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創新組織
The
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Productivity Programs
in Action 創新中的生產力
郭中 編著 郭中 譯

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Pergamon Press/Work in America Institute Series

Work in America Institute, Inc., a nonprofit, nonpartisan organization, was founded in 1975 to advance productivity and quality of working life. Through a series of policy studies, education and training programs, an extensive information resource, and a broad range of publications, the Institute has focused on the greater effectiveness of organizations through the improved use of human resources. Because of its close working relationships with unions, business, and government, the Institute is sensitive to the views and perspectives of all parties and is recognized as an objective source of information on issues of common interest.

The Pergamon Press/Work in America Institute Series is designed to explore the role of human resources in improving productivity in the workplace today and to identify the trends that will shape the workplace of the future. It will focus primarily on the issues of:

- *Quality of working life* through work innovations that encourage employee participation in decision making and offer recognition to employees for their contributions.
- *Productivity* through the more effective management of human resources.
- *Interaction between people and technology* to achieve a more satisfactory transition to the workplace of the future.
- *Labor-management cooperation* to solve mutual problems in the workplace, to achieve improved quality of product, and to make organizations work better.
- *National labor-force policy* as it relates to productivity and the quality of working life.

Preface

The Innovative Organization: Productivity Programs in Action is a product of the fourth national policy study conducted by Work in America Institute. The objectives of this study were to sum up what has been learned from the past decade of experience with work innovations, that is, new ways of employing the creative abilities of employees in all occupations—and to offer guidance to employers, unions, and others interested in following that path. Our investigations and those of our distinguished national advisory committee leave us confident that work innovations are here to stay. Indeed, we believe that a growth phase is now underway.

The Innovative Organization describes a dozen leading corporations and unions which have grappled with a whole range of policy issues in regard to work innovations and achieved meaningful answers—successfully, more often than not. It is a companion to the policy report, *Productivity through Work Innovations*, which defines and analyzes the policy issues encountered in the process of work innovation and recommends practical ways of accomplishing results. Both volumes are designed to be read by laypersons as well as by managers and union leaders.

We wish to express our thanks to the Andrew W. Mellon Foundation and the J. Howard Pew Freedom Trust for principal support in making the study possible, and to Phillip Morris, Inc., and Bethlehem Steel for their generous contributions to this project. Our deep appreciation is also extended to Robert H. Guest, who served as associate director of the study, and to Matthew Radom, who recently took a long-deferred retirement from Work in America Institute, for their invaluable help in organizing this book. We are also grateful to Beatrice Walfish, editorial director, and Frances Harte, managing editor, Work in America Institute, for their careful work in bringing this book to completion.

The statements made and views expressed in this book are those of the contributors and editors and do not necessarily reflect the views of the organizations which have funded this book, the first of the new Pergamon Press/Work in America Institute Series.

Robert Zager
Michael P. Rosow

Introduction and Overview

Robert Zager

The American workplace is undergoing a sea change. All over the country, in the private and the public sector, in industries of all kinds, in organizations large and small, in union and nonunion settings, employers are encouraging their employees to assume responsibilities formerly considered “managerial.” In effect, employers are treating employees as full-fledged members of the organization rather than as “hired hands.” Employers, employees, and unions have experienced the results and found them good. This book is designed to help those—both managers and unions—who are contemplating such innovations or who have already introduced them and want to learn from others who have been there before.

The concept of work innovation arises from the concepts of work and management. Traditionally, it has been the duty of workers to *do* and the duty of managers to *think*. Particularly since the triumph of Frederick Taylor’s school of scientific management some 80 years ago, a huge body of engineering knowledge has grown out of the endeavor to reduce manual and clerical operations to a set of reliable motions by which the worker, the tool or machine, and the materials interact in “the one best way.” To allow workers discretion of any kind is to contravene the basic purpose of this system by deflecting them from the established pattern. It is for supervisors and managers to plan, direct, coordinate, modify, measure, and evaluate.

The organization theory taught to managers during this period has held that responsibility for dealing with problems should be delegated to the lowest level of the organization competent to solve them. Rank-and-file workers, however, have not been regarded either as competent or as members of the organization, until Japanese employers proved the contrary.

While Taylor’s ideas have dominated industrial practice as part of mass-production technology, a contrary approach has survived in the shadows. A few employers have always been found experimenting with methods of utilizing the ideas, experience, inventiveness, and initiative of ordinary workers. And even before World War II, there were major unions which joined employers in successful programs of this type.

Since a thinking role for workers meant letting them take part in man-

agerial duties, the anti-Taylor approach came to be called "participation." The word was gradually stretched to include so many different degrees of consultation and decision making, and often merely the appearance of consultation, that it lost respectability. (It has also been applied to various types of sharing in ownership, profits, or cost savings.) Thus, "work innovations," a more neutral term, is now replacing "participation."

Thinking roles for workers cover a broad spectrum. At one end is the old-fashioned impersonal suggestion system, in which employees on their own write out ideas and offer them to the employer in the hope of receiving a bonus if savings are generated. At the other extreme is the producer cooperative, in which every employee holds a significant direct stake in ownership, takes a share of responsibility for managing the enterprise, and also does an operative's job.

Most of the intermediate points, which are the subject of this book, are characterized as either consultation or decision making. Management consults employees when it seeks their advice before making a decision about the production process and their part in it. But some employers also give employees the power to decide such questions for themselves, to put their decisions into effect, and to take responsibility for the outcome. What has been said about work innovations for rank-and-file employees applies equally to technical, professional, supervisory, and managerial employees, insofar as they are invited to participate in managing the work unit headed by their immediate supervisor.

During the past decade, work innovations have taken hold on a previously undreamed-of scale. Social and economic forces have converged to bring this about. The work force changed demographically and attitudinally during this period. Due to the post-World War II baby boom, the number of young people entering the work force rose rapidly in the 1960s and 1970s. By the end of the 1980s, there will be 60 million workers in the 25-44 age group, but the number of workers aged 16-24 will decline sharply. Women also entered the work force in unpredicted numbers and now constitute over 40 percent. The proportion of older workers continued to fall. The average level of education rose as workers with high school diplomas, and even college credits, became commonplace.

In addition, the youth counterculture movement of the 1960s, concern for minority rights, interest in the environment, and demands for more satisfying and challenging work—along with higher pay and benefits—made themselves felt. A few unions began to sense that, in addition to the traditional pursuit of economic gains, they must pay attention to emerging demands for more dignity and social equality in the workplace. As these changes gathered force, they invaded the workplace, but neither employers, employees, nor unions were fully prepared to deal with them. Resistance to change resulted in disruption, cynicism, and unproductive behavior—absenteeism, turnover, grievances, insubordination, and slovenly work.

Then, in the late 1960s and early 1970s, employers received the unkindest cut of all. European and Japanese competitors were ousting them from the markets for mass produced goods that had formerly been American preserves: television, automobiles, tires, cameras, calculators. For a while it was easy to attribute the losses to low wage rates in foreign countries and government subsidies. Slowly it became clear that the quality of foreign goods, and the productivity of foreign producers, had outpaced ours. At last came the recognition that the foreign competitors, particularly the Japanese, had achieved these astounding results by adapting American ideas and utilizing the minds and loyalties of their employees and managers (who, of course, are employees too) far more effectively than we did, or even now do.

The cases in this book cover the period from the late 1960s to the present. All of them are drawn from the private sector, because that is where the key experiments have taken place. They represent a wide diversity of approaches, both in old sites and in green fields, union and nonunion, blue collar and white collar. A few have been extensively publicized but not always well understood: the Gaines pet food plant in Topeka (Kansas), Rushton Mining Company, the Harman International mirror plant in Bolivar (Tennessee), the General Motors assembly plant in Tarrytown (New York). Here they are brought up to date and authoritatively interpreted.

The cases are grouped into three sections. "The Worker as Consultant" deals with instances in which employees are asked to identify problems, to offer ideas for solving them, and/or to help in implementing them. The decision to adopt a solution, however, remains with management. Various consultative mechanisms appear: quality circles at Martin Marietta Corporation's Denver Aerospace/Michoud Division, "Face-to-Face" communications at Pacific Northwest Bell, Employee Involvement groups at Ford's Sharonville (Ohio) plant, Scanlon Plan work teams at the Herman Miller Company. At GM's Tarrytown plant, workers were consulted as individuals for several years, but recently management and the union decided to introduce groups.

The second section, "Toward Self-Management," comprises cases in which workers are empowered to make and implement decisions about the work and how it is done. At Citibank, a top-to-bottom reorganization of certain major work areas has resulted in something close to self-management for the individual clerical employee. In the other cases, such as the Gaines pet food plant in Topeka, Rushton Mining Company, and a host of General Motors plants, groups of workers share responsibility for a particular product or service. The terms "semiautonomous work groups" and "self-managing teams" are used, but the range of decision making not only varies a good deal from one group to another but also evolves over time within particular groups.

The final section, "Corporate Strategy," consists of a single case, but what

a case! General Motors has done a service to the economy by making public the principal strategies and activities it employs in guiding the most multitudinous and varied program of work innovations in the United States.

We asked the writers of these case histories not to concentrate on the mechanics of consultation or self-management, important as these are, but on the policy issues, the clashes of interests and views that attend the process of work innovation. Firms differ sharply as to how much participation they are willing to start with, and how far they are willing to let the process run, but certain critical issues face them all. These arise first in connection with the decision to *try* innovation, and then in launching and implementing a program, diffusing the program throughout a workplace or across a multilocation company, and ensuring that the innovative impulse evolves and survives.

One point is universal: no matter what degree of worker involvement is contemplated, the employer must be prepared for a change of organizational culture, that is, for a change in the basic assumptions that guide the assignment of tasks and responsibilities. In the most basic sense, if managers go through the motions of asking workers for advice but do not take account of what the workers tell them, it is better not to begin involving them at all. If a self-managing team is intended to manage itself, higher managers cannot second-guess. If workers are to carry greater responsibility, they need more (and different) training, information, and access to expert advice. If supervisors and junior managers are asked to delegate part of their normal duties, questions concerning job security, new job definitions, retraining, lines of promotion, and changes in the performance demands their bosses make of them will inevitably arise. If supervisors and junior managers transfer greater responsibility to their subordinates, they will expect similar behavior from their own bosses.

At every point, the forces of inertia work against innovation. When economic and time pressures intensify, managers are tempted to revert to traditional authoritarian habits. Some will have ideological or personal objections to sharing power with subordinates; they feel exposed when they drop the cloak of authority. Some will lack the talent or intellect needed for broader responsibility. Rivalries between managers will color opinions.

Since most programs are not introduced plant-wide all at once but, rather, expand step by step, there will be problems of choosing where to begin; gaining support for change; expanding fast enough to prevent frictions between units, yet slowly enough not to omit essential steps; coordinating progress; and helping workers and managers to handle their new responsibilities.

Another universal rule is that participation in work innovation must be genuinely *voluntary*. In a green-field site, new employees must know beforehand what they are getting into, and appropriate orientation and train-

ing at the time of hiring are essential. When a traditionally managed site decides to innovate, not every worker will want to take part, at least to begin with. A well-designed and well-executed program sells itself from one unit to the next by making work life better for managers and workers alike.

Where there is a union, it is of utmost importance that the union be a full partner in the program from the moment when management considers that it wants to try work innovation. The issues become: establishing trust between union and management; creating joint groups for overseeing and monitoring joint programs; involving the union in all strategic and tactical activities that affect innovation; and ensuring that appropriate roles are played by local, regional, and national officials.

All of the issues are encountered in the case histories, sometimes successfully, sometimes not. Where failures occur, the reasons should be traced with care. Last, but not least, every case in this volume, including the failures, shows that practical benefits were produced for employers and employees alike.

These cases are reviewed below in the order in which they appear in the book.

The Worker as Consultant

Martin Marietta Corporation, Denver Aerospace/Michoud Division. Philip Thompson's chapter on the Denver Aerospace/Michoud Division of Martin Marietta Corporation describes the evolution of a quality circles program from a rather mechanistic "plug-in" to an actual change in plant culture, and the subsequent elaboration of strategies and tactics to effect the change. Though the program has gone well, the reader becomes aware that the cold breath of failure is never far behind.

Michoud, which manufactures the huge external fuel tank for the space shuttle, had 3,300 (mainly salaried) employees in 1979. With management and union approval, the first quality circle was created in May 1979; by October 1981 there were 45 circles, with 450 participants. Plans call for 90 circles by October 1982, and an eventual total of 250, with 60 percent of the employees participating. Reasons for introducing circles were the common ones: low morale, excessive overtime work, high absenteeism and turnover, and the need to meet tight quality standards.

Thompson outlines the steps that go into making a system of quality circles work and keep working. The steps are of two kinds: (1) education and learning, that is, persuading managers and workers that quality, not volume, takes the first priority; and (2) political, that is, putting employees into "a limited, controlled lobbying process" that inevitably diminishes the power of middle managers.

Some nonstandard forms of circles have evolved at Michoud, for exam-

ple, the "task force," consisting of volunteers from several different departments with a shared interest in a particular work process; the "joint circle," a system of telephone contacts between members of *supplier* organizations and members of Michoud who assemble their parts; and "integrated circles," in which volunteers from Michoud, the federal government, and NASA work on shared problems. Not far down the road, says Thompson, the quality circles will pave the way for self-managing work teams and new forms of incentives.

Pacific Northwest Bell. Pacific Northwest Bell's "Face-to-Face" communications program was launched as a management initiative in 1977, before AT&T and the Communications Workers of America (CWA) entered their national QWL agreement. Departments comprising some 10,000 employees — about half the hourly, craft, and clerical work force — are now involved. A local union-management QWL steering committee, set up in late 1981, has decided that Face-to-Face can coexist with future joint projects.

The program provides a mechanism for employees to identify problems affecting their work and to take part in solving them. All involvement is voluntary, for managers and workers alike. In each participating department a multilevel committee interviews a large sample of employees, submits a questionnaire to the rest, and feeds the results back to all. This leads to the election of small groups that plan and schedule remedial action, all on company time. Management gives continuing feedback and evaluation. Progress is reviewed monthly, and the process is repeated each year with some rotation of group members. At the end of the year, each department decides whether to continue or not. Thus far, only one department has dropped out.

Each department and unit is encouraged to develop its own approach. One of them, for example, spontaneously developed a joint union-management team.

As in most successful cases that begin with volunteer pilot projects, the early groups attracted the interest of adjacent units, and the chief problem has become how to limit expansion to a safely manageable pace.

Results, according to Stanley Peterfreund, include substantially improved quality, moderately improved productivity, and a growing sense among managers and workers that the organization is working more effectively. Costs of the program are relatively small.

Ford Motor Company, Sharonville, Ohio. Late in adopting the QWL approach, Ford Motor Company has been working at forced draft to make up for lost time. Gentle but unrelenting pressure from United Automobile Workers (UAW) Vice-President Donald Ephlin has helped corporate management move the process forward in the face of tremendous economic obstacles.

At the transmission plant in Sharonville, Ohio, informal QWL activities were started in 1980, with assorted union-management meetings and workshops. In October 1980, a plant-wide joint coordinating committee was set up, which agreed on rules and safeguards and approved the establishment of two Employee Involvement (EI) groups, similar to quality circles. Robert Guest presents a blow-by-blow description of the subsequent program, its difficulties, its anxieties, its growth, and its accomplishments. At the end of 1981, although 450 of the plant's 2,000 hourly workers were on layoff because of the recession, union and management remained firmly committed to continuing the program.

The first two groups had to learn that they were responsible for coming up with answers, not problems. One group helped in the planning and smooth start-up of a changed assembly operation. Salaried people from several departments took the initiative and formed their own group to develop a proposal for introducing word-processing technology. Two more hourly groups were formed in March 1981, after management had at last appointed a program coordinator. In July, a union coordinator was added, and then 20 more groups were formed. Soon a new plant organization structure was adopted, to which the Employee Involvement program was tightly bound.

Many operational improvements have been made, but management deliberately refuses to assign dollar values to them, and the hourly workers have not asked for monetary rewards.

Training for the groups has departed from the norm, not so much in content as in timing. The workers are exposed to brainstorming, group dynamics, and similar techniques, not "up front," but only after they have plunged into problem solving and specific training becomes relevant.

Herman Miller Company. Herman Miller, is, as far as we know, the unique case of a company that outgrew one Scanlon Plan and constructed another to replace it. The first plan was installed by management decision (the company has never had a union) in 1950, when there were 171 employees and sales of \$500,000. In 1981, there were 2,634 employees and revenues were \$252,740,000.

According to Carl Frost, the need for change became urgent in the mid-1970s, as the price of success. Competition had intensified; the company had gone public; customers demanded better service; production was slipping out of control; more than 50 percent of Miller employees were now in staff or service work, rather than production; and over 60 percent had less than two years' tenure.

Top management turned the problem into an opportunity for coalescing the entire organization around the goal of improved customer service. Between 1977 and 1979, every member of the company was involved in developing and adopting a revised Scanlon Plan. Under the leadership of the executive vice-president, executives and managers wrote a detailed argu-

ment describing the need for change, which they reviewed with the entire staff, meeting in small groups. Each meeting ended with a secret ballot. Ninety percent of those attending voted in favor of the creation of an Ad Hoc Committee to work out a new plan. Representatives were elected to the committee, which drew up an "identity" statement, citing the need for more participative management.

Participation was defined as the right and responsibility to *influence* decisions, and not necessarily to make them. Every employee would be a member of a team; each department would be represented on a council to receive ideas for improvement; a corporate screening committee would have representatives from all levels; professional/technical staff would be available for advice to teams; management would be required to answer employee suggestions; and divisional performance results would be measured monthly and publicly, against explicit goals. In another round of secret balloting, 95 percent of the work force voted to adopt the plan. Company figures have shown a marked improvement in performance since that time.

General Motors Corporation, Tarrytown, New York. The General Motors car assembly plant at Tarrytown caught the public's fancy several years ago, as a rough diamond that almost everyone could identify with. If Tarrytown could turn itself from a near-disaster to a model production plant, the feeling went, anyone could do it. No one caught the spirit better than Robert H. Guest, in his *Harvard Business Review* article of July 1979. In chapter 5 he brings his report up to date.

The process of work innovation at Tarrytown actually began in 1971, when the plant manager persuaded the local union to try some joint efforts to reduce the conflicts that threatened the existence of the plant. The parties first involved workers in two major layout changes, with encouraging results. The process was formalized in 1973-74. Thirty-four workers volunteered to be trained in problem solving in a jointly managed program. By 1976, 570 volunteers had received training. In 1977, the training went plant-wide, with over 3,300 workers taking part. Operating improvements multiplied, attitudes sweetened, grievances fell sharply, union-management relations entered a new era marked by toughness in collective bargaining but eager cooperation on the job. Progress was rewarded by divisional management's decision to let Tarrytown assemble General Motors' crucial new "K" model, and the changeover itself was jointly managed.

Expansion, however, brought new problems. One thousand workers were hired in 1979, and no one had time to orient them. Supervisors and managers, under severe production pressures, regressed. The union-management policy committee summoned an off-site conference of 66 managers and union officials, who concluded that supervisors needed to be more involved. All 150 supervisors then took part in a conference which put the QWL process back on track.

Early in 1981, the joint policy committee decided to create work groups, whereas previously all involvement had been individual. By the end of the year, four pilot groups had been set up, with the aid of supervisors, and the approach had been fully proved. Tarrytown's 11-year-old QWL program continues to grow and evolve.

Toward Self-Management

Citibank. Roy Walters' chapter tells us that when a survey showed Citibank to be rated low on service to its customers, even though operating costs had risen 15 percent a year for the past 11 years, a new management team with nonbanking experience was brought in to overhaul the "back office." They found all processing of transactions lumped into one big organization — with "a cast of thousands" — that served all customers. No one below the executive vice-president for operations was responsible for complete service to any customer.

The new team established independent product organizations, giving each manager start-to-finish responsibility for the quality and cost of a set of products, plus supporting staff and technology. Units were subdivided into smaller units, each focused on a small group of customers. Individual employees with minicomputer terminals were to be fully responsible for serving particular customers.

The pilot program in the letter of credit department began with a thorough analysis of the work and the workers. Interviews with 100 employees revealed that morale at all levels was low and that managers and supervisors refused to believe their clerical workers capable of performing a complete job of customer service.

Next, management set aside a special room for testing whether transaction processing could be computerized. As a result, the number of steps was cut in half and the number of processing employees reduced by 30 percent, even *before* automation. Each clerical employee was given a complete job and a new kind of work space, with front-office amenities and professional appearance. Employees cross-trained one another, eliminating the need for a large central training staff.

As a consequence of this top-to-bottom restructuring, Walters says, the letter of credit department's revenues rose almost 400 percent between 1971 and 1976, while staff size diminished by 80 percent and expenses were held constant.

General Motors Corporation's Team-Based Plants. Self-managing teams (SMTs) are currently working in about 15 General Motors locations, including Mexico, Europe, and Australia. Plans call for continual extension of this approach. Rich Cherry's chapter relates the origins of the program, from 1972 to 1975.

The first successful experiments were conducted in small, new, Southern, nonunion plants. Since 1979, local unions in new plants in the North have been involved in the design and implementation of SMT systems, although the role of union committeemen and their relation to supervisors are unclear.

The earliest experiment, at a wiring harness plant in Mississippi, stopped short of creating full-fledged teams, but did depart from GM traditions by paying great attention to communications (including employee participation in monthly departmental meetings), careful recruitment and selection of workers, and egalitarian working conditions. The plant's performance encouraged further tests elsewhere.

Shortly afterwards, for the first time in GM, a new plant (a battery plant in Canada) was designed along sociotechnical lines. However, rocky union-management relations prevented the adoption of SMTs.

The pieces came together at last in 1974–75, at a battery plant in Georgia, although not without a hitch. Because the technology of the new plant was not yet fully understood, the design team decided that SMTs would be impractical during the period of start-up. Accordingly, supervisors carried some of the more ticklish responsibilities (hiring new workers, meeting EEO requirements, discipline, assessing individual performance) while workers were building technical proficiency. Eventually, the SMTs took on these deferred duties, along with pay-for-knowledge, and supervisors gradually moved to a more facilitative role.

A Multidivisional Manufacturer. The chapter by Trist and Dwyer contrasts vividly with Rich Cherry's. Here, in a multidivisional manufacturing company, from the mid-1960s to the mid-1970s, local managers, with little help from the corporation, created semiautonomous work groups (or self-managing teams) that flickered and then faded. Some years later, a few thoughtful people at headquarters wondered whether the groups had ended because of economic forces or because of management's own actions. Research discloses that most groups had shown improved performance, that some had performed very well, and that most participating workers had liked them. Moreover, interviews with workers and managers who were involved elicited many valuable suggestions on how and how not to operate such groups. When the findings were presented to top management, one executive decided to put an organized program into motion.

The authors visited seven of the company's locations, found traces of over 60 semiautonomous work groups, and questioned over 600 employees at all levels. Some managers, they found, had started isolated projects. Others had created multiples—19, in one case. Yet only one group had survived, and that was in a small green-field plant designed for work groups from the beginning.

Semiautonomous work groups, say Trist and Dwyer, provide an environment which many (but not all) workers find appealing. But they need more patient and careful nurturing than purely consultative groups, such as quality circles, and they make greater demands on supervisors and managers.

Harman International, Bolivar, Tennessee. As one reads Barry Macy's chapter on the well-known Harman International-UAW experiment at the company's mirror plant in Bolivar, Tennessee, it becomes clear that workers viewed it as a gain-sharing plan, with gains in the form of time off rather than additional money earned. More importantly, however, Irving Bluestone, the union vice-president, learned from it some lessons that later became part of the QWL program at GM and elsewhere. First, he assured himself that joint union-management QWL activities were feasible. Second, he learned that QWL programs succeed only if local management, unions, and workers enter them *voluntarily*. Voluntariness appears to have been absent from Bolivar, except in the persons of Bluestone and his management counterpart, Sidney Harman.

The two principals first met in April 1972. That summer they agreed to try a joint action research program at one of the Harman plants. An incident at Bolivar made it the chosen location. In October 1972, Bolivar's workers, by a bare majority, agreed to allow a program aimed at increasing worker (and manager) job satisfaction and industrial democracy. Work was to be redesigned by worker-management cooperation, under appropriate safeguards. Since the working conditions, the technology, and the content of most jobs were all rather primitive, it is uncertain how fully people understood what was being offered. Nor did they pay much attention to the feedback of the research team's thorough survey.

In April 1974, three work units began discussing work design. Almost at once they devised and inaugurated a plan for Earned Idle Time (EIT), by which individuals could finish work each day as soon as they had produced an agreed quota. Other units became envious and demanded equity, but Bluestone persuaded the local union not to expand the plan to the entire plant so soon. From that time forward, the pressure for EIT never slackened. Several other forms of job redesign were tried, but none aroused enthusiasm. In April 1975, EIT went plant-wide, with an in-plant educational program for those who had finished their daily quotas.

Efforts by the research team to turn the project back to the plant failed. When Sidney Harman sold the company and joined the Carter Administration in Washington, most of the structures vanished, leaving behind only those that had local support: the EIT program (now converted to a group basis), and a self-managing team in one department. Even so, says Macy, there were some lasting improvements in labor relations, in supervisory

performance, in product quality, in housekeeping, and in reduction of absenteeism and grievances.

Rushton Mining Company. The Rushton Mining Company experiment with self-managing work groups is another well-advertised, highly promising project that died on the vine, for reasons not well understood at the time. Paul Goodman's provocative chapter shows not only what went wrong, but, surprisingly, also what went right. Essays into uncharted waters, he points out, are rarely categorical successes or failures.

The program, launched in December 1973, was the first in which an American employer and its union jointly undertook to operate self-managing work groups. The agreed primary goal was to increase safety; secondary goals were increased productivity (i.e., tons mined per day), earnings, job skills, and job satisfaction. In the experimental sections of the mine, says Goodman, safety, earnings, job skills, and job satisfaction *did* improve significantly (tonnage less so, because it was given little attention).

Success in the pilot sections aroused envy and hostility in the others. The union demanded that the program apply to all workers or to none, but the potential acceleration of wage costs ruled this solution out. The union polled its membership and withdrew from joint sponsorship.

The plant manager, determined not to give up the gains already realized, now sought to expand the program unilaterally. The union agreed to neither oppose nor help. However, drains on the research team's time, lack of active union support, and the narrow base of managerial support slowed progress to a halt. A deterioration in national union-management relations also took its toll. By 1979, practically all traces of the experiment had disappeared. Goodman concludes that this fate was not inevitable, and he traces the actions and omissions that brought it about.

Gaines Pet Food, Topeka. Few work innovations have been greeted with as much fanfare as the little Gaines pet food plant at Topeka, Kansas. Conceived in 1968 as a blend of advanced technological and organizational concepts, designed from the ground up and launched in 1970, Topeka shone brilliantly for three or four years. Then rumors of problems and decline began to surface, partly because of the overambitious hopes of its advocates, partly because of the desire of detractors to see it fail. Richard Walton, a member of the original design team, confounds the skeptics by reporting that Topeka is alive and well, its sociotechnical work system functioning substantially as it was supposed to.

Walton assesses the plant's history against the design objectives: (1) high employee commitment; (2) economic performance superior to conventionally designed General Foods plants; (3) ability to institutionalize and correct itself; (4) satisfying jobs for first-line supervisors; (5) promotional opportunities for local managers; (6) endorsement by upper-level manage-

ment and diffusion to other parts of the company. The first four goals, he says, have been achieved. The other two have been disappointed. Walton offers persuasive reasons for both sets of results.

The plant has registered solid gains. Even before the current recession, applicants lined up to get jobs on the well-paid, self-managing work teams. Productivity, superior from the start, has risen every year but one. (Walton estimates that net benefits to the company have averaged \$1 million a year.) And the system has kept going despite the departure of all the founding managers.

The media have blamed corporate headquarters for blocking diffusion of the Topeka model. Walton, looking back in sorrow rather than anger, blames the inexperience of the design group, himself included. They had assumed that the plant's success would sell itself and, therefore, made too little effort to gain the understanding or support of headquarters. He draws the interesting moral, however, that, while corporate support may be necessary for *establishing* a new system, the absence of corporate support (provided it doesn't turn into hostility) does not preclude *survival*.

Corporate Strategy

General Motors Corporation. The chapter by Landen and Carlson shows how effectively a giant corporation can manage the spread of work innovation when top management genuinely believes in it and then takes the lead. General Motors initiated the process of organizational change in 1968 and has stuck with it through thick and thin. Emphases may have altered, and the cast of characters has changed, but the basic impulse is the same.

Until 1972-73, the process was confined to managerial and salaried ranks, and the phrase Organizational Development (OD) prevailed. When the UAW asked to be invited in, a more neutral term was needed, and the GM-UAW National Quality of Work Life Committee came into existence. Three goals were agreed upon: a more satisfactory work life, reduction of absenteeism and turnover, and higher quality products. These goals remain in force.

Because these goals do not include the word "productivity," many people have inferred that the QWL programs at General Motors are not directly concerned with productivity improvement. This is a profound error. In the automotive industry (and in others, too), where product mix and production line speeds are preset, any improvement in product quality translates immediately into higher productivity, by any definition. Even in the crudest sense, productivity does not consist simply of more units coming off the line per worker hour; it consists, rather, of a greater number of *saleable* units per worker hour. Higher quality means a higher proportion of saleable units.

During the OD days, numerous surveys and action research programs