and carrying out of such growth is considered a *strategy*, and the organization devised to administer these enlarged activities and resources, a *structure*. *Strategy* can be defined as the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. Decisions to expand the volume of activities, to set up distant plants and offices, to move into new economic functions, or become diversified along many lines of business involve the defining of new basic goals. New courses of action must be devised and resources allocated and reallocated in order to achieve these goals and to maintain and expand the firm's activities in the new areas in response to shifting demands, changing sources of supply, fluctuating economic conditions, new technological developments, and the actions of competitors. As the adoption of a new strategy may add new types of personnel and facilities, and alter the business horizons of the

men responsible for the enterprise, it can have a profound effect on the form of its organization.

Structure can be defined as the design of organization through which the enterprise is administered. This design, whether formally or informally defined, has two aspects. It includes, first, the lines of authority and communication between the different administrative offices and officers and, second, the information and data that flow through these lines of communication and authority. Such lines and such data are essential to assure the effective coordination, appraisal, and planning so necessary in carrying out the basic goals and policies and in knitting together the total resources of the enterprise. These resources include financial capital; physical equipment such as plants, machinery, offices, warehouses, and other marketing and purchasing facilities, sources of raw materials, research and engineering laboratories; and, most important of all, the technical, marketing, and administrative skills of its personnel.

The thesis deduced from these several propositions is then that structure follows strategy and that the most complex type of structure is the result of the concatenation of several basic strategies. *Expansion of volume* led to the creation of an administrative office to handle one function in one local area. Growth through *geographical dispersion* brought the need for a departmental structure and headquarters to administer several local field units. The decision to expand into new types of functions called for the building of a central office and a multidepartmental structure, while the developing of new lines of products or continued growth on a national or international scale brought the formation of the multidivisional structure with a general office to administer the different divisions. For the purposes of this study, the move into new functions will be referred to as a strategy of *vertical integration* and that of the development of new products as a strategy of *diversification*.

This theoretical discussion can be carried a step further by asking two questions: (1) If structure does follow strategy, why should there be delay in developing the new organization needed to meet the administrative demands of the new strategy? (2) Why did the new strategy, which called for a change in structure, come in the first place?

There are at least two plausible answers to the first query. Either the administrative needs created by the new strategy were not positive or strong enough to require structural change, or the executives involved were unaware of the new needs. There seems to be no question that a new strategy created new administrative needs, for expansion through geographical dispersion, vertical integration, and product diversification added new resources, new activities, and an increasing number of entrepreneurial and operational actions and decisions. Nevertheless, executives

could still continue to administer both the old and new activities with the same personnel, using the same channels of communication and authority and the same types of information. Such administration, however, must become increasingly inefficient. This proposition should be true for a relatively small firm whose structure consists of informal arrangements between a few executives as well as for a large one whose size and numerous administrative personnel require a more formal definition of relations between offices and officers. Since expansion created the need for new administrative offices and structures, the reasons for delays in developing the new organization rested with the executives responsible for the enterprise's long-range growth and health. Either these administrators were too involved in day-to-day tactical activities to appreciate or understand the longer-range organizational needs of their enterprises, or else their training and education failed to sharpen their perception of organizational problems or failed to develop their ability to handle them. They may also have resisted administratively desirable changes because they felt structural reorganization threatened their own personal position, their power, or most important of all, their psychological security.

In answer to the second question, changes in strategy which called for changes in structure appear to have been in response to the opportunities and needs created by changing population and changing national income and by technological innovation. Population growth, the shift from the country to the city and then to the suburb, depressions and prosperity, and the increasing pace of technological change, all created new demands or curtailed existing ones for a firm's goods or services. The prospect of a new market or the threatened loss of a current one stimulated geographical expansion, vertical integration, and product diversification. Moreover, once a firm had accumulated large resources, the need to keep its men, money, and materials steadily employed provided a constant stimulus to look for new markets by moving into new areas, by taking on new functions, or by developing new product lines. Again the awareness of the needs and opportunities created by the changing environment seems to have depended on the training and personality of individual executives and on their ability to keep their eyes on the more important entrepreneurial problems even in the midst of pressing operational needs.

The answers to the two questions can be briefly summarized by restating the general thesis. Strategic growth resulted from an awareness of the opportunities and needs — created by changing population, income, and technology — to employ existing or expanding resources more profitably. A new strategy required a new or at least refashioned structure if the enlarged enterprise was to be operated efficiently. The failure to develop a new internal structure, like the failure to respond to new

external opportunities and needs, was a consequence of overconcentration on operational activities by the executives responsible for the destiny of their enterprises, or from their inability, because of past training and education and present position, to develop an entrepreneurial outlook.

One important corollary to this proposition is that growth without structural adjustment can lead only to economic inefficiency. Unless new structures are developed to meet new administrative needs which result from an expansion of a firm's activities into new areas, functions, or product lines, the technological, financial, and personnel economies of growth and size cannot be realized. Nor can the enlarged resources be employed as profitably as they otherwise might be. Without administrative offices and structure, the individual units within the enterprise (the field units, the departments, and the divisions) could undoubtedly operate as efficiently or even more so (in terms of cost per unit and volume of output per worker) as independent units than if they were part of a larger enterprise. Whenever the executives responsible for the firm fail to create the offices and structure necessary to bring together effectively the several administrative offices into a unified whole, they fail to carry out one of their basic economic roles.

The actual historical patterns of growth and organization building in the large industrial enterprise were not, of course, as clear-cut as they have been theoretically defined here. One strategy of expansion could be carried out in many ways, and often, two or three basic ways of expansion were undertaken at one and the same time. Growth might come through simultaneous building or buying of new faciliities, and through purchasing or merging with other enterprises. Occasionally a firm simultaneously expanded its volume, built new facilities in geographically distant areas, moved into new functions, and developed a different type of product line. Structure, as the case studies indicate, was often slow to follow strategy, particularly in periods of rapid expansion. As a result, the distinctions between the duties of the different offices long remained confused and only vaguely defined. One executive or a small group of executives might carry out at one and the same time the functions of a general office, a central office, and a departmental headquarters. Eventually, however, most large corporations came to devise the specific units to handle a field unit, a functional department, an integrated division, or a diversified industrial empire. For this very reason, a clear-cut definition of structure and strategy and a simplified explanation or theory of the relation of one to the other should make it easier to comprehend the complex realities involved in the expansion and management of the great industrial enterprises studied here, and easier to evaluate the achievement of the organization builders.

A comparative analysis of organizational innovation demands, however, more than an explanation of the terms, concepts, and general propositions to be used in assessing comparable experiences of different enterrises. It also calls for an understanding of the larger historical situation, both within and without the firm, during which strategic expansion and organizational change took place. The executives at du Pont, General Motors, Jersey Standard, and Sears, Roebuck did not solve their administrative problems in a vacuum. Other large enterprises were meeting the same needs and challenges and seeking to resolve comparable administrative problems. Their responses had an impact on the history of these four companies, just as the experience of the four affected that of many others.

The administrative story in each of the case studies falls into two basic parts: the creation of the organizational structure after the enterprise's first major growth or corporate rebirth, and then its reorganization to meet the needs arising from the strategies of further expansion. In developing their early administrative structures, these four firms were following accepted practices in American industry. Here the organization builders could learn from others. In fashioning the modern, multidivisional structure, they were, on the other hand, going beyond existing practices. Here others learned from them. An evaluation of the measures each took to improve the administration of its business requires therefore some knowledge of the methods and practices of business administration at the time when each built its major structure and began the reorganization that led to the fashioning of the multidivisional form.

One way to provide such a historical setting is to present a brief review of the growth of large-scale business enterprise in the United States. As the following survey is based only on readily available printed material supplemented by some interviews for only about a hundred of the nation's largest companies, its findings must be considered preliminary and tentative.[8] Much more detailed study will be necessary before the history of the administration or government of American industry can be accurately and fully explained. Nevertheless, even such a preliminary study indicates significant trends in the growth and administration of industrial corporations. An awareness of these trends is essential for the understanding of the more detailed case studies presented in this volume and of the subsequent changes in the structure and strategy of the large American industrial enterprise.

CONCLUSION—CHAPTERS IN THE HISTORY OF THE GREAT INDUSTRIAL ENTERPRISE

THE COMPARISON of the experience of a sizable sample of large industrial enterprises with that of four pioneers in modern American business administration provides much, though certainly still insufficient, information on which to generalize about the growth and management of this critically important economic institution in the United States. The comparison emphasizes that a company's strategy in time determined its structure and that the common denominator of structure and strategy has been the application of the enterprise's resources to market demand. Structure has been the design for integrating the enterprise's existing resources to current demand; strategy has been the plan for the allocation of resources to anticipated demand. The performance of these companies further suggests that a self-generating force for the growth of the industrial enterprise within a market economy like that of the United States has been the drive to keep resources effectively employed. The same need has shaped the ways, particularly the structure, by which a firm has been managed. Historically then, the role of administration and the function of the administrator in the large American enterprise have been to plan and direct the use of resources to meet the short-term and long-term fluctuations and developments in the market.

Of these resources, trained personnel with manufacturing, marketing, engineering, scientific, and managerial skills often became even more valuable than warehouses, plants, offices, and other physical facilities. Growth and shifts in the location of population, technological developments, and changes in consumer income, all affected the markets to which the administrators applied these resources. Of the two types of administrative decisions, one — the strategic — dealt with the long-term allocation of existing resources and the development of new ones essential to assure the continued health and future growth of the enterprise. The other — the tactical — was more involved in ensuring the efficient and steady use of current resources whose allocation had already been decided.

If the need to use resources provided the dynamic force that changed structure and strategy, the nature of the investment in these resources helped to determine the course and direction of growth and of subsequent structural change. The type of investment, in turn, depended on the technology of production and the techniques of marketing of the individual companies' original product line or lines. Finally, the rate of growth and the effectiveness in the use of the enterprise's resources rested on the ability and ingenuity of its administrators to build, adjust, and apply its personnel and facilities to broad population, technological, and income changes. Although the enterprise undoubtedly had a life of its own above and beyond that of its individual executives, although technological and market requirements certainly set boundaries and limits to growth, nevertheless, its health and effectiveness in carrying out its basic economic functions depended almost entirely on the talents of its administrators.

The market, the nature of their resources, and their entrepreneurial talents have, with relatively few exceptions, had far more effect on the history of large industrial firms in the United States than have antitrust laws, taxation, labor and welfare legislation, and comparable evidences of public policy. Possibly tax regulations have had more of an impact on the strategy of expansion since World War II, but their influence has not appreciably altered broad trends in the structure and strategy of great enterprise. On the other hand, government action such as defense or countercyclical spending that directly affected the market by increasing the national income or by making the government itself a large customer has had a significant effect on the growth of the large enterprise. The changing munitions market was of far more importance, for example, to the history of the du Pont Company than any antitrust action. Antitrust activity has had probably the greatest impact on corporate structure and strategy in those relatively rare cases where it transformed a monopoly into an oligopoly. Yet even in the case of the oil industry, the coming of a huge and entirely new automobile market was as significant as was the breakup of Standard Oil to the strategies and pace of growth of Gulf, Texaco, Shell, Sinclair, Phillips, and other large oil companies.

Historically, the executives administering American industrial enterprises have followed a recognizable pattern in the acquisition and use of resources. The initial acquisition of extensive plant, equipment, and personnel came to meet rapidly growing and often new demands for the products of their company. Or a large enterprise may have come into existence when a number of small firms that had expanded production combined and then consolidated their activities in the face of a temporary decline in demand. To be sure of more certain outlet for their goods, the administrators of enlarged enterprises built their own distributing and

marketing (usually wholesaling) organization; to be assured of essential materials, they obtained control over supplies. Once these resources had been acquired, the executives responsible for the destiny of the enterprise began to pay increasing attention to using them more rationally and efficiently. Among other things, this called for the formation of an administrative structure to mobilize systematically the resources within each functional activity and to coordinate with market demand the flow through and to determine the level of activity within the functional departments.

Then came a second period of growth and a second rationalization of the use of the firm's resources. As the enterprise reached the limits of the existing market set by available consumer income, the state of technology, and the location of population, and as it came to the limits of cost reduction through rational and systematic integration and use of its resources, its senior executives began to seek new markets or new lines of business where they might apply some resources only partially used or where existing ones might be employed more profitably. A threatened decline of existing demand even more dramatically increased the pressure to find new markets. Not only did they seek these overseas but they also took their enterprises into new lines of businesses that were similar enough to its existing activities to permit a transfer of resources. The latter type of expansion was practical, however, only if some skills of some of the personnel and the capacity of some of the facilities could be transferred without too great a cost to new lines. Finally, those companies that did develop new markets or new products then had to reshape the channels of communication and authority within the enterprise. Otherwise, the offices managing the several functional activities lost contact with the new and even the old markets, and the senior executives had increasing difficulty in allocating intelligently the expanded and more varied resources at their command.

Thus four phases or chapters can be discerned in the history of the large American industrial enterprise: the initial expansion and accumulation of resources; the rationalization of the use of resources; the expansion into new markets and lines to help assure the continuing full use of resources; and finally the development of a new structure to make possible continuing effective mobilization of resources to meet both changing short-term market demands and long-term market trends. Although each company had a distinct and unique history, nearly all followed along this general pattern. Because all of them operated within the same external environment, these chapters in the collective history of the industrial enterprise or the history of the enterprise considered as an economic institution followed roughly the underlying changes in the over-all American economy.

Of course, the timing of the chapters for the individual companies varied. In the newer industries based on the internal-combustion and electrical engine and on modern chemistry and physics, they came somewhat later than in the older metals or tobacco, sugar, meat packing, and others that processed agricultural products.

In very general terms, then, many of America's largest industrial enterprises initially accumulated their resources in the years between the 1880's and World War I. During the first two decades of the twentieth century, these same firms built their initial administrative structures. For some, continued expansion, largely through diversification, began in the 1920's, but for most it came after the depression of the 1930's. Thus, although the pioneers in the fashioning of a new structural form to manage these expanded resources began their work in the 1920's, most enterprises carried out their major structural reorganizations in the 1940's and 1950's.[1]

The First Chapter — Accumulating Resources

The large American industrial enterprise was born and nurtured in the rapidly industrializing and urbanizing economy of the post–Civil War years. The great railroad construction boom of those years helped swell the population of the agrarian West. It stimulated even more the swift growth of the older commercial centers that serviced the agrarian economy and of the new industrial cities rising to meet the expanding demand for manufactured goods. The railroad itself created a huge new market for the basic iron and steel and machinery industries. The needs of the railroad for vast sums of capital led to the growth of the modern money market in the United States and with it the modern investment banking house, which made it relatively easy later for industrials to tap a wide pool of European and American capital. The construction of the railroads and the rapid urban growth gave work to the unskilled immigrants and farm boys who poured into the larger cities after 1850. The new working force not only provided a supply of labor for the growing industrial enterprises, but also increased the demand for their products. By the 1880's, nearly every existing manufacturing enterprise could reach by railroad a large rural and even more swiftly growing industrial and urban market.

To meet these opportunities, industrial enterprises began to enlarge their productive facilities, labor force, and trained supervisory personnel. Often the new resources were self-generated. The firm's profits provided the funds for further expansion, while the skills of its personnel were developed as the latter carried out their daily tasks. If the enterprise needed outside funds for expansion and combination, it went to the Eastern financial centers. In the 1890's, as railroad expansion leveled off, investment houses that had grown and made their initial reputation in the

marketing and handling of railroad securities — firms like J. P. Morgan & Co.; A. M. Kidder & Company; Lee, Higginson & Company; Kuhn, Loeb; Brown Brothers & Company — all began to float and trade in industrial securities. Also as railroad construction declined, the laborers from abroad and from rural America found work in the enlarged steel mills, oil refineries, meat-packing, electrical, farm machinery, and implement plants.

In meeting the new demand, industrialists had more difficulty in obtaining a distribution network than expanding production facilities. The makers of new types of goods, which were often based on technological innovations, created their own distributing and marketing organizations with warehouses, transportation equipment, offices, and even retail outlets. The makers of the older, more staple commodities, however, generally waited until they had combined and consolidated with their fellows before creating marketing organizations. Combination normally proved to be only a temporary expedient, simply because it led to, and indeed demanded, a limited use of the firm's available resources. Consolidation, on the other hand, permitted the lowering of unit costs through high-volume production for the large market. Even so, the need to keep the consolidated production activities working steadily called for closer coordination with the customer demand through the creation of a marketing organization. Conversely, only firms of large capacity could afford to buy or build and to maintain nationwide marketing facilities.

Consolidation, and with it the formation of a marketing department, was usually followed or accompanied by forming purchasing departments and often by obtaining control of raw materials. Beside making possible the economies of large-scale purchasing, the new department made it easier to coordinate supplies with the needs of the mills for materials. Where there was a possibility of a few outsiders or even of competitors obtaining control of a company's basic raw and semifinished materials, the enterprise often moved into the production and transportation of those materials. The main reason for the purchasing of parts and accessories firms was often to assure the close and steady flow of these parts to the primary assemblying or manufacturing activities. Thus, in many key American industries after the 1880's a few great enterprises took over the several different stages of the industrial processes that, up to that time, had always been operated by separate, relatively small wholesalers, manufacturers, transporters, and raw materials producers.

The Second Chapter — Rationalizing the Use of Resources

The creation of these huge new vertically integrated enterprises was the work of the empire builders of American industry. These men, whose

names are among the best known in the folklore of American business, usually turned over the administration of the vast resources they had accumulated to other individuals. Their successors had to develop methods for managing rationally the large agglomerations of men, money, and materials. Often in their eagerness to meet the new market, the empire builders in one industry had collected more facilities and personnel than were really necessary to meet the existing demand. Continuing profits depended on the lowering of costs through the systematizing of operations.

In this second period, this pressing task was twofold. First, unit costs had to be reduced by rationalizing the several functional activities and, second, these functional activities had to be closely integrated to market fluctuations. The first task led to the definition of lines of authority and communication within a single functional department; the second brought a structure for the enterprise as a whole. With the first came the systematizing and improving of the processes and techniques of marketing, manufacturing, and the procurement of raw materials. The final form of the second reflected closely the marketing requirements of the firm's products.

For those enterprises that continued to sell ores or primary metals, the task was the least complicated. Here, the market organization remained small, and the flow could be quickly adjusted to current price. But where fabricated shapes and forms made to exact customer specifications were the products, much closer coordination between the selling and manufacturing activities became necessary. To deliver promptly goods made to a bewildering variety of specifications and at the same time to keep large plants operating fairly steadily necessitated scheduling of a high order of skill. When the line of goods became even more technologically complex, as in the case of electrical apparatus, power machinery, and construction equipment companies, then the coordination of production often became even more difficult than in the steel and metal firms. Also the designing of new or improved products to meet customer needs and to counter the offerings of competitors demanded the close cooperation of the marketing, manufacturing, and engineering departments.

For those companies that also manufactured for the producers' market but whose more standardized products were made in advance of orders, the coordination of resources offered somewhat different challenges. In the companies making explosives, chemicals, industrial rubber, glass, paper, metal containers, trucks and farm implements, small engines, and other power machinery and equipment, the scheduling of the flow through the different departments was more routine than it was for nonstandard goods. But because these products were not tailored to specific

orders, increasingly accurate estimates of market demand were required so that the different departments would not be caught with either too much or too little inventory of materials, parts, and finished goods. Since the customers' needs varied, technically trained personnel helped coordinate designing, making, and selling so that the standardized product might be made to fit these different needs.

Those enterprises selling products for use by the mass consumer had still another set of problems. Because they tended to have a much larger volume of goods, not based on specific orders, flowing through their various activities than did the enterprises selling to the producers' market, the flow had to be directed still more closely toward the short-term fluctuations of demand if resources were to be used efficiently. Among the first to be faced with this problem of coordinating high-volume flow were the makers of perishable products like meat and fruit. By the turn of the century, the meat packers, with their heavy investment in distributing and purchasing as well as in the processing of all kinds of meats, had pioneered in such coordination by developing telegraphic communications between the branch houses, the packing plants, and the stockyards. Both the branch houses and the buyers in the stockyards were in constant telegraphic communication with the central offices in Chicago. And with such information, the central office could allocate supply to demand almost instantaneously.

The makers of less perishable consumer goods came to require even more than this instantaneous coordination between supply and demand. The processes involved in converting their raw materials into finished goods readily available for customer use were more complex and took more time to accomplish than did those in meat packing and some other food industries. This meant a still larger investment in inventory and greater difficulty in adjusting all activities to short-term shifts in demand. Thus the makers of gasoline, tires, tobacco, and some of the less perishable foods began to rely on long-term as well as short-term estimates of the market in order to coordinate and guide product flow through the several departments, and to determine the use of resources within the functional departments.

For the producers of consumer durables, the need was even more critical. Here the investment was still greater, there were more steps in the process, and each functional activity was more complex. To adjust the flow was more difficult and the failure to adjust more costly. Also, because of the relatively expensive materials involved and the relatively high final unit price, the market changes affected unit cost even more than in other industries; that is, in the automobile and appliance businesses variable unit costs rose and fell more sharply with an increase and decrease of

output than in most industries. So it was that General Motors and the electrical companies were among the first to develop statistical methods for estimating long-term and short-term demand on which all current activity became based.

In this way, then, the need to apply resources effectively to changes in short-term demand brought the creation of a centralized, functionally departmentalized administrative structure. The functional activities were departmentalized in order to assure effective and rational coordination, appraisal, and planning in each. The central office, in turn, had to make certain the coordination of these different activities in relation to the market. The resulting structure provided a communication network that linked all the facilities involved in the industrial process with the customer's demand. Such a network rendered easier the accurate compliance with specifications as well as rapid and prompt delivery in the producers' goods industries, and the adjustment of volume of output and the making of minor changes in product necessary to meet the fluctuating demands of the mass-consumer-goods industries.

The senior executives at the central office of the functionally departmentalized structures had to make strategic decisions concerning the future allocation of resources as well as tactical ones to assure their efficient current use. Just as operational activities became tied to the short-term estimates of the market, entrepreneurial ones became increasingly based on estimates and forecasts of long-term changes. As the methods for allotting funds, equipment, and personnel became systematized through the development of formal budgets and capital appropriation procedures, their allocation also came to be based on forecasts of the broader economic and financial conditions as well as of the anticipated performance of the specific market. Through such procedures, these executives were able to review, formulate, and approve plans to maintain and expand their share of the existing market. As the structure was worked out, the allocation of future and the application of present resources became more routinized, and basic entrepreneurial decisions became least frequent. But when the responsible executives decided to move into new markets, the older structure began to hinder the efficient allocation and uses of the firm's resources.

The Third Chapter — Continued Growth

At the end of the first chapter in its history, an enterprise had accumulated enough resources to meet the demands of the national market and often those of foreign ones accessible by steamship and railroad. For the large companies in the older American industries — the metals and foods and some consumer goods like rubber boots and shoes — this period came

to an end around the turn of the century. For those in the electrical industry, it lasted somewhat longer; while many large automobile, power machinery, gasoline, tire, and chemical companies were still rounding out this first chapter in the 1920's. At the end of the second chapter, administrators had defined, sometimes with great care and at others in more of an *ad hoc* informal manner, structures to assure more efficient use of the accumulated resources. In the older industries, these structural changes usually came before World War I, for the newer ones in the 1920's and 1930's.

Then, as other firms followed the innovators in developing more efficient purchasing, production, distribution, and above all administrative methods, cost differentials between companies lessened and profit margins droppd. More intensive advertising, product differentiation and improvement, and similar strategies might increase one firm's share of the market, but only major changes in technology, population, and national income could expand the over-all market for a single line of products. As the market became more saturated and the opportunities to cut costs through more rational techniques lessened, enterprises began to search for other markets or to develop other businesses that might profitably employ some of their partially utilized resources or even make a more profitable application of those still being fully employed.

The first step was to develop a "full line" of comparable products.[2] Steel and aluminum firms had "warehouse" lines and special ones for specific industries beside their orders made to customer specifications. The harvester companies built their full line of agricultural implements. The meat packers moved to eggs, poultry, and dairy products to use the refrigerated facilities of their distributing network. The electrical companies developed everything involved in setting up, operating, and maintaining power and light systems. The gasoline companies had their lubricant line. The tire firms made steel rims as well as rubber tires. There are numerous other examples. At the same time, these enterprises intensified their drive to cover the domestic and international market. Expansion overseas often meant the setting up of manufacturing and purchasing as well as marketing facilities. While some companies like International Harvester, Armour, and Swift had invested more than just marketing resources abroad before World War I, many, particularly the chemical firms, only did so after World War II.

More significant than either the filling out of the major line or the move overseas was the development of new products that were often sold to quite different sets of customers. Either new end products might be fashioned from the existing lines or less often wholly new products developed in research laboratories that still employed some of the com-

pany's skills and facilities. Sometimes the enterprise began this move by concentrating more on by-products. Often it turned to a brand new field. In either case, the nature of the company's original line and the resulting accumulation of resources determined the extent to which the new products could be developed and new markets captured. In enterprises whose products and processing were based on a highly complex technology, both skills and facilities were most easily transferred to new lines of goods. On the other hand, in those that were less technologically complex and whose resources were concentrated more in raw materials and manufacturing, such a transfer was far more difficult.

Firms whose resources were concentrated in a single function such as transportation had little to transfer besides surplus funds. When a shipping concern, like W. R. Grace & Company, purchased chemical and petroleum companies, it was acting largely as a Wall Street investment house, for it had very few facilities or personnel to re-employ in its new ventures. Many great multifunctional enterprises with vast resources tied up in men and equipment to handle a single line of products have been more reluctant than Grace even to reinvest profits outside of their single major line. They needed funds from their profits to maintain their very large existing investment. When enterprises with few transferable resources, such as the producers and sellers of steel and other metals, and of tobacco, whisky, sugar, and other goods processed from agricultural products, expanded either through merger, or purchase, or the building of new facilities, they usually did so in order to obtain a full line or occasionally to take on allied products for much the same type of market as their own. For comparable reasons, tire and oil companies with huge resources concentrated on a single line have hesitated to embark on a strategy of broad diversification. For some processors of farm products, the task has been easier. A far wider range of products could be made from wheat and milk than from tobacco, bananas, or even meat.

Where a company's resources are invested more in marketing than in raw materials or producing facilities, the opportunity for diversification seems to have been greater. However the enterprises whose resources were the most transferable remained those whose men and equipment came to handle a range of technology rather than a set of end products. In the chemical, electrical and electronic, and power machinery industries, the same personnel using much the same facilities with much the same supplies of raw materials were able to develop new engines, new machines, new household appliances, new synthetic fibers, new films or plastics, or new electrical and electronic devices. Since the enterprises in these industries required the highest of technological skills, their administrators invested increasingly larger amounts of their total resources in

research and development. Such resources became less and less tied to any specific product line. As rubber, petroleum, and food companies began to develop technologically advanced skills and facilities, particularly during World War II, they too started to build more of a diversified product line. For all of them, continued growth and with it the accumulation of resources came in their new lines rather than in the old.

The Fourth Chapter — Rationalizing the Use of Expanding Resources

While the strategy of diversification permitted the continuing and expanded use of a firm's resources, it did not assure their efficient employment. Structural reorganization became necessary. If expansion resulted only in the development of a full line of goods that continued to use much the same type of resources, the reorganization of the marketing department so that it had an office for each major type of customer was usually sufficient. But where business diversified into wholly new lines for quite different customers with quite different wants, then more reorganization was needed. It became increasingly difficult to coordinate through the existing structure the different functional activities to the needs of several quite different markets.

Channels of communication and authority as well as the information flowing through these channels grew more and more inadequate. The wants of different customers varied, and demand and taste fluctuated differently in different markets. Such changing market demands and the actions of competitors brought a growing differentiating of the manufacture and procurement of raw materials for the various product lines. Responsibility for maintaining and expanding the enterprise's share of the markets became harder to pin point. In time, then, each major product line came to be administered through a separate, integrated autonomous division. Its manager became responsible for the major operating decisions involved in the coordination of functional activities to changing demand and taste. Expansion into new regions encouraged the formation of comparable divisions for comparable reasons. Yet, as the different geographical markets became more homogeneous (and this occurred as all parts of the United States became more industrial and more urbanized and suburbanized), the regionally defined divisions in petroleum, dairy products, and container enterprises tended to combine into a single unit for one line of products.

Expansion, primarily through diversification, enlarged the range, number, and complexity of the entrepreneurial activities required of the senior executives. The long-term allocation of resources now involved deciding between the expansion, maintenance, and contraction of personnel, plant, and equipment in several different, large-scale, widespread businesses.

The appraisal of existing performance as well as the planning of future uses of resources called for a general office in which the executives were given the time, the information, and the encouragement to develop a broad view, all so necessary for the handling of the new and more complex problems. The multidivisional structure met both the short-term and long-term requirements for the profitable application of resources to the changing markets.

In recent years, the builders of the new organizational structures could look to the model created by du Pont, General Motors, Jersey Standard, and Sears, Roebuck. But before the 1930's, those few firms that had developed lines of business which might have been more effectively administered through a multidivisional structure envisaged only two structural alternatives. To the meat packers, rubber companies, and makers of power machinery, the activities had either to be incorporated into a centralized, functionally departmentalized structure or placed in almost completely independent subsidiaries. In either case, the executives responsible for the destiny of the enterprise had little information about or understanding of how the resources not applied directly to the primary line were being employed. Once the new type of structure became known, as it did during the 1930's, its availability undoubtedly encouraged many enterprises to embark on a strategy of diversification, for the ability to maintain administrative control through such an organizational framework greatly reduced the risks of this new type of expansion.

In fact, the systematizing of strategic decisions through the building of a general office and the routinizing of product development by the formation of a research department have, in a sense, institutionalized this strategy of diversification. Companies whose processes are closely related to the science of chemistry and physics have turned to developing new products steadily in order to assure continuing profitable use of resources that are becoming increasingly based on a technology rather than a product line. The research department develops the products and tests their commercial value. The executives in the general office, freed from all but the most essential entrepreneurial duties, can determine, in something of a rational manner, whether the new product uses enough of the firm's present resources or will help in the development of new ones to warrant its production and sale. If it does and if its market is similar to that of the current line, then its production and sale can be handled through an existing division. If the market is quite different, a new division can and should be formed.

The coming of this new strategy and with it the new structure is of paramount importance to the present health and future growth of the American economy. While some of the new products have been

sold in the mass consumer market where, according to some commentators, the technical skills and facilities are sometimes wasted, the largest proportion of the output of the chemical, electronic, electrical, and power machinery enterprises have gone to the producers' market. The industrialist has usually been much more concerned about the performance of what he purchases for his business than the consumer has been in his personal buying, as better performance normally means cutting costs. The institutionalizing of the policy of diversification thus helps to assure continued production of new products to cut costs and raise the efficiency of American industry. Such a development is far more significant to the economy's over-all health than production increases in the older basic industries, such as metals and food. The investment in research and development and in the technical skills and equipment that can handle a range of products within a comparable technology is a far more meaningful index of economic growth in a highly urban and industrial nation than is the output of steel, meat, or even automobiles.

The chapters in the collective history of the American industrial enterprise can be clearly defined. Resources accumulated, resources rationalized, resources expanded, and then once again, resources rationalized. For each individual company, these chapters vary in length, significance, and impact. Some firms never attempted to accumulate the resources essential to meet the demands of a national market. Some of those companies that did expand took longer to rationalize the use of their resources than did others. Some set up new structures very systematically, others more informally. Some began to move into new lines and new markets even before they completed building their initial administrative organization. Again some were much slower than others to join the search for new markets; and again, among those that did, some turned more quickly than others to reshaping the structure necessary for the most profitable employment of the expanded resources. A company like General Motors, by inventing a new type of structure when it first organized its accumulated resources, was able to expand through diversification without requiring further significant structural changes; while Jersey Standard's informal, *ad hoc* mobilization of its resources after 1911 meant that a rapid expansion of facilities and personnel forced a much more difficult and much lengthier reorganization in later years.

Nevertheless, if the great industrial enterprise is considered as a collective entity, then these chapters are more easily identified and examined. And if these chapters have some relation to reality, then they have some significance for the scholar, businessman, and even public officials. However, the data are still too few and the generalizations derived too tenuous and too imprecise to be the basis for suggestions for action. Yet there is

some value in presenting even a tentative and partial account of the history of large American industrial enterprise simply because this is a field where myths abound, where more positive generalizations than mine have been made on much less specific data, and where recommendations for action have been seriously proposed on the basis of such generalizations. If it does nothing else, this exploratory study should provide the student of business history and business administration as well as other scholars with some suggestions for significant areas of investigation.

Further researchers in the growth and administration of American industry and business must consider the importance of the market. That the expansion and government of industrial enterprises in a market economy should be closely related to the changing nature of the market seems obvious enough. Yet many writers dealing with principles of business administration, often discuss leadership, communication, and structure with only passing reference to the market. On the other hand, economists, antitrust lawyers, and other experts on market behavior have said little about the impact of the market on corporate administration. The building of the multidivisional structure is, for example, thought to be as feasible in a steel as in a chemical enterprise. Or competition in the steel industry is considered to be comparable with that in the oil or chemical industries, or administrative needs to be much the same in one period of an enterprise's history as in another.

Nor should scholars forget the critical role that the large enterprise in a market economy plays in allocating the nation's economic resources. The success or failure in the allocation of funds, facilities, and skills provides a useful test of the performance and ability of American industrial executives. The criteria for success used by the industrialists themselves — lowering unit costs, increasing output per worker, and long-term return on investment — may by mid-twentieth century, have become too narrow. Yet even if performance is to be evaluated in broader social and human terms, resources can hardly be employed effectively unless the men responsible for their use have relevant information on which to base their decisions and the means to carry them out. Without accurate and meaningful data and without clear-cut lines of communication and authority, they are forced to allocate present and future resources in a haphazard and intuitive way. In all industrial, urban, and technologically advanced societies where the large enterprise, either private or public, has acquired an essential role in planning, coordinating, and appraising economic activities, a lack of systematic structure within these organizations can lead to a wasteful and inefficient use of resources. Further studies of the way in which the great enterprise has grown and become administered have, then, more than mere scholarly value.

NOTES