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Productivity and human development:

The Bolivar project

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FROM a humanistic standpoint, the ideal organization is one which stimulates and reinforces healthy character development with the dual goal of personal

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happiness and social responsibility. It is important to avoid the assumption, often made by social scientists, that everyone is the same, and that conditions that serve the development of one type of character or temperament necessarily fit the needs of another.

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Different cultures also cultivate in their members goals and values which are not easily changed or transplanted. Despite these differences, human development implies certain constraints that lead to happiness and a sense of integrity: the stimulation and development of consciousness and reason based on freedom of conscience and choice; mutuality and love based on understanding and compassion; creative work based on disciplined competence and joyful expression.¹

There are inevitably limits and constraints to such development in any culture. In our own society, human development in the workplace is constrained by the struggle of companies within the highly competitive international market to grow and prosper by increasing control and lowering costs. The continual change in methods of work and transformation of technology in this century has been directed primarily by economic rather than humanistic criteria. Although some changes in technology have required more technically educated workers, the methods engineers and the creators of technology have until very recently aimed at minimizing the unpredictable human element, to design systems that do not require a great deal of trust. Inevitably, such systems plant distrust and negativism in those who are treated as replaceable parts of organizational machines. In factories and offices organized on these principles, both managers and workers operate in a depressive climate of fear which does not stimulate trust or creativity. Employees keep ideas to themselves, and productivity gains depend almost entirely on lowering labour costs (and eliminating labourers) Because workers resist changes that eliminate jobs and try to beat a system that robs them of self-determination, significant industrial costs include non-productive controls such as work measurement, inflated quality control, with expensive computer services. Fragmentation of work and policing of workers does not stimulate human development; to the contrary, it undermines mental and emotional health resulting in depressive escapism, egocentrism and hostility.2 Furthermore, workers become unwilling to cooperate in cutting costs and improving quality. In other words, dehumanizing mechanistic methods of improving productivity have not only been socially unproductive, they have also limited economic productivity.

To develop an alternative to this approach is not merely a matter of good intentions. Given existing technology and the competitive market, for many kinds of production, the fragmented low trust system is profitable and workers accept their pay as fair compensation for the work. To change work according to criteria of human development is a difficult task in itself and social experimentation is threatening and risky. Many promising new approaches which have increased both satisfaction and productivity in companies have been abandoned as time-consuming or not worth the strain on the organization. Poorly thought-out attempts at industrial democracy have undermined authority and ended in the demoralization of everyone involved. Other management efforts

to "enrich" jobs have been seen by workers as attempts to manipulate or pacify them, and to undermine unions.

In fact, so-called projects to "humanize" work have been initiated by managers whose only goal was motivating workers to produce more, and in such cases, a sense of bad faith and distrust is inevitable. If management merely wants to increase production, they would be better advised to refrain from humanistic language and to adopt less pretentious methods, such as better pay incentives. If, however, managerial goals include human development, a practical set of principles must be worked out.

Since Robert Owen, benevolent paternalists have shown concern for workers and have tried to humanize industrial work, but only recently have managements cooperated with unions to improve work according to humanistic principles. A notable example is the Norwegian Industrial Democracy Project which has involved workers in the analysis and redesign of work (including technology), so as to increase autonomy, opportunities for learning, and increased fairness. The Norwegian Project stimulated Volvo's president, Per Gyllenhammer to direct a team of engineers to design the Kalmar auto assembly plant according to social-human as well as economic-technical criteria.

In establishing an American joint management—union project based on principles of human development, we benefited from the pathfinding Scandinavian experiments and had the advice of Einar Thorsrud, Director of the Norwegian Industrial Democracy Project and Berth Jonsson, Director of Corporate Planning at Volvo. Like the Scandinavians, we have also discovered that the first attempts to create new industrial models require strong and committed leadership from both company and union.

The Bolivar Project

The Bolivar Project is a joint effort of Harman International Industries and the UAW International to determine change according to principles that stimulate human development. It was initiated as an experiment in joint management — union determination of change that, if successful, could have a national impact. It was the first project in the United States developed jointly by a company and union and based on explicit principles of human development.

Unlike experiments which have combined work redesign with a new plant and carefully selected workers, the Bolivar Project took on an existing plant making outside mirrors for cars in a highly competitive market. From the start, the Project included all the 600 employees, managers, and workers rather than a limited experimental group of especially trained employees. The plant population was 50 per cent white, and divided equally between men and women. There was a history of managementunion struggle; we chose a tough case. In its four years of operation, the Project has developed an



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ongoing process, new re'ationships within the factory and between company and union; it is still evolving. However, its achievements during its first years provide some lessons about what to do and what not to do in order to improve working life while maintaining an economically competitive organization. What we have learned at Bolivar may he'p explain why similar projects succeed or fail and show a direction for human development at work.

In changing work according to social and human as well as economic and technical criteria, we have discovered four basic questions which must be answered in any such project. The first is what are the principles explicitly shared by the participants? The second is how does change take place, and how is decision-making institutionalized? The third is how will the participants on all levels learn to experiment with changing work? The fourth is how do the participants decide where to begin? The answers to these questions might be called the 4 S's: Spirit, Structure, Study and Strategy.

1. Spirit. Every organisation has goals and there are principles which are either explicitly stated as an organizational ideology or left unstated but obvious to everyone. These goals and principles determine the moral c de, the spirit of the organization, and the actual work practices. Where the main principles are profit and corporate growth, changes in the technology of production are likely to serve the goal of increasing productivity by tightening control over the process and the worker who is treated as a standardized replaceable part. The union defends the worker by emphasizing principles of job security and fair compensation, but does not challenge the sociotechnical system.

This has been the situation in the highly competitive auto parts industry where many companies hover on the edge of survival. At the start of the project at the Harman auto mirror factory in Bolivar, the spirit was one of distrust, resignation, and some hostility. There was little open conflict, other than grievances, but workers did not expect much from management. Although 70 per cent of the sample of 300 interviewed agreed that "All things considered, there is a feeling around here that this is a good place to work", more than half stated they did not trust management and 77 per cent affirmed that "This company cares more about money and machines than people". Communication was poor. Eighty-nine per cent checked the statement: "I never know what's happening in this company until after it's happened." The economics of the auto parts industry, price squeezing by the four big customers, and fluctuating demand for cars, intensified insecurity and the dehumanizing conditions of work which fed this spirit. However, the company was profitable, and purely business reasons did not compel management to change.

In this case, both company and union leaders were motivated by their concern for the human development of all employees — workers and managers.

They supported the project, at first against opposition or doubts within their own organizations, because they believed it represented a chance to improve the lives of everyone involved. The initiators, Sidney Harman, the chief executive of the company (now Under Secretary of Commerce), and Irving Bluestone, UAW vice-president, are practical men. Both are also idealists, who will take risks to create a better society. The local plant manager, Arthur McCarver welcomed the chance to develop a more democratic workplace. "These people are my neighbours," he said. McCarver and other managers also reasoned that by improving work, they were more likely to attract and keep good workers.

Chester Barnard wrote that the highest executive function is the creation of a moral code for the organization. In the case of Bolivar, the first step was the democratic development of a new moral code, as management and union agreed on four basic principles or goals for the project: security, equity, individuation, and democracy.

These principles were discussed and interpreted by the participants. They understood that the company had to make a profit in order to provide employment, and they recognized it was not possible to guarantee jobs in the auto parts industry. But as the project developed, the goal of increasing job security has determined choices among alternatives. One example was when experiments improved productivity during the recession period of 1974-75. It was decided to take the gain in time off rather than allowing individuals to produce more and eliminate jobs.

Safety in the plant improved because workers were able to communicate their complaints to a responsive management. Hazards were eliminated, new equipment installed, and training courses in safety and health care instituted for supervisors and union representatives.

The principle of increased equity means fairness in rewards and job assignments. Security and equity have traditionally been the priority goals of workers and unions, and workers will inevitably oppose job enrichment projects that either threaten job security or offend their sense of fairness. Although the agreement between management and union stated that the aim of the project was not to increase productivity, but rather to make work more satisfying, it was also agreed that any productivity gains would be shared equitably.

It should be noted that the distrust between management and union made it impossible to start the project with the goal of improving productivity. The workers would have considered that an attempt at speed-up. Only later, once trust had been created, was it possible for the union to work cooperatively with management toward economic as well as social-human goals.

The principles of increased individuation and democracy go beyond the traditional goals of collec-



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tive bargaining. Individuation is the process in which an individual emerges from in antile dependency and develops his or her unique talents and viewpoint.9 It requires both opportunity or positive freedom to make decisions that affect one's life and support and encouragement from others in the development of one's socially productive abilities. Although the employees at Harman at first interpreted individuation as individualism, strongly valued in the rural South, the terms do not mean the same thing. Individualism can have a negativistic and anti-social connotation of "you do your thing and I'll do mine" or "don't tread on me", both traditional American sayings. Individuation is more positive, implying individual fulfilment, respect for the different creative needs of different people. It is the opposite of making individual into an unthinking, standardized machine part.

There are limits to the degree of individuation that is achieved in any society, and many people leave rural areas exactly because they find no support and stimulation for developing their individual talents. In dialogue between the participants and project staff, the meaning of the principle became one of recognizing that people have different goals in the workplace, different talents and preferences and that rather than assuming sameness, we should try to understand these differences and allow employees to design different kinds of programmes in the workplace. The production technology and the pressures of the market have limited possibilities of making all tasks interesting and stimulating, but it has been possible for those interested to analyze and evaluate work and to participate in decisions about organization and methods or to join new educational programmes. 10

The principle of increased democracy was interpreted by participants as establishing the right of each individual to have a say in decisions directly affecting him or her.

This is a weak definition of democracy, and it can be argued that "participation" would have been more accurate, since employees have only a say rather than the say in most decisions. Managerial authority is handed from the top down and neither workers nor managers have a say over who will be their supervisors, much less who has the final say at corporate headquarters. However, the union is run democratically, and through collective bargaining, workers have gained rights that limit managerial authority. They have also had the ultimate say on the continuation of aspects of the programme. For example in 1975, over 80 per cent voted for the earned time innovation. As long as increased democracy is a goal, workers can continue to expand their say in new areas of democracy/participation. Workers and manager together have learned to consider alternative approaches and to evaluate them according to social-human (e.g. fairness, chances for learning, etc.), as well as economic-technical criteria. These may include "job enrichment" or job rotation, new courses, or new ways of organizing work.

The main point is that proposals come from the shop floor and are not handed down by "experts".11

The programme has also emphasized another basic aspect of democracy: free speech. At first, there was minimal communication of any sort between management and workers, and even among the managers themselves. Workers whispered to each other about their complaints, and dissatisfied managers stewed inside. The original survey revealed that 70 per cent of the workers had ideas about improving the work which they kept to themselves. Today, both complaints and ideas are freely voiced or published in the plant newspaper. Committee meetings at all levels provide practice in learning how to express thoughts and how to evaluate ideas. This experience is in itself a significant product of the project, because it strengthens competence and confidence.

These principles might be stated somewhat differently without changing the spirit of the programme. However, to gain the support of the participants, they must express ideals and strivings that everyone shares and is willing to live by. [In Coatbridge, Scotland, the programme instituted by Tannoy Ltd. (a part of Harman International) in cooperation with the General and Municipal Workers Union is defined in terms of security, fairness, individual fulfilment, and involvement]

Ultimately, the spirit of an organization will be maintained by the attitudes stimulated by the total work experience. A spirit cannot survive based on high-flown phrases, but must be reinforced by daily experience. In the pre-project phase, the adversary spirit was fed by insecurity, resentment, the sense of being treated as a replaceable part, lack of respect, and demands for submissiveness or passiveness. The new spirit of trust and mutuality is nurtured by a greater sense of security, fairness, self-respect, respect and concern for others, self-expression, and critical thinking.

2. Structure. A new spirit requires new organizational structures and decision-making processes. The Project started with new company-union relationships at the top, between Harman and Bluestone. At first, I helped establish this link and it was strengthened by the Project's advisory group of distinguished academics. 12 Eventually, third parties were no longer essential, although the project staff remains a resource to management and union leaders at all levels.

Cooperation at the top has been necessary to sanction new relationships at other levels and departures from traditional practices. When does an issue move from the work improvement programme to the arena of collective bargaining? Trust between the top leaders had been essential in supporting delicate new structures at lower levels. Inevitably, mistakes were made, individual feelings were ruffled, crises occurred. Without the support of top leadership in both company and union, such incidents



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would have threatened the continuation of the project.

The project has required a new style of leadership both in management and the union. Managers needed experience in how to analyze problems cooperatively and to seek consensual decisions. Union leaders needed to learn how to bargain cooperatively (in such a way that both sides gain) without weakening their position in adversary collective bargaining. Harman and Bluestone both in their meetings with their own groups and in management-union meetings demonstrated this style of leadership.

On the level of plant leadership, management and union have developed a new relationship in the working committee. Originally, an ad hoc committee of five management and five union members, the working committee was formed to consider problems of heat, cold, ventilation, and safety hazards. These problems headed the list of complaints emerging from the initial survey carried out by the project staff. The ad hoc committee established a new link between management and union leaders who before had met only as adversaries, disputing wages or grievances. The committee began to meet weekly considering the first suggestions by employees, to improve physical conditions in the plant, to alleviate parking congestion, to protect workers from embarrassing visits at work by bill collectors, and to establish a credit union. Members of the committee also began to read and discuss articles on work restructuring provided by the project staff.

Having met for over six months, the group felt ready to authorize experiments in which workers would participate to improve work. As a result of the first experiments which proved successful, the

ad hoc committee officially became a permanent Working Committee with the function of sanctioning and evaluating experiments and new programmes according to the principles of the programme.¹³

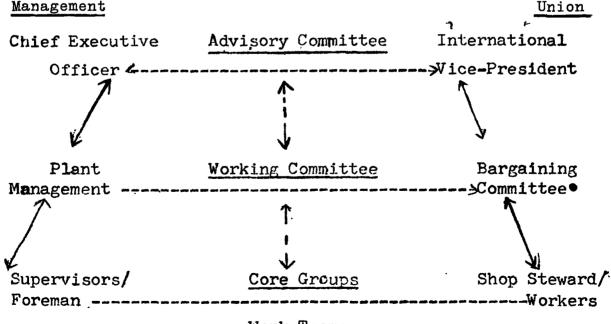
As the project spread into every department, core groups composed of foreman, shop steward, and another elected worker were formed in each department to present plans to the Working Committee. Core groups also are responsible for organizing meetings of all department members to ensure total participation on the shop-floor to consider new ideas.

The new structure of communication and cooperation can be described as a ladder. New relationships are indicated by a dotted line, traditional relationships which have been strengthened by a solid line.

At Bolivar much of this structure was improvised to meet needs that developed from the success of the programme. From hindsight, we see that each link has been necessary. On each level, new communication and cooperation is required to ensure the participation of everyone, and to legitimize new approaches.

Examining the whole field of cooperative management-union projects, one finds that the most successful according to both social-human and economic criteria — such as Spring-field, Ohio/AFSCME and the Norwegian projects — have established the ladder structure. Other promising projects have never gotten off the ground because some parts of the ladder were missing.

Some social scientists in the U.S. and Europe have excluded parts of the ladder from their strategy,



Work Teams



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because their goal is to free workers from what they consider the oppressive, arbitrary, or unnecessary authority of both management and union. In this, they may be supported by top management which feels frustrated by both middle management and the union, and hopes to re-establish paternalistic ties to the workers.

The alternative to eliminating authorities is to strengthen them, which paradoxically may be the most realistic way to develop democracy, if the quality of authority is transformed from that of master-servant to that of valued resource. Before the project began, managers at Bolivar gave orders and policed workers, but had very little real authority. Almost as much as the workers, they reported that they felt like parts of the machine. Many supervisors said they were unappreciated by management and disliked by the workers, and upper level managers were anxious about their standing with top management. They were not respected but feared by those below them just as they feared their own superiors.

The opportunity for managers to experiment with improving work and to participate in discussions about the relation of principles to decisions is an essential part of the programme. It has developed a new sense of authority, supported by new channels of communication and increased trust. Supervisors who can share authority with workers discover that they gain authority.¹⁴

Local union officials have also gained a new sense of authority. At the start of the project, the local union's attitude was defensive, based on a combination of resentment and fear. Members of the bargaining committee assumed management was out to exploit them, and they distrusted any company proposal. In 1973, when the company suggested early bargaining that could have been mutually beneficial, it was rejected out of hand by the bargaining committee which did not even attempt to understand the proposal. The programme has changed that attitude without in any way weakening the union, not only because of increased trust but also members of the bargaining committee have learned more about pricing, controllable-costs, how to read the daily, monthly, and yearly statements. With new confidence, they have been able to cooperate with management in order to cut costs and save jobs. At the same time, they have a better understanding of what the company can afford to pay them. 15 In November 1976, an early bargaining agreement saved the company from having to stockpile and eventually lay-off workers. Unlike previous contract negotiations, when corporate and international union officials did the bargaining, this one was carried out by local union officials and plant management who, through the project, had gained the competence and confidence to do it themselves.

3. Study. Participation can develop from "having a say" and being heard to learning to experiment. Participants must learn to analyze, propose alternatives, and evaluate experiment. Analysis and

evaluation requires knowledge, not only of economic and technical data, but also of the social-human reality. From the start, the role of the project staff has been that of researcher-educators whose task it is to help provide knowledge and to propose methods of analysis and evaluation.

The project was first invited by management and the union to survey and study employee attitudes to work and working conditions. These findings were analyzed in terms of socio-economic, socio-psychological, and cultural factors. ¹⁶

Beyond the standard survey which Dr. Harold Sheppard and the project staff designed with help from the Institute for Social Research of the University of Michigan, an essential and in some ways unique aspect of the project has been its attempt to understand the goals, strivings and social character of the participants. From the start, the company and union leaders have agreed that understanding the human reality was an essential beginning.¹⁷

Bolivar is part of a culture in transition from a traditional rural to a modern industrial society, from a social character of independent, conservative, religious, family-oriented frugal farmers to one of ambitious, career-oriented, meritocratic, mobile employees and consumers. While many attitudes are shared by most of the workers in this rural Southern area, there are significant differences in the modes of adaptation to the factory of different types of workers. These differences he ped to explain variations in what most satisfied and dissatisfied them about their work and what they sought to improve their lives. Practically all of the workers comp'ained about physical conditions in the plant, safety, and ventilation. Some workers, especially those with more schooling, were oriented to career and resented lack of opportunities for both advancement and learning new skills. They were not critical of the military-type organization. Other workers, especia ly those who still worked part-time on farms, were uninterested in an industrial career, but were resentful about taking orders. What they most wanted was to be treated with respect and to have the opportunity to exercise their minds and skills. Still others, especially women in assembly work, considered the most satisfying aspect of work, other than the pay, to be the opportunity to socialize with others.

What most satisfied some, e.g., the chance to work in a group, dissatisfied others, and beyond a basic concern with human rights, it was misleading to talk about what the "workers" wanted. Yet, it was possible to distinguish different types in terms of shared attitudes to work. 18

To a certain degree, different types of people tend to select jobs within the factory that best fit their attitudes to work. This understanding of differences has served two important functions. The first has been to avoid divisive speculation about other people's wants, needs, and motives. The survey results challenged the views that both workers and



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managers had of the other's attitudes. A new sensitivity to different types of people in terms of attitude to work helped develop concern about others and their needs. Second, this knowledge has informed evaluations of experiments in different departments. Because of the study findings, it was no surprise that many workers in the polish and buff department opted for a plan that allowed them to work for individual incentives and had trouble with the idea of working as a "semi-autonomous group". In contrast, it was understandable that some assemblers rejected attempts to enlarge their work in such a way as to isolate them 19 Yet, both polishers and assemblers have welcomed the chance to participate in analyzing work and in having a say about changes and there are employees in both groups who have been willing to experiment with changing work.

4. Strategy. The whole project can be seen as part of a strategy to learn how to achieve a better balance of economic and human development in America. Part of this strategy has been for the Harvard Project to assist pathfinders like Harman and Bluestone who share this social goal and are willing to take risks to achieve it. Models are needed to stimulate demand for social change; leaders are required who can translate knowledge from a project into national policy.

This same approach to social strategy, which we learned from Einar Thorsrud, directed the process of change into factory. We started out by charting the boundaries of change, technology, market, and attitudes. This knowledge became the basis for selecting areas for experiments with volunteers, some of whom might later become leaders. Thorsrud helped us plan the first steps by describing a process of analyzing work according to social-human criteria, examining alternative to designing tasks, communicating information, and evaluating outcomes.

This process seems to us to represent the kind of active learning described by J. Piaget where the role of the educator is to help define the problem and to criticize solutions according to the agreed-on criteria including, in this case, the four principles as well as economic and technical criteria. In so doing, the educator is teaching how to think critically and creatively.²⁰

This process stimulates the participants to seek new knowledge. If one of the criteria is cost-effectiveness, they must learn about costs. If another is technical viability, they may want to study different technical possibilities. If it is individual satisfaction, they are stimulated to understand types of people and their different creative needs.

Robert and Margaret Molinari Duckles, the resident project staff members, have not played the role of experts who propose solutions but rather educator-researchers who engage managers and workers in the research. A manager once told me, "The reason why we like Bob and Maggie so much is that they don't know anything", but in fact, they

know how to ask questions, and they understand the principles. Sometimes managers will complain about "too many silly questions" or having to "re-invent the wheel" but the habit of critical questioning and participative process of design have become major products of the project.

What are the results of the Bolivar Project? What about productivity? Are resources being used more effectively? Are individuals any happier? Have the participating institutions been strengthened?

Overall, the factory's workforce has doubled, profits have risen, and the average hourly wage is more than twice what it was before the project was initiated. Where the work was at 70 to 80 per cent of standard before in the polish and buff department, now it is 100 per cent in less than full eight hours. In other departments, the rise has been less dramatic, but significant. Probably, the major productivity gains since the beginning of the project are due to new technology and methods, but even here the project has helped in the acceptance, and in some cases, the participative design of these innovations.

However, the narrow economic concept productivity, i.e. output per man hour, is inadequate to describe the economic gains of the project. A broader concept of organizational effectiveness would take account of improved leadership in both management and union and better decision-making among managers that reduces costs and produces new business. It would take account of increased ability of the company to respond to new business opportunities. The new cooperative spirit has resulted in workers helping to gain new business by coming in on the week-end to set up new equipment for a rush order. The first notable instance of improved effectiveness through management-union trust occurred in 1975 when the company was in danger of losing a major contract and with it one hundred jobs. Management agreed to try and save the contract, with management accepting a lower than usual margin of profit. Management opened its books and with the union re-examined all standards in order to make the lowest possible bid. The bid was accepted, the jobs were saved, and in the process ideas emerged for a new cost saving sharing plan. (After considerable plan-wide discussion, management and unions dropped the plan). A second instance was the early bargaining achieved in 1976 which saved the company from the costs of stockpiling (demanded by the auto companies as strike protection) and protected workers from subsequent lay-offs.

Harman has testified that from the company point of view, both return on investment and managerial capability has been strengthened by the project.²¹

Local management considers that improvements in communications and cooperation have made its job easier. Bluestone has written that the local union is stronger, grievances are down, and there is less disciplinary action. Dr. Barry Macy, from the University of Michigan Institute for Social Research, the



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independent evaluator of the project, has written that productivity has increased significantly and "observation by the ISR staff indicate that the departments or groups do function with less regimentation. The foremen police less, leaving it up to the workers in the group to decide when to stop or start something. Several have said, There is more freedom. Where before the programme started the workers were closely supervised, the work groups now operate with three basic norms: (1) The worker should be left alone and not bothered; (2) the workers should produce to standard; and (3) the workers should produce quality parts. The process and procedure to meet the above norms are left up to the workers. There is a feeling on the part of the Bolivar management that the majority of the workers feel more involved in their job and interested in their work. They seem to be more interested in housekeeping and because of their pride of ownership, they seem to be more interested in producing a quality product.

"It is also interesting to note that many groups have been spending their free time discussing their work and possible ways to improve it. Within the group, there is a strong sense of teamwork. One member of a group indicated that this in itself gives his job more meaning and is the reason he no longer comes to the plant feeling, I can't face it. One line of the original assembly experiment recorded all of their delays with reasons for each delay. This kind of report (never done before) was extremely useful in correcting the delay problems in assembly.

"Overall the Boliver project seems to be producing a number of important results:

- (1) Perhaps the most impressive thing about the project is that a climate of experimentation, trust, and faith has been produced in the organisation....
- (2) Perhaps the biggest change at Bolivar is the general commitment to the project by local management and local union representatives and by top corporate and top union officials. At the start, the project had strong corporate support, but lacked strong commitment from local management. Over the course of the project there has been a marked increase in the cooperation and support at the plant level and the resulting union-management ownership of the programme is showing many benefits".22

For individuals — both workers and managers — a major change is the free expression of ideas and criticism. What was practically a place of silence has come alive. People have developed a voice. Furthermore, they have become more concerned about each other, aware of the dangers in unchecked individualism. Increasingly, deliberations of the working committee consider how new programmes will affect different people. If those who are quicker get to leave early, what happens to those who are slower? Will they be pushed to work beyond a safe and healthy pace? Democratic decision-making becomes a process of evaluating alternatives accord-

ing to human criteria, rather than a clash of selfish interests.

Many employees have also benefited from educational programmes. The first classes were initiated because participants in experimental programmes who had increased their productivity had extra time. While some individuals wanted to go home early or to earn more money, others asked for courses in subjects related and unrelated to work. As the programme grew from experiments to include the whole plant, the working committee instituted the school to provide both work-related courses and any others requested by a sufficient number of people where a teacher was available. In the spirit of programme, anyone can be both teacher and learner. Employees both offer and request courses in subjects ranging from welding and sewing to piano playing and literature. It is significant that courses were instituted in public speaking and writing. Some workers have realized that both effective participation and leadership require confidence gained by skill in communication. The County Vocational Educational Programme has recognized the school and pays salaries to teachers where courses fit its standards. Although courses are advertised only in the plant, all are open to anyone-Harman employees. family and members of the community. The project has also contributed to the community and to the larger society. A better spirit of cooperation has led to decrease of tensions between blacks and whites, with blacks for the first time achieving positions of leadership in the union and management. Participants have also noted that the experience has changed their attitudes at home.

On the national level, the project has been a laboratory for leadership in understanding how to combine human and economic development. Irving Bluestone has pushed General Motors to organize a number of participative experiments. Sidney Harman became Under Secretary of Commerce because of Bolivar Project, and he has taken a key role in developing a national programme. Many business and government organizations have begun to apply the lesson from Bolivar.²⁸

The Bolivar Project also raises issues and suggests direction for a national policy aimed at improving the balance between economic and human development in the workplace. The main constraints or limits to change are: the competitive market, the technology of production, and the culturally rooted attitudes of employees.²⁴

The conditions essential for human development demand rules that protect employees from practices which endanger their health and safety, undermine self-respect, and block chances for participation and personal growth. The competitive market requires innovative management that is not so constrained by regulation that it is afraid to take risks. A healthy balance between these two goals—human development of employees and managerial freedom — cannot be achieved by legislation alone. Regulations for health



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and safety and protection of human rights determine the rules of the game. But within those rules, productive development requires ingenuity and cooperation based on trust. Trust cannot be legislated or gained by litigation; it must be earned. Once trust is gained, the rules can be interpreted more creatively. For example, health and safety can be guaranteed by union management committees which interpret the rules to fit the particular situation, in contrast to inspectors who may demand that regulations be obeyed bureaucratically.

At Bolivar, the technology of production - assembly lines, repetitive tasks, etc. — limits possibilities for stimulating work. This is not a problem for some workers who prefer a simple job, particularly when they have a say over methods changes and a chance to participate in meetings and classes. For others, the technology is frustrating and they would we'come more autonomy, variety and discretion in their work. Within the constraints of its highly competitive market, an auto parts plant lacks the resources to pull apart the production technology and totally redesign it according to both human and economic criteria. Such socio-technical redesign has been successfully carried out by Volvo (Kalmar), General Foods (Topeka), Cummins Engine (Jamestown and Charlestown), and other companies that have started with green field sites. If we consider that the development of character, which is so significantly linked to the nature of work, is our most valuable national resource, then such social experimentation deserves the kind of support that the Federal Government has invested in the development of new military and space technology.

Finally, culture and character themselves limit changes affecting human development. Although we might ideally wish for a perfect democracy in the workplace, this aim is limited not only by realities of power and differences in skill and training but also by the different goals and interests of employees themselves. The Bolivar project has not only begun to change the balance of power in the factory by allowing more people a say, but it also produces more power to get things done. Yet, some democratically determined decisions disappoint those whose ideology calls for a more rapid march to utopia. Early on, when some impatient leaders were pushing change faster than it could be assimilated, a woman working in the paint department wrote a letter to the Harman Mirror which called attention to some of the problems that had resulted. "This is a company", she concluded, "that is lost trying to reach heaven". Although we cannot reach heaven, the real achievements at Bolivar have made life much better on earth, and point the way toward further progress.

APPENDIX

Critical Steps in the Bolivar Project, 1972-1977

Phase I 1972 — Preliminary negotiations. Harman and UAW agree on principles of the programme

and invite in Harvard Project.

Phase II 1973 — Survey of attitudes to work, and participant observation to study the boundaries of change including technology, market, culture, social character.

1973-1974 — The decision-making structure develops. October 1975, the ad hoc management-union committee is formed to consider dissatisfaction with physical conditions and becomes a Working Committee. The "shelter agreement" between Harman International and UAW is signed.

Phase III Spring 1974 — Thorsrud leads first job design seminar. (Local union officers agree to cooperative seminar even though the membership have just voted down the contract.) Experimental groups are formed in polish and buff, assembly, and pre-assembly leading to productivity gains and issues of rewards, educational programmes, security and equity. Experiments with earned time.

Fall 1974 — Trip to Scandinavia supported by German Marshall Fund. Management and union representatives visit Volvo and Norwegian projects, discuss similarities and differences.

Phase IV Winter 1974-75 — Recession in the auto industry worsens. One-third of workers laid-off yet programme continues. According to principle of security, decision is made by working committee to take gains in time off rather than more pay in order to protect jobs and at the same time to strengthen educational programme.

1975-76 — Development of Harman School. Vote by local union in which over 80 per cent ratify earned time programme.

Phase V Summer 1975 — Management and union jointly save contract and jobs, jointly re-evaluate standards. Company opens books. Beginning discussions on cost saving sharing plan.

1975-76 — New experiments led by supervisor (P. Reaves) to teach workers to take over supervisory functions.

1976 — Plant-wide discussion on principles of cost saving sharing. Decision to develop programme to combine both group and individual incentives to maximize equity.

Fall 1976 — Early bargaining carried out by local leaders.

Phase VI 1977 — Evaluation by participants and University of Michigan Institute for Social Research. Harman International acquired by Beatrice Foods which supports programme. Discussions about future of programme and how to institutionalize so as to take over functions of Harvard Project.



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FOOTNOTES

'See M. Maccoby, "Work and Human Development", (unpublished paper, 1977). Also see Erich Fromm, *The Heart of Man*, New York, Harper & Row, 1961.

²For a review of the evidence, see the HEW Report, Work in America (MIT Press: Cambridge, Massachusetts, 1973).

3On this point, see the arguments of Mitchell Fein.

*See Final Technical Report to the National Commission on Productivity; The Bolivar Project, February 1974.

"Work humanization" are motivated by the wish to liberate themselves and other managers from roles that make them into bosses who are feared rather than leaders who are respected and trusted. Warren Hinks, President of the Rushton Mining Company, had a similar motive in starting the joint project with the United Mine Workers. He told a seminar of the Massachusetts Quality of Working Life Centre: "I had an ideal that there was a way we could all work together as associates". (Massachusetts Quality of Working Life Center Newsletter, December 1976, Vol. 1, No. 9). Bluestone also reasoned that unless unions took a leading role in sociotechnical change, new methods of job enrichment would become tools of management to keep unions out. Bluestone's idealism was combined with the belief that the Bolivar Project could strengthen the UAW.

*The Functions of the Executive, Cambridge, Harvard University Press, 1938.

These principles were first articulated as a basis for restructuring work by N.Q. Herrick and M. Maccoby, "Humanizing Work: Priority Goal of the 1970's", in Davis. Louis E. and Cherns, Albert B., eds., The Quality of Working Life, Vol.1, New York: The Free Press, 1975.

*See for example, F.J. Roethlisberger and W.J. Dickson, Management and the Worker, Cambridge, Mass.: Harvard University Press, 1939. It is notable that managers often misinterpret the Hawthorne findings to mean that productivity only rises as an "artifact" of a situation where workers are being studied, meaning that they are performing only while being watched. In fact, the evidence of Hawthorne, like that of many subsequent projects is that a situation of greater trust and communication will result in productivity gains, but the new relationship will deteriorate if it threatens job security or causes feelings of inequity in other workers.

*See Erich Fromm, Escape from Freedom, New York, Holt, Rinehart and Winston, 1941.

10 The industrial processes include die cast, polish and buff, plating, painting and assembly. Some of these processes are becoming more automated (e.g die-cast, painting) while others such as assembly remain labour intensive and monotonous.

¹¹For a fuller discussion of the issue of democracy in the factory, see Robert Duckles, Work, Workers and Democratic Change (Ph.D. dissertation, The Wright Institute, 1976).

¹²These included Thorsrud, Professor Harvey Brooks, Professor David Riesman, Berth Jonsson of Volvo, Dr. Ben Stephansky, and Dr. Harold Sheppard.

¹⁸As Robert Duckles points out, the Working Committee now has three main functions:

- Monitoring the programme in terms of the interests of both company and union and of the principles.
- 2. Coordinating ideas and proposals to assure that different efforts are not at cross-purposes.
- Leadership studying the needs of employees and making suggestions or initiating proposals that are then brought to the people involved.

¹⁴M. Duckles, R. Duckles, M. Maccoby, "The process of

Change at Bolivar", Journal of Applied Behavioral Sciences, Summer 1977, Vol. 13, No. 3. Arthur McCarver, the general manager has said, "Since I talk with more people I have more authority, and since they can talk to me, they have more authority."

¹⁵In many ways, the presence of a cooperative union like the UAW at Bolivar or AFSCME in Springfield strengthens a quality of working life programme. The new structure has been 'bargained'. An agreement has been made. It is a kind of constitutional development. In a company without a union, all arthority is "lent" by the chief executive officer, who can recall it whenever he wishes. A change of heart or of management might dissolve any new decision-making structure.

¹⁶See Final Technical Report to the National Commission on Productivity, 1974.

¹⁷Irving Bluestone has written:

"The idea was to introduce the programme only after careful and cautious preparation.

"First it was necessary to learn in depth how the workers felt about their work life, what was needed to satisfy their needs in order to achieve healthy development of their capabilities as individuals and improve the quality of work life in the plant as a whole.

"From the outset, we were aware that the Bolivar facility was by no means ideal for this undertaking. The facility comprised what were essentially large Quonset huts. Working conditions were to say the least less than desirable. The collective bargaining relationship was weak, antagonistic. The workers had rejected their last labour contract. The local union was relatively new and the local union leadership both untried and inexperienced. Many workers had a rural rather than industrial background. The racial mix was relatively balanced Tensions existed, as could be anticipated in this essentially southern area. Similarly management — from the union's point of view — was in-attentive to workers' needs, operating moreover with relatively old equipment to a tough, competitive business — producing side view mirrors for the auto industry.

"Altogether the ingredients to work with did not seem conducive to a successful recipe".

"The quality of Work Life Project Between UAW and Harman International Industries", Paper to Academy of Management, August 1977.

¹⁸For a description of these types, see M. Maccoby, "Changing Work, the Bolivar Project", Working Papers, Vol. 3, No.3, Summer 1975.

¹⁸See the work of Margaret M. Duckles on this point.

²⁰J. Piaget, *To Understand is to Invent* (New York: The Viking Press, 1973).

²¹S. Harman, Testimony before the Senate Labour and Public Welfare's Subcommittee on Employment, Poverty and Migratory Labor, April 8, 1976.

²²Barry A. Macy, "The Bolivar Quality of Working Life Experiment: 1972-1977", paper presented to the Academy of Management, August 1977.

²³Harman International has been bought by Beatrice Foods. Meeting with the working committee at Bolivar, Richard Voell, chief corporate officer of Beatrice, supported the programme and stated it was a major reason why his company became interested in acquiring Harman. Other Harman factories have recently initiated similar projects. In the Federal Government, the Postal Service and ACTION, as well as the Commerce Department have initiated programmes based on the Bolivar model.

²⁴See Michael Maccoby, The Gamesman, The New Corporate Leaders, New York, Simon & Schuster, 1976.