APPENDIX

A THE HISTORICAL EVOLUTION OF ORGANIZATIONAL BEHAVIOR

Why study history? Oliver Wendell Holmes answered that question succinctly when he said, "When I want to understand what is happening today or try to decide what will happen tomorrow, I look back." By *looking back* at the history of organizational behavior, you gain a great deal of insight into how the field got to where it is today. It'll help you understand, for instance, how management came to impose rules and regulations on employees, why many workers in organizations do standardized and repetitive tasks on assembly lines, and why a number of organizations in recent years have replaced their assembly lines with team-based work units. In this appendix, you'll

find a brief description of how the theory and practice of organizational behavior have evolved.

So where do we start? Human beings and organized activities have been around for thousands of years, but we needn't go back beyond the eighteenth or nineteenth century to find OB's roots.

Early Practices

There is no question that hundreds of people helped to plant the "seeds" from which the OB "garden" has grown.[1] Three individuals, however, were particularly important in promoting ideas that would eventually have a major influence in shaping the direction and boundaries of OB: Adam Smith, Charles Babbage, and Robert Owen.

Adam Smith

Adam Smith is more typically cited by economists for his contributions to classical economic doctrine, but his discussion in *The Wealth of Nations*,[2] published in 1776, included a brilliant argument on the economic advantages that organizations and society would reap from the division of labor (also called work specialization). Smith used the pin-manufacturing industry for his examples. He noted that ten individuals, each doing a specialized task, could produce about 48,000 pins a day among them. He proposed, however, that if each were working separately and independently, the ten workers together would be lucky to make ten pins in one day. If each had to draw the wire, straighten it, cut it, pound heads for each pin, sharpen the point, and solder the head and pin shaft, it would be quite a feat to produce ten pins a day!

Smith concluded that division of labor raised productivity by increasing each worker's skill and dexterity, by saving time that is commonly lost in changing tasks, and by encouraging the creation of labor-saving inventions and machinery. The extensive

development of assembly-line production processes during this century has undoubtedly been stimulated by the economic advantages of work specialization cited over two centuries ago by Adam Smith.

Charles Babbage

Charles Babbage was a British mathematics professor who expanded on the virtues of division of labor first articulated by Adam Smith. In his book *On the Economy of Machinery and Manufactures*,[3] published in 1832, Babbage added the following to Smith's list of the advantages that accrue from division of labor:

1. It reduces the time needed for learning a job.
2. It reduces the waste of material during the learning stage.
3. It allows for the attainment of high skill levels.
4. It allows a more careful matching of people's skills and physical abilities with specific tasks.

Moreover, Babbage proposed that the economies from specialization should be as relevant to doing mental work as physical labor. Today, for example, we take specialization for granted among professionals. When we have a skin rash, we go to a dermatologist. When we buy a home, we consult a lawyer who specializes in real estate. The professors you encounter in your business school classes specialize in areas such as tax accounting, entrepreneurship, marketing research, and organizational behavior. These applications of division of labor were unheard of in eighteenth-century England. But contemporary organizations around the world—in both manufacturing and service industries—make wide use of division of labor.

Robert Owen

Robert Owen was a Welsh entrepreneur who bought his first factory in 1789, at the age of 18. He is important in the history of OB because he was one of the first industrialists to recognize how the growing factory system was demeaning to workers.

Repulsed by the harsh practices he saw in factories—such as the employment of young children (many under the age of ten), 13-hour workdays, and miserable working conditions—Owen became a reformer. He chided factory owners for treating their equipment better than their employees. He criticized them for buying the best machines but then employing the cheapest labor to run them. Owen argued that money spent on improving labor was one of the best investments that business executives could make. He claimed that showing concern for employees both was profitable for management and would relieve human misery.

For his time, Owen was an idealist. What he proposed was a utopian workplace that would reduce the suffering of the working class. He was more than a hundred years ahead of his time when he argued, in 1825, for regulated hours of work for all, child labor laws, public education, company-furnished meals at work, and business involvement in community projects.[4]

The Classical Era

The classical era covered the period from about 1900 to the mid-1930s. It was during this period that the first general theories of management began to evolve. The classical contributors—who include Frederick Taylor, Henri Fayol, Max Weber, Mary Parker Follett, and Chester Barnard—laid the foundation for contemporary management practices.

Scientific Management

The typical United Parcel Service (UPS) driver today makes 120 stops during his or her work shift. Every step on that driver's daily

route has been carefully studied by UPS industrial engineers to maximize efficiency. Every second taken up by stoplights, traffic, detours, doorbells, walkways, stairways, and coffee breaks has been documented by UPS engineers so as to cut wasted time. It's no accident, for instance, that all UPS drivers tap their horns when they approach a stop in hopes that the customer will hurry to the door seconds sooner. It's also no accident that all UPS drivers walk to a customer's door at the brisk pace of three feet per second and knock first lest seconds be lost searching for the doorbell.

Today's UPS drivers are following principles that were laid down more than 85 years ago by Frederick W. Taylor in his *Principles of Scientific Management*.[5] In this book, Taylor described how the scientific method could be used to define the "one best way" for a job to be done. In this section, we review his work.

As a mechanical engineer at the Midvale and Bethlehem Steel companies in Pennsylvania, Taylor was consistently appalled at the inefficiency of workers. Employees used vastly different techniques to do the same job. They were prone to "taking it easy" on the job. Taylor believed that worker output was only about one-third of what was possible. Therefore, he set out to correct the situation by applying the scientific method to jobs on the shop floor. He spent more than two decades pursuing with a passion the "one best way" for each job to be done.

It's important to understand what Taylor saw at Midvale Steel that aroused his determination to improve the way things were done in the plant. At the time, there were no clear concepts of worker and management responsibilities. Virtually no effective work standards existed. Employees purposely worked at a slow pace. Management decisions were of the "seat-of-the-pants" nature, based on hunch and intuition. Workers were placed on jobs with little or no concern for matching their abilities and aptitudes with the tasks they were required

to do. Most important, management and workers considered themselves to be in continual conflict. Rather than cooperating to their mutual benefit, they perceived their relationship as a zero-sum game—any gain by one would be at the expense of the other.

Taylor sought to create a mental revolution among both the workers and management by defining clear guidelines for improving production efficiency. He defined four principles of management, listed in Exhibit A-1; he argued that following these principles would result in the prosperity of both management and workers. Workers would earn more pay, and management more profits.

Probably the most widely cited example of scientific management has been Taylor's pig iron experiment. The average daily output of 92-pound pigs loaded onto rail cars was 12.5 tons per worker. Taylor was convinced that by scientifically analyzing the job to determine the one best way to load pig iron, the output could be increased to between 47 and 48 tons per day.

Taylor began his experiment by looking for a physically strong subject who placed a high value on the dollar. The individual Taylor chose was a big, strong Dutch immigrant, whom he called Schmidt. Schmidt, like the other loaders, earned $1.15 a day, which even at the turn of the century, was barely enough for a person to survive on. As the following quotation from Taylor's book demonstrates, Taylor used money—the opportunity to make $1.85 a day—as the primary means to get workers like Schmidt to do exactly as they were told:

> "Schmidt, are you a high-priced man?" "Vell, I don't know vat you mean." "Oh, yes you do. What I want to know is whether you are a high-priced man or not." "Vell, I don't know vat you mean." "Oh, come now, you answer my questions. What I want to find out is whether you are a high-priced man or one of these cheap fellows here. What I want to know is whether you want to earn $1.85 a day or whether you are satisfied with $1.15, just the same

Exhibit A-1 Taylor's Four Principles of Management

1. Develop a science for each element of an individual's work. (Previously, workers used the "rule-of-thumb" method.)
2. Scientifically select and then train, teach, and develop the worker. (Previously, workers chose their own work and trained themselves as best they could.)
3. Heartily cooperate with the workers so as to ensure that all work is done in accordance with the principles of the science that has been developed. (Previously, management and workers were in continual conflict.)
4. Divide work and responsibility almost equally between management and workers. Management takes over all work for which it is better suited than the workers. (Previously, almost all the work and the greater part of the responsibility were thrown upon the workers.)

as all those cheap fellows are getting." "Did I vant $1.85 a day? Vas dot a high-priced man? Vell, yes. I vas a high-priced man."[6]

Using money to motivate Schmidt, Taylor went about having him load the pig irons, alternating various job factors to see what impact the changes had on Schmidt's daily output. For instance, on some days Schmidt would lift the pig irons by bending his knees, whereas on other days he would keep his legs straight and use his back. He experimented with rest periods, walking speed, carrying positions, and other vari-

ables. After a long period of scientifically trying various combinations of procedures, techniques, and tools, Taylor succeeded in obtaining the level of productivity he thought possible. By putting the right person on the job with the correct tools and equipment, by having the worker follow his instructions exactly, and by motivating the worker through the economic incentive of a significantly higher daily wage, Taylor was able to reach his 48-ton objective.

Another Taylor experiment dealt with shovel sizes. Taylor noticed that every worker in the plant used the same-sized shovel, regardless of the material he was moving. This made no sense to Taylor. If there was an optimum weight that would maximize a worker's shoveling output over an entire day, then Taylor thought the size of the shovel should vary depending on the weight of the material being moved. After extensive experimentation, Taylor found that 21 pounds was the optimum shovel capacity. To achieve this optimum weight, heavy material like iron ore would be moved with a small-faced shovel and light material like coke with a large-faced shovel. Based on Taylor's findings, supervisors would no longer merely tell a worker to "shovel that pile over there." Depending on the material to be moved, the supervisor would now have to determine the appropriate shovel size and assign that size to the worker. The result, of course, was again significant increases in worker output.

Using similar approaches in other jobs, Taylor was able to define the one best way for doing each job. He could then, after selecting the right people for the job, train them to do it precisely in this one best way. To motivate workers, he favored incentive wage plans. Overall, Taylor achieved consistent improvements in productivity in the range of 200 percent or more. He reaffirmed the role of managers to plan and control and that of workers to perform as they were instructed. *The Principles of Scientific Management*, as well as papers that Taylor wrote and presented,

spread his ideas not only in the United States, but also in France, Germany, Russia, and Japan. One of the biggest boosts in interest in scientific management in the United States came during a 1910 hearing on railroad rates before the Interstate Commerce Commission. Appearing before the commission, an efficiency expert claimed that railroads could save a million dollars a day (equivalent to about $16 million a day in 1998 dollars) through the application of scientific management! The early acceptance of scientific management techniques by U.S. manufacturing companies, in fact, gave them a comparative advantage over foreign firms that made U.S. manufacturing efficiency the envy of the world—at least for 50 years or so!

Administrative Theory

Administrative theory describes efforts to define the universal functions that managers perform and principles that constitute good management practice. The major contributor to administrative theory was a French industrialist named Henri Fayol.

Writing at about the same time as Taylor, Fayol proposed that all managers perform five management functions: They plan, organize, command, coordinate, and control.[7] The importance of this simple insight is underlined when we acknowledge that almost every introductory management textbook today uses these same five functions, or a very close variant of them, as a basic framework for describing what managers do.

In addition, Fayol described the practice of management as something distinct from accounting, finance, production, distribution, and other typical business functions. He argued that management was an activity common to all human undertakings in business, in government, and even in the home. He then proceeded to state 14 principles of management that could be taught in schools and universities. These principles are shown in Exhibit A-2.

Exhibit A-2 Fayol's 14 Prnciples of Management

1. *Division of Work.* This principle is the same as Adam Smith's "division of labor." Specialization increases output by making employees more efficient.
2. *Authority.* Managers must be able to give orders. Authority gives them this right. Along with authority, however, goes responsibility. Whenever authority is exercised, responsibility arises.
3. *Discipline.* Employees must obey and respect the rules that govern the organization. Good discipline is the result of effective leadership, a clear understanding between management and workers regarding the organization's rules, and the judicious use of penalties for infractions of the rules.
4. *Unity of Command.* Every employee should receive orders from only one superior.
5. *Unity of Direction.* Each group of organizational activities that have the same objective should be directed by one manager using one plan.
6. *Subordination of Individual Interests to the General Interests.* The interests of any one employee or group of employees should not take precedence over the interests of the organization as a whole.
7. *Remuneration.* Workers must be paid a fair wage for their services.
8. *Centralization.* Centralization refers to the degree to which subordinates are involved in decision making. Whether decision making is centralized (to management) or decentralized (to subordinates) is a question of proper proportion. The problem is to find the optimum degree of centralization for each situation.

9. *Scalar Chain.* The line of authority from top management to the lowest ranks represents the scalar chain. Communications should follow this chain. However, if following the chain creates delays, cross-communications can be allowed if agreed to by all parties and superiors are kept informed.
10. *Order.* People and materials should be in the right place at the right time.
11. *Equity.* Managers should be kind and fair to their subordinates.
12. *Stability of Tenure of Personnel.* High employee turnover is inefficient. Management should provide orderly personnel planning and ensure that replacements are available to fill vacancies.
13. *Initiative.* Employees who are allowed to originate and carry out plans will exert high levels of effort.
14. *Esprit de Corps.* Promoting team spirit will build harmony and unity within the organization.

Structural Theory

While Taylor was concerned with management at the shop level (or what we today would describe as the job of a supervisor) and Fayol focused on general management functions, the German sociologist Max Weber (pronounced *Vay-ber*) was developing a theory of authority structures and describing organizational activity as based on authority relations.[8] He was one of the first to look at management and organizational behavior from a structural perspective.

Weber described an ideal type of organization that he called a bureaucracy. Bureaucracy was a system characterized by division of labor, a clearly defined hierarchy, detailed rules and regulations, and impersonal rela-

tionships. Weber recognized that this "ideal bureaucracy" didn't exist in reality but, rather, represented a selective reconstruction of the real world. He meant it to be taken as a basis for theorizing about work and how work could be done in large groups. His theory became the design prototype for large organizations. The detailed features of Weber's ideal bureaucratic structure are outlined in Exhibit A-3.

"Social Man" Theory

People like Taylor, Fayol, and Weber could be faulted for forgetting that human beings are the central core of every organization and that human beings are social animals. Mary Parker Follett and Chester Barnard were two theorists who saw the importance of the social aspects of organizations. Their ideas were born late in the scientific management period but didn't achieve any large degree of recognition until the 1930s.[9]

MARY PARKER FOLLETT Mary Parker Follett was one of the earliest writers to recognize that organizations could be viewed from the perspective of individual and group behavior.[10] A transitionalist writing during the time when scientific management dominated, Follett was a social philosopher who proposed more people-oriented ideas. Her ideas had clear implications for organizational behavior. Follett thought that organizations should be based on a group ethic rather than individualism. Individual potential, she argued, remained only potential until released through group association. The manager's job was to harmonize and coordinate group efforts. Managers and workers should view themselves as partners—as part of a common group. Therefore, managers should rely more on their expertise and knowledge than on the formal authority of their position to lead subordinates.

Follett's humanistic ideas have influenced the way we look at motivation, leadership,

Exhibit A-3 Weber's Ideal Bureaucracy

1. *Job Specialization.* Jobs are broken down into simple, routine, and well-defined tasks.
2. *Authority Hierarchy.* Offices or positions are organized in a hierarchy, each lower one being controlled and supervised by a higher one.
3. *Formal Selection.* All organizational members are to be selected on the basis of technical qualifications demonstrated by training, education, or formal examination.
4. *Formal Rules and Regulations.* To ensure uniformity and to regulate the actions of employees, managers must depend heavily on formal organizational rules.
5. *Impersonality.* Rules and controls are applied uniformly, avoiding involvement with personalities and personal preferences of employees.
6. *Career Orientation.* Managers are professional officials rather than owners of the units they manage. They work for fixed salaries and pursue their careers within the organization.

power, and authority today. In fact, Japanese organization and management styles, which came into vogue in North America and Europe in the late 1970s, are indebted to Follett. They place a heavy emphasis on group togetherness and team effort.

CHESTER BARNARD Like Henri Fayol, Chester Barnard was a practitioner. He joined the American Telephone and Telegraph system in 1909 and became president of New Jersey Bell in 1927. Barnard had read Weber and was influenced by his writings. But unlike Weber, who had a mechanistic and impersonal view of organizations, Barnard saw organizations as social systems that require human cooperation. He expressed his views in *The Functions of the Executive*,[11] published in 1938.

Barnard viewed organizations as made up of people who have interacting social relationships. Managers' major roles were to communicate and to stimulate subordinates to high levels of effort. A major part of an organization's success, as Barnard saw it, depended on obtaining cooperation from its personnel. Barnard also argued that success depended on maintaining good relations with people and institutions outside the organization with whom the organization regularly interacted. By recognizing the organization's dependence on investors, suppliers, customers, and other external constituencies, Barnard introduced the idea that managers had to examine the environment and then adjust the organization to maintain a state of equilibrium. So, for instance, regardless of how efficient an organization's production might be, if management failed to ensure a continuous input of materials and supplies or to find markets for its outputs, then the organization's survival would be threatened. Much of the current interest in how the environment affects organizations and their employees can be traced to ideas initially suggested by Barnard.

The Behavioral Era

The "people side" of organizations came into its own during the period we'll call the behavioral era. As we show, this era was marked by the human relations movement and the widespread application in organizations of behavioral science research. While

this behavioral era really didn't begin to roll until the 1930s, two earlier events deserve brief mention because they played an important part in the application and development of organizational behavior. These are the birth of the "personnel office" around the turn of the century and the creation of the field of industrial psychology with the publication of Hugo Münsterberg's textbook in 1913.

The Birth of the "Personnel Office"

In response to the growth of trade unionism at the turn of the century, a few firms—for example, H.J. Heinz, Colorado Fuel & Iron, and International Harvester—created the position of "welfare secretary." Welfare secretaries were supposed to assist workers by suggesting improvements in working conditions, housing, medical care, educational facilities, and recreation. These people, who were the forerunners of today's personnel or human resource management directors, acted as a buffer between the organization and its employees. The B. F. Goodrich Co. developed the first employment department in 1900, but its responsibilities consisted only of hiring. In 1902, the National Cash Register Company established the first comprehensive labor department responsible for wage administration, grievances, employment and working conditions, health conditions, recordkeeping, and worker improvement.

The Birth of Industrial Psychology

Hugo Münsterberg created the field of industrial psychology with the publication of his text *Psychology and Industrial Efficiency*[12] in 1913. In it, he argued for the scientific study of human behavior to identify general patterns and to explain individual differences. Interestingly, Münsterberg saw a link between scientific management and industrial psychology. Both sought

increased efficiency through scientific work analyses and through better alignment of individual skills and abilities with the demands of various jobs.

Münsterberg suggested the use of psychological tests to improve employee selection, the value of learning theory in the development of training methods, and the study of human behavior in order to understand what techniques are most effective for motivating workers. Much of our current knowledge of selection techniques, employee training, work design, and motivation is built on Münsterberg's work.

The Magna Carta of Labor

Following the stock market crash of 1929, the United States and much of the world's economy entered the Great Depression. To help relieve the effects of the depression on the U.S. labor force, President Franklin Roosevelt supported the Wagner Act, which was passed in 1935. This act recognized unions as the authorized representatives of workers, able to bargain collectively with employers in the interests of their members. The Wagner Act would prove to be the Magna Carta of labor. It legitimized the role of trade unions and encouraged rapid growth in union membership. In response to this legislation, managers in industry became much more open to finding new ways to handle their employees. Having lost the battle to keep unions out of their factories, management began to try to improve working conditions and seek better relations with its work force. A set of studies done at Western Electric's Hawthorne plant would be the prime stimulus for the human relations movement that swept American industry from the late 1930s through the 1950s.

Human Relations

The essence of the human relations movement was the belief that the key to higher productivity in organizations was increasing

employee satisfaction. In addition to the Hawthorne studies, three people played important roles in conveying the message of human relations: Dale Carnegie, Abraham Maslow, and Douglas McGregor. In this section, we briefly review each man's contribution. But first, we'll briefly describe the very influential Hawthorne studies.

THE HAWTHORNE STUDIES Without question, the most important contribution to the human relations movement within organizational behavior came out of the Hawthorne studies undertaken at the Western Electric Company's Hawthorne Works in Cicero, Illinois. These studies, originally begun in 1924 but eventually expanded and carried on through the early 1930s, were initially devised by Western Electric industrial engineers to examine the effect of various illumination levels on worker productivity. Control and experimental groups were established. The experimental group was presented with varying illumination intensities, while the control group worked under a constant intensity. The engineers had expected individual output to be directly related to the intensity of light. However, they found that as the light level was increased in the experimental group, output for both groups rose. To the surprise of the engineers, as the light level was dropped in the experimental group, productivity continued to increase in both groups. In fact, a productivity decrease was observed in the experimental group only when the light intensity had been reduced to that of moonlight. The engineers concluded that illumination intensity was not directly related to group productivity, but they could not explain the behavior they had witnessed.

The Western Electric engineers asked Harvard professor Elton Mayo and his associates in 1927 to join the study as consultants. Thus began a relationship that would last through 1932 and encompass numerous experiments covering the redesign of

jobs, changes in the length of the workday and workweek, introduction of rest periods, and individual versus group wage plans.[13] For example, one experiment was designed to evaluate the effect of a group piecework incentive pay system on group productivity. The results indicated that the incentive plan had less effect on a worker's output than did group pressure and acceptance and the concomitant security. Social norms or standards of the group, therefore, were concluded to be the key determinants of individual work behavior.

Scholars generally agree that the Hawthorne studies had a large and dramatic impact on the direction of organizational behavior and management practice. Mayo's conclusions were that behavior and sentiments were closely related, that group influences significantly affected individual behavior, that group standards established individual worker output, and that money was less a factor in determining output than were group standards, group sentiments, and security. These conclusions led to a new emphasis on the human factor in the functioning of organizations and the attainment of their goals. They also led to increased paternalism by management.

The Hawthorne studies have not been without critics. Attacks have been made on their procedures, analyses of findings, and the conclusions they drew.[14] However, from a historical standpoint, it's of little importance whether the studies were academically sound or their conclusions justified. What is important is that they stimulated an interest in human factors.

DALE CARNEGIE Dale Carnegie's book *How to Win Friends and Influence People*[15] was read by millions during the 1930s, 1940s, and 1950s. During this same period, tens of thousands of managers and aspiring managers attended his management speeches and seminars. So Carnegie's ideas deserve attention because of the wide audience they commanded.

Carnegie's essential theme was that the way to success was through winning the cooperation of others. He advised his audience to: (1) make others feel important through a sincere appreciation of their efforts; (2) strive to make a good first impression; (3) win people to their way of thinking by letting others do the talking, being sympathetic, and "never telling a man he is wrong"; and (4) change people by praising their good traits and giving the offender the opportunity to save face.[16]

ABRAHAM MASLOW Few students of college age have not been exposed to the ideas of Abraham Maslow. A humanistic psychologist, Maslow proposed a theoretical hierarchy of five needs: physiological, safety, social, esteem, and self-actualization.[17] From a motivation standpoint, Maslow argued that each step in the hierarchy must be satisfied before the next can be activated, and that once a need was substantially satisfied, it no longer motivated behavior. Moreover, he believed that self-actualization—that is, achieving one's full potential—was the summit of a human being's existence. Managers who accepted Maslow's hierarchy attempted to alter their organizations and management practices to reduce barriers to employees' self-actualization.

DOUGLAS MCGREGOR Douglas McGregor is best known for his formulation of two sets of assumptions—Theory X and Theory Y—about human nature.[18] Briefly, Theory X rests on an essentially negative view of people. It assumes that they have little ambition, dislike work, want to avoid responsibility, and need to be closely directed to work effectively. Theory Y, on the other hand, rests on a positive view of people. It assumes they can exercise self-direction, accept responsibility, and consider work to be as natural as rest or play. McGregor personally believed that Theory Y assumptions best captured the true nature of workers and should guide management practice. As a

result, he argued that managers should free up their employees to unleash their full creative and productive potential.

Behavioral Science Theorists

The final category within the behavioral era encompasses a group of researchers who, as Taylor did in scientific management, relied on the scientific method for the study of organizational behavior. Unlike members of the human relations movement, the behavioral science theorists engaged in objective research of human behavior in organizations. They carefully attempted to keep their personal beliefs out of their work. They sought to develop rigorous research designs that could be replicated by other behavioral scientists in the hope that a science of organizational behavior could be built.

A full review of the contributions made by behavioral science theorists would cover hundreds of pages, since their work makes up a large part of today's foundations of organizational behavior. But to give you the flavor of their work, we'll briefly summarize the contributions of a few of the major theorists.

JACOB MORENO Jacob Moreno created an analytical technique called sociometry for studying group interactions.[19] Members of a group were asked whom they liked or disliked, and whom they wished to work with or not work with. From these data, collected in interviews, Moreno was able to construct sociograms that identified attraction, repulsion, and indifference patterns among group members. Moreno's sociometric analysis has been used in organizations to create cohesive and high-performing work teams.

B.F. SKINNER Few behavioral scientists' names are more familiar to the general public than that of B.F. Skinner. His research on operant conditioning and behavior modification had a significant effect on the design of organizational training programs and reward systems.[20]

Essentially, Skinner demonstrated that behavior is a function of its consequences. He found that people will most likely engage in desired behavior if they are rewarded for doing so; these rewards are most effective if they immediately follow the desired response; and behavior that is not rewarded, or is punished, is less likely to be repeated.

DAVID MCCLELLAND Psychologist David McClelland tested the strength of individual achievement motivation by asking subjects to look at a set of somewhat ambiguous pictures and to write their own story about each picture. Based on these projective tests, McClelland found he was able to differentiate people with a high need to achieve—individuals who had a strong desire to succeed or achieve in relation to a set of standards—from people with a low need to achieve.[21] His research has been instrumental in helping organizations better match people with jobs and in redesigning jobs for high achievers so as to maximize their motivation potential. In addition, McClelland and his associates have successfully trained individuals to increase their achievement drive. For instance, in India, people who underwent achievement training worked longer hours, initiated more new business ventures, made greater investments in productive assets, employed a larger number of employees, and saw a greater increase in their gross incomes than did a similar group who did not undergo achievement training.

FRED FIEDLER Leadership is one of the most important and extensively researched topics in organizational behavior. The work of Fred Fiedler on the subject is significant for its emphasis on the situational aspects of leadership as well as for its attempt to develop a comprehensive theory of leadership behavior.[22]

From the mid-1960s through the late 1970s, Fiedler's contingency model dominated leadership research. He developed a

questionnaire to measure an individual's inherent leadership orientation and identified three contingency variables that, he argued, determined what type of leader behavior is most effective. In testing his model, Fiedler and his associates studied hundreds of groups. Dozens of researchers have attempted to replicate his results. Although some of the predictions from the model have not stood up well under closer analysis, Fielder's model has been a major influence on current thinking and research about leadership.

FREDERICK HERZBERG With the possible exception of the Hawthorne studies, no single stream of research has had a greater impact on undermining the recommendations of scientific management than the work of Frederick Herzberg.[23]

Herzberg sought an answer to the question: What do individuals want from their jobs? He asked hundreds of people that question in the late 1950s, and then carefully analyzed their responses. He concluded that people preferred jobs that offered opportunities for recognition, achievement, responsibility, and growth. Managers who concerned themselves with things like company policies, employee pay, creating narrow and repetitive jobs, and developing favorable working conditions might placate their workers, but they wouldn't motivate them. According to Herzberg, if managers want to motivate their people, they should redesign jobs to allow workers to perform more and varied tasks. Much of the current interest in enriching jobs and improving the quality of work life can be traced to Herzberg's research.

J. RICHARD HACKMAN AND GREG OLDHAM While Herzberg's conclusions were greeted with enthusiasm, the methodology he used for arriving at those conclusions was far less enthusiastically embraced. It would be the work of J. Richard Hackman and Greg Oldham in the 1970s that would provide an

explanation of how job factors influence employee motivation and satisfaction, and would offer a valid framework for analyzing jobs.[24] Hackman and Oldham's research also uncovered the core job dimensions—skill variety, task identity, task significance, autonomy, and feedback—that have stood up well as guides in the design of jobs. More specifically, Hackman and Oldham found that among individuals with strong growth needs, jobs that score high on these five core dimensions lead to high employee performance and satisfaction.

OB Today: A Contingency Perspective

We've attempted to demonstrate in this appendix that the present state of organizational behavior encompasses ideas introduced dozens, and sometimes hundreds, of years ago. So don't think of one era's concepts as *replacing* an earlier era's; rather, view them as *extensions* and *modifications* of earlier ideas. As United Parcel Service demonstrates, many of Taylor's scientific management principles can be applied today with impressive results. Of course, that doesn't mean that those principles will work as well in other organizations. If there is anything we've learned over the last quarter of a century, it's that few ideas—no matter how attractive—are applicable to *all* organizations or to *all* jobs or to *all* types of employees. Today, organizational behavior must be studied and applied in a contingency framework.

Baseball fans know that a batter doesn't *always* try for a home run. It depends on the score, the inning, whether runners are on base, and similar contingency variables. Similarly, you can't say that students always learn more in small classes than in large ones. An extensive body of educational research tells us that *contingency* factors such as course content and teaching style of the instructor influence the relationship between class size and learning effectiveness. Applied to organizational behavior, contin-

gency theory recognizes that there is no "one best way" to manage people in organizations and no single set of simple principles that can be applied universally.[25]

A contingency approach to the study of OB is intuitively logical. Why? Because organizations obviously differ in size, objectives, and environmental uncertainty. Similarly, employees differ in values, attitudes, needs, and experiences. So it would be surprising to find that there are universally applicable principles that work in *all* situations. But, of course, it's one thing to say "it all depends" and another to say *what* it all depends upon.

The most popular OB topics for research investigation in recent years have been theories of motivation, leadership, work design, and job satisfaction.[26] But while the 1960s and 1970s saw the development of new theories, the emphasis since has been on refining existing theories, clarifying previous assumptions, and identifying relevant contingency variables.[27] That is, researchers have been trying to identify the "what" variables and which ones are relevant for understanding various behavioral phenomena. This essentially reflects the maturing of OB as a scientific discipline. The near-term future of OB research is likely to continue to focus on fine-tuning current theories so as to better help us understand those situations where they're most likely to be useful.

Summary

While the seeds of organizational behavior were planted more than 200 years ago, current OB theory and practice are essentially products of the twentieth century.

Frederick Taylor's principles of scientific management were instrumental in engineering precision and standardization into people's jobs. Henri Fayol defined the universal functions that all managers perform and the principles that constitute good management practice. Max Weber developed a theory of authority structures and described organizational activity based on authority relations.

The "people side" of organizations came into its own in the 1930s, predominately as a result of the Hawthorne studies. These studies led to a new emphasis on the human factor in organizations and increased paternalism by management. In the late 1950s, managers' attention was caught by the ideas of people like Abraham Maslow and Douglas McGregor, who proposed that organization structures and management practices had to be altered so as to bring out the full productive potential of employees. Motivation and leadership theories offered by David McClelland, Fred Fiedler, Frederick Herzberg, and other behavioral scientists during the 1960s and 1970s provided managers with still greater insights into employee behavior.

Almost all contemporary management and organizational behavior concepts are contingency based. That is, they provide various recommendations dependent upon situational factors. As a maturing discipline, current OB research is emphasizing the refinement of existing theories.