

tion would disrupt this innovative combination. A procedure was developed by which he could secure periodic readings on his organization to improve the timing of the inevitable reorganization. In effect, differentiation and integration measurements were devised to answer the following question: When would the loss of effectiveness because of the simultaneous handling of multiple products exceed the gain of keeping a close interchange going between all the development specialists? This application indicated that more substantive data can be a useful guide on this kind of complex timing issue.

CONCLUSION

The examples cited above all present some variant of an organization-environment interface problem. Taken together, they illustrate the considerable range of practical issues that are becoming amenable to more systematic study and action, using concepts and methods adapted from the behavioral sciences. In these situations, it has not always been appropriate or possible to put equal emphasis on all phases of the change cycle. Flexibility is needed; for instance, the diagnostic phase varied from highly specific and quantified work to more qualitative studies based upon the shared observations of managers.

We should particularly note that the goals of change have been sought in these cases by using a wide variety of methods. Specifically designed educational programs have been employed that used various pedagogical techniques. Shifts in the formal structure have been employed ranging from major reorganization to shifts in the content of particular roles and their incumbents. The wide range of variables used might suggest a more chaotic rather than a more systematic approach to improvement of organization-environment transactions if it were not for a consistent set of concepts and diagnostic methods that were applied in each case. Clarity of conceptualization has fostered flexibility in the choice of change methods.

The use of behavioral methods to seek improvement in the fit between organizational units and their sectors of the environment is a relatively new field of application. The early steps in this direction which the authors report here are suggestive of a much wider array of possible future applications.

THE GROUP-TO-GROUP INTERFACE

As we have already indicated, if organizations are to deal effectively with their environment they have to be differentiated into groups of individual contributors, each of which manages the transactions with a part of the organization's total environment. The second set of organizational development issues, maintaining and improving relationships at the interfaces among these groups, emerges as a result of this differentiation among organizational units. The objective of organizational development efforts at this interface is to achieve collaboration or integration between these groups of specialized contributors so that they can make a coordinated effort toward total organizational goals, while still working effectively at managing the transactions with their particular segment of the environment.

PRESENTING ISSUES AT THIS INTERFACE

Managers who come to us seeking help in improving the functioning of their organization at this interface complain about a variety of symptoms, but they usually have difficulty identifying the source of the problem. For example, they express concern because the expectations of participants on each side of an interface have developed in such a way that they are playing a win-lose game with each other. They see each group stoutly defending its own position with the belief that to do otherwise would

result in a defeat of some sort. Similarly, managers may state their view of the problem in this way:

Important decisions are dropping between the chairs. Each group thinks the other is handling a problem and as a result no one deals with it.

Managers who have this concern often attribute the difficulty to a "communication breakdown."

The groups which need to work together just aren't communicating. We need help in getting them to talk to each other.

When the issues raised by managers are at this level of concreteness, we feel fortunate. At least they have recognized that there is a problem at the interface between two or more groups or units. This is a big help, even though we and they may later learn that their description of the behavioral symptoms and their causes is misleading and inaccurate.

However, more often than not we find that managers are unable to be specific in defining problems. More frequently, they may have become aware, as a result of feedback from the environment, that their competition is operating more effectively than they. Perhaps they discover that competitors are turning out more or better new products, or that competition is providing better customer delivery and service. Typically the managers have considered possible technical and economic causes for their problem and have concluded that these are not at the root of the matter. A vague sense of uneasiness develops: something is wrong in the way the organization is functioning. But the managers have no clear idea of where to look for the causes of the problem or what to do about them. So they come looking for "experts" in organizational and "people" problems. When we are approached in this manner, our first step is to arrange to make a diagnosis of the nature of the underlying problems existing at this interface, so that we can move beyond these presenting symptoms. As we indicated earlier, we use the differentiation and integration model for this purpose.

Applying Differentiation and Integration at the Group-to-Group Interface

Having briefly sketched out this conceptual model in the earlier chapters, we should now flesh out these short descriptions by looking at two contrasting situations in which managers were attempting to develop this

interface. In so doing we shall concentrate on the use of this model as a planning tool in the diagnostic stage to identify the characteristics which an organization needs to deal effectively with its particular set of environmental issues. Later we shall pinpoint the usefulness of these tools in action planning, implementation, and evaluation.

The first organization was a business enterprise involved in developing, producing, and manufacturing basic plastic materials. We were engaged as consultants to this organization to help determine why it had not been more successful in dealing with the critical environmental issue of developing innovative products and processes.

Using the differentiation and integration model, we identified the critical environmental characteristics facing the organization. The scientific part of the environment was highly uncertain and tumultuous. New knowledge was being developed at a rapid rate. There was still high uncertainty about cause-and-effect relationships affecting the characteristics of these plastic materials. Feedback about the results of scientific work was infrequent, often occurring only after several years of work. Relevant data on the market environment were more easily obtained than in the scientific sector. Feedback about action taken was more rapid, but there was some uncertainty about competitive developments and customer requirements. Knowledge was even more certain in the techno-economic sector of the environment. The process hardware itself provided a high degree of certainty about what could and couldn't be done. Feedback of results of action taken in this sphere was very rapid, often on an hourly or at most a daily basis.

Given this variation in the degree of certainty in these three parts of the organization environment, the differentiation between the specialized groups needed to be quite high. For example, the scientific contributors needed to work in a unit which had very little formal structure. These researchers also needed to be directed toward goals of scientific discovery and to have long time horizons. In contrast the production specialists needed to be more short-term oriented and to be concerned with operating efficiencies, costs, and deliveries. Given the high certainty of their task, these specialists should work in a more formalized structure with a number of authority levels, formal rules and procedures, and specific and frequent review of individual and group performance. The sales group needed to fall between these other groups on the dimensions of structure, time, and goal orientation, but was required to be quite different from each of them in interpersonal orientation. Whereas the individuals in research and manufacturing needed to be more task-oriented to deal with their respective

tasks of high and low certainty, the sales personnel needed to be more socially oriented to deal with their moderately certain task and to maintain relationships with the customer.¹

All of this adds up to the requirement that the organization be highly differentiated. But this organization also had to achieve tight integration if it was to be successful in process and product innovation. Critical interdependence around this issue was required between the research and sales groups and between the research and production groups.

Application of these concepts also indicated that this organization would need a complicated set of integrating devices. The management hierarchy alone could not bridge the gap over these wide differences and achieve the integration required. The organization, therefore, would need to have smoothly functioning integrating roles and/or cross-functional teams.

Finally, the model pointed to the requirement for a number of conflict-management practices. First, confrontation would have to be the dominant way of resolving conflicts. While this is important in any environment, it would be particularly crucial for this organization, given the requirement for both wide differences in outlook and tight integration. Similarly, the individuals in integrating roles would need to derive their influence from their competence and knowledge if they were to be effective in helping to resolve conflicts. Another requirement for this organization, suggested by this model, which we did not mention earlier, is that individuals in the integrating roles need an outlook which is balanced between that of the specialist-contributors. If they have this balanced or intermediate viewpoint, they will be more effective in communicating with the various specialists.

With respect to the pattern of influence required to resolve conflict effectively in this organization, we need to examine influence among groups and within groups. The group of integrating personnel needed to have the highest influence (as suggested earlier it was important that this be based on their professional competence), because these individuals, with their balanced viewpoints and their knowledge, are in a crucial position to resolve conflicts along the interfaces between the functional groups. Within each group the level which was required to have the highest influence varied. In the production unit, with a highly certain task

1. This difference was suggested by the work of Fred E. Fiedler, *Technical Report No. 10*, Group Effectiveness Laboratory, Dept. of Psychology, Univ. of Illinois, May, 1962.

environment, this level had to be well up in the authority hierarchy. In the sales group, with a moderately uncertain portion of the environment, the level where influence was concentrated had to be at the middle level. Having a highly uncertain task, the research group needed influence for reaching decisions at a relatively low organizational level.

Given the demands of this particular organization's environment, we have thus outlined the characteristics needed at the group-to-group interface to conduct successful transactions with the environment and to obtain intergroup collaboration. These prescriptions can be taken as a set of targets for the managers as they plan their organizational-development strategy. Before examining how we also use these tools to obtain a description of the actual state of relations at this interface, we want to examine a contrasting situation where the environmental demands on the organization were quite different. This should provide us with a fuller understanding of the systemic or contingency nature of the differentiation-and-integration model.

In the case of the plastics business just mentioned, we were engaged as consultants and thus were involved from the initial phases of the organizational-development effort. Our involvement in the second organization which we wish to use as an example was somewhat more limited. We came upon it as part of a program of developing case material for teaching purposes. The top managers had already sought considerable consulting help, but were still confused as to what the ideal future state of their organization should be. The concepts we have been discussing proved useful to them in sorting out this issue.

This organization was a division of a major manufacturer of paper and paper products.² The division in question manufactured and marketed corrugated containers for a variety of industrial and commercial users. Its operations, which were on a national scale, were carried out by approximately 25 local manufacturing plants and a territorial sales organization which was aligned to correspond to these manufacturing sites. The major issue at the group-to-group interface, with which these managers were concerned, was how to achieve integration between the sales and manufacturing groups.

In attempting to determine what organizational characteristics were demanded by this organization's environment, we also started by examining the certainty of the parts of the environment. In this case we

2. Rockford Containers A, B, and C. (Copyright by the President and Fellows of Harvard College, 1967.)

concerned ourselves with only two major segments of the environment (the techno-economic and the market), since the development of new scientific knowledge was not a major issue.

For the division as a whole the market environment was relatively uncertain. It was made up of a number of local markets with quite different characteristics (e.g., the market for poultry boxes in the south central region, the citrus fruit market in California, the market for beer cases in Milwaukee). To bring some certainty into this situation, these individual markets had to be dealt with at the local level. (The requirement for local marketing and manufacturing was also reinforced by the relatively high transportation cost of the boxes.) Each local market, however, was in itself moderately uncertain. Competitive reaction to price changes was not always predictable, nor was the quantity or type of product required by customers.

The techno-economic portion of the environment was somewhat more certain. The technology itself was very stable and relatively simple. The price of raw materials was controlled by corporate headquarters, since the division's principal supplier was the parent company's paper mills. In fact the real uncertainty in this part of the environment was fed in from the market-delivery schedules, quantity, and product mix.

The required differentiation between the sales and production groups, therefore, was not great. While the sales group would require a somewhat less formalized structure than the manufacturing group and a more social interpersonal orientation, the required time and goal orientations for the two groups were quite similar. Both groups needed to be concerned with short-term almost day-to-day issues. While the production group should focus on cost efficiency and the sales group on pricing, both also needed to be concerned with goals related to the critical competitive issue of meeting customer demands for prompt delivery at the lowest possible cost.

These common goals are also closely connected to the integration required in this environment. Tight integration between the sales and production units at the local level was essential. These two groups had to jointly resolve conflicts around the constant trade-offs between customer delivery and operational efficiency, and between competitive prices and operating costs. This meant that conflict resolution was required at the local level. Since this is where the knowledge about these issues rested, decision-making influence had to be concentrated here. Similarly, both the sales and manufacturing groups had critical information about these issues

and both would need to have approximately equal influence over these choices.

In sum, these environmental characteristics seemed to require an organization with relatively low differentiation between sales and manufacturing groups but with tight interdependence between these groups. The resolution of conflict between the groups had to be conducted at the local management level with balanced influence between the groups. Obviously, the model would also suggest that managers should rely on confrontation of conflict to resolve these issues. Given the relatively low differentiation, a relatively simple integrative mechanism would be suited to this organization. For example, the management hierarchy might be sufficient. Also, given the requirement for a shared goal-orientation of the two groups, the rewards and information system should emphasize superordinate goals at the local level (i.e., local profits).

While we were not engaged as consultants by these managers, we did discuss this analysis with them, and they found it useful in thinking about the objectives of their organizational-development program. However, all of us were aware of another feature of this organization which necessitated some compromise with the prescription suggested by this analysis. This division of the company had been built over the prior five years through the acquisition of twenty local independent container manufacturers. When these firms were acquired, the former owners often chose to retire or to leave the business, in order to manage their personal capital. As a consequence the organization was faced with a critical shortage of local general-management talent who could fill an integrating role at the critical local level. While our normative application of the differentiation-and-integration model suggested that the required integration could be achieved through the management hierarchy, by having a local general manager to coordinate the local plant and sales territory, the dearth of human resources in the organization made this impractical. As a result, we suggested that the manager develop management teams at the local level consisting of sales and manufacturing managers. At the regional level (each region would encompass five or six local plants and sales territories), a general manager's role would be utilized. The principal job of these regional general managers would be to develop the local management teams, particularly building skill in resolving conflicts and reaching joint decisions.

These are the organizational objectives toward which this division management is now committed. We do not wish to elaborate here on the

problems of achieving these objectives. Rather we simply wish to point out that this is another example of how these concepts can be used to crystallize the objectives of an organizational-development program. It is a particularly interesting example, because it also points to the necessity of continually considering not only the environmental demands facing the organization but also the skills and needs of the individual contributors who are available to the organization.

The two examples together illustrate an important facet of our approach to organizational development at this interface. We start with the basic premise that there is no one ideal way of developing organizations at this interface. Instead, those involved in an organization-development effort must work toward their objectives while recognizing that behavior in the organization will be the result of a system of variables, including the predispositions of the individual contributors and the demands of the environment with which they are dealing.

A comparison of these two examples indicates that organizational-development objectives in these two organizations were quite different. In the corrugated container organization they were to develop a relatively simple integrating mechanism which would help members to bridge a narrow gap in outlook between two groups. In the plastics organization the differences to be bridged were much wider and the interdependencies more complex, and more complicated integrative mechanisms would be required. Not only do these two situations require different structural changes, but they also suggest somewhat different educational interventions. In the container organization, the educational effort would have to be focused on the regional managers to help them develop the skill to build local management teams. For the plastics firm a broader-based educational effort, which we will describe in detail below, was required.

We have so far illustrated how this particular set of concepts can be used to identify the ultimate goals of an organizational-development program. But earlier we mentioned that this is only one phase of the organizational-development process. One must have such a normative end in sight, but it is also necessary to have a description of the current organizational state, so that the organizational-development effort can be planned to move the organization from where it is to where the managers want it to be. We next turn to the way we use this differentiation-and-integration model to obtain a description of the organization and then to develop an educational intervention approach which motivates the managers involved to develop their organization toward the desired objectives.

THE ORGANIZATION-DEVELOPMENT PROCESS AT THE GROUP-TO-GROUP INTERFACE

To understand our approach to organizational development, it may be helpful to review the stages of organizational-development work mentioned earlier: Diagnosis, Design, Action-Planning, Implementation, and Evaluation. These stages, as we indicated, are usually not sequential or discrete, but rather are intertwined. Nevertheless, bearing them in mind provides a guide to what we seek to accomplish in organization-development work at this interface.

As already mentioned, whenever we are engaged to do organizational development work, we try to make it an explicit condition of the relationship, that the first stage will be a diagnostic study. There are two reasons for doing this, suggested by the preceding discussion: First, we want to make the type of thorough analysis of the environmental requirements (impinging on the organization at this or any interface) which we have just described. Second, we want to know as much as possible about how well the organization currently measures up to these requirements. This basic analysis is essential since, as has been suggested, most managers have only a vague notion of the problems confronting them and their causes.

These diagnostic steps, then, provide us as consultants with an understanding of the direction and scope of the changes that are required. But these diagnostic steps also have an important bearing upon designing and implementing the organizational-development effort. They provide the top managers, with whom we are working, a view of the problems around which they can develop a set of shared expectations about the necessity for and the direction of change. This can guide us and them in discussing changes in the structure of the organization and in designing the implementation effort for the rest of the organization. We will have more to say about this as we explore our approach in detail. To do this we want to return to the case of the plastics organization mentioned above. Our approach in this organization was typical of what we have tried to accomplish at this interface in a number of organizations and provides a good example.

Our first step in this organization was to make a diagnostic study of both the environmental demands and the actual situation in this organization. Information about environmental requirements was obtained through interviews with knowledgeable managers in the organization and from our own prior experience in doing research studies in other

organizations in the same industry. To obtain data about the current state of the organization, we used interviews and questionnaires³ which were designed to obtain information consistent with the differentiation-and-integration framework; that is, data about the states of differentiation and integration and the process of conflict management which existed in the organization. These data-gathering methods provided us with both clinical and quantitative data about the current internal situation in the organization. While in other situations we have used only interviews or group-interviewing techniques, we feel that the combination of quantitative and clinical data is more desirable. The quantitative data enabled us to make a systematic comparison of the current state of this organization with other organizations in a similar business and against the "ideal" desired state. The clinical data provide supporting evidence in the managers' own words for the quantitative data. This is important in establishing the credibility of the diagnostic phase. As we shall see, both of these factors contributed to the success of the implementation steps in our effort.

From the data we had collected, we gained several important insights as to the degree to which this particular organization met the requirements for dealing effectively with its environment. On the positive side we found that the various specialist groups (sales, research, and manufacturing) were appropriately differentiated to carry out transactions with their part of the environment. Each of these groups had a structure consistent with the certainty of its task, and the individuals in each group had developed orientations matching those required for the task. The reader will recall that these groups were thus highly differentiated.

Along with this strength, a number of organizational difficulties were identified, which together seemed to account for the present problem: difficulties in achieving product and process innovations. First, we found that there were a number of serious difficulties in achieving integration among the groups involved. Particularly problematic were the relationships between the applied and fundamental research groups and between these groups and the sales group. An integrating group which also did development work existed in this organization. Instead of achieving close collaboration with the sales and research groups (which had been management's aim in establishing it), the integrating group had serious integration difficulties with these other units.

3 P. R. Lawrence and J. W. Lorsch, *Organization and Environment: Managing Differentiation and Integration*, Division of Research, Harvard Business School, Boston, 1967. (See especially the "Methodology Appendix," pp. 247-268.)

Closely related to these integration problems were a number of difficulties in the manner in which conflict was handled. First, we found that while the members of the integrating department had higher influence than members of the other groups (as they should), this influence was not based primarily on their perceived competence and knowledge; instead, it seemed to derive largely from their position and their control of a number of scarce resources. This meant that members of the other groups often saw the integrators' efforts in taking the lead to resolve conflict as illegitimate and arbitrary. Related to this, we found that the members of the integrating groups did not have the balanced set of orientations which was necessary for them to be effective. Instead of balancing long- and short-range concerns, and market, research, and techno-economic concerns, they were highly oriented toward short-run market problems. This also contributed to their inability to work effectively in resolving conflict. A third problem in the conflict-management area pertained to all organization members. They reported that they were doing less confronting and more smoothing of conflict than seemed desirable.

All of these issues we identified largely through the quantitative measures developed from the questionnaire, although they were all corroborated by the interview data. Another related issue was identified exclusively from the interviews: This organization had established, in addition to the integrating department, a number of cross-functional teams as integrating mechanisms. These teams had been established at three separate levels of the organization. From interviewing the organization members, we learned that there were no clear expectations about what each level of these teams was supposed to do to achieve integration. Members of the teams were confused about what was expected of them and about how the teams were intended to accomplish better integration. Thus, we had developed a description of the organization which indicated that appropriate integrating devices existed but that they were not effective in achieving integration because of ineffective conflict-management practices and confusion about the roles of various teams.

With this information in hand, we arranged a feedback session with the general manager and the four top functional managers. Although a full day and evening session was devoted to this, the initial data presentation, which was organized around the differentiation-and-integration framework, required only a few hours. The balance of the time was spent discussing the data and working through their implications. To emphasize the relationship between these organizational factors and economic performance, we presented comparative organizational data for a highly effective organization, in the same parent corporation and in the same industry

which we had studied, whose states and processes met the environmental demands almost perfectly. Our client firm's managers were familiar with the operation of the other organization and knew of its enviable economic performance. As a result they were able to accept more easily the connection between organizational factors and economic performance. This provided them with one strong incentive to admit the need for change. It also provided a clear model of the goals to aim for in their organizational-development effort.

While we were in the fortunate position of having this comparative data, such data is obviously not always available. Nevertheless, even without this type of data, the type of analysis described above, determining what an organization needs to do to manage the uncertainty in its environment, provides both a target for organizational change and an understanding of the need for the change. We have done this on several occasions and accomplished much the same result as we did here with the comparative data—an understanding of the need for organizational improvement and what improvement would entail.

It would be misleading to suggest, however, even in the example we are discussing, that the top managers all accepted immediately and without reservation the need for and direction of organizational change. There were over eight hours of discussion with us on the validity and meaning of the data presented. Subsequently, the managers discussed these same issues with each other. But by the end of the first day's session, these managers had made several important steps toward development of their organization at the group-to-group interface. First they had become familiar with and accepted to a great extent our conceptual framework for thinking about these problems. Second, they had begun to develop among themselves a set of shared expectations that organizational improvement was possible and necessary. And they developed the beginnings of a consensus about the direction such change should take. Specifically, by the end of the first session this group of five managers was committed to devoting time from their already busy schedules to organizational development. They also decided on the format of a second feedback session with their key subordinates.

As part of this second session we suggested a simulation exercise which was designed to give the participants a "here and now" exposure to dealing with conflict. While part of the first session had been devoted to examining the interpersonal processes these five managers used to resolve conflict, the organizational issues facing them were so gripping that these managers found it difficult to examine their own process. With a larger

group of sixteen managers planned for the second session, we felt this type of "processing" would be even more difficult. Yet given the fact that these managers were not confronting conflict, we wanted to use these sessions to encourage more confronting behavior. We, therefore, proposed this simulation exercise. Since it was a business game involving the selection of new research and development projects, it was a particularly appropriate exercise for this group.

We kicked off the second session, which began at noon on one day and went through a full second day, by presenting the comparative data from our diagnostic study. A discussion of the meaning of the data and its implications ensued. During this phase of the meeting the top managers, who were at the first session, became actively involved in supporting the results of the study and in clarifying the meaning of the data. To us, this indicated that they were beginning to feel that they "owned" the data and had some responsibility for seeing that action to improve the organization at this interface was taken. Following this discussion of the diagnostic study on the first half day and evening, the second day was devoted to the simulation and a discussion of how that experience related to the study data.

Perhaps the most important result of this session was that the top two echelons of management had come to understand the data and were to some degree committed to planning action steps to remedy their organizational problems. Specifically, they made several decisions. First, they asked that the data be presented to all the other organization members. Along with this we agreed to develop a training intervention which would demonstrate to other organization members how their different viewpoints created integration problems. Second, as a result of the simulation exercise they realized that they had no clearly understood set of criteria to use for reaching decisions on research and development expenditures. This made it extremely difficult to confront conflicts around these important issues, since various parties to a dispute were playing the decision-making game with different sets of rules. To rectify this difficulty, they arranged for skill training for the group in economic analysis and subsequently developed a new procedure for reviewing and evaluating research and development proposals.

Two subsequent feedback sessions were held for other organization members. Each of these sessions, which lasted a day and a half, had in attendance representatives from all the functional groups. Again, we presented the data and provided time for discussion of it. After this we introduced an educational intervention which we labelled a "Differentia-

tion Laboratory" because its purpose was to help the participants understand and appreciate the differences in their outlook. The design of this laboratory consisted of dividing the participants into groups of four—one representative from each functional group. Members of each functional group were asked to talk about what was important in accomplishing their job and what satisfaction they derived from their work. They also were asked to discuss what other functional groups did to block accomplishing their objectives. When these subgroups reconvened into a general session, a lively discussion developed in which the participants worked problems between functional groups and developed a clearer understanding of their misperceptions and stereotypes of each other and how these inhibited communication and conflict resolution.

These four sessions, in essence, represented the action planning and implementation phases of this organizational-development effort. These two phases completely overlapped. We initially designed feedback and training interventions for top management and applied them. As a result, we and these managers designed the other educational interventions described. The managers, on their own, took other action steps. We became aware of the extent to which the managers had actually gone to work on these problems about a year after the last of these feedback sessions. At this time, it seemed useful to make an appraisal of what had and had not been accomplished as a result of this program. The management of the organization readily agreed and a colleague of ours, who had not been involved in the program, interviewed members of the organization.

The managers and scientists were generally enthusiastic about what the program had accomplished. They reported that as a result of the program they had developed a more concerted effort to coordinate all of their research activity. More top management time was consciously being devoted to this activity. They were also using a new set of decision criteria to evaluate research and development projects. This was a direct result of this effort and according to them had facilitated the resolution of conflict. As a result, they felt they were doing a more effective job of planning new product innovations. Members of the cross-functional teams which were conducting this effort reported that the program had stimulated a series of discussions within and among teams about their role. They now saw more clearly the role of the various teams and how they all could contribute to their objectives. Finally, the members of the integrating group indicated they were devoting more time to working with other functional groups, enabling research to get a unified new product effort. According to

organization members, all of this added up to improved organizational integration without sacrificing differentiation.

The reader may wonder how a diagnostic study and four relatively short feedback discussions could accomplish so much. The answer to this can best be understood by reviewing at a more general level what managers report they have gained from this approach to organizational development. At the same time, we will attempt to explain in systems terms what transpired as a result of these interventions, for the overriding concept which has influenced our intervention strategy is that organizations are systems.

We have already dwelt at some length on one implication of this systematic view of organizations—that each organizational improvement effort must be tailored for the requirements of the organization's environment. The second derivation from this view of organizations is that organizational systems are morphogenic and have the capacity to change and develop their structures. We should emphasize again that we are not implying that the organization as an inanimate object accomplishes this. It is, instead, the changing expectations and behavior of individuals which underlies this morphogenic process. Thus, to change the organization, we must change the perceptions and attitudes of organizational members about what is expected of them. This is the primary objective which guides our action planning and implementation in programs such as the one described.

In this particular situation (and in others like it) certain top managers had realized they had a problem. They recognized that there was a significant discrepancy between the desired goals and actual results. To bring about meaningful and lasting organizational changes, we had to accomplish several things. First, it was necessary to help these managers develop a clearer view of their problem and the steps necessary to improve the functioning of the organization. Second, it was necessary to get them committed to taking such action. The diagnostic study and initial feedback sessions provided the vehicle for accomplishing both. As a result of this exposure, the managers later reported that they had obtained a clearer cognitive understanding of their problem and its multiple causes. They had acquired a new set of intellectual tools for thinking about their problem. From their discussions and our interventions they were able to see some action possibilities which could lead to the change goal. The top managers saw data about their own organization which largely matched their intuitive feeling about what was happening; and it was organized conceptually so that they could accept and understand it. As a result,

these five top managers became committed to planning and taking action. When they asked for help, they were predisposed to do something, but the diagnostic study and feedback provided a framework and information which they could use to build a shared definition of the problem and the actions required.

Having created a climate for change and at least a broad action plan at the top organizational echelon, we next had to help these top managers transmit to the rest of the organization their expectations that change in certain directions was necessary. This was done through the subsequent feedback session and educational interventions. While the top managers could have stood on a soap box and preached to their subordinates about the need for new behavior patterns, they recognized that the diagnostic study data spoke far more eloquently than they could. This data was a new input of information to the rest of the organizational system that there was a need for changes in certain directions. Like the top managers, other members of the organization later reported that this was precisely what the data feedback accomplished. They said it provided each of them with an understanding of the problems in the organization and their own part in them. The two educational interventions—the simulation of decision-making and the differentiation laboratory—also contributed to creating more understanding of how various individuals were part of the total problem. As they later said, “these sessions provided a mirror to see ourselves.” Consequently, there was a general feeling that many individuals had actually altered their behavior. They consciously worked at confronting conflict and at trying to understand the source and meaning of different orientations and outlooks concerning the various functional groups.

Thus, our approach unleashed the potential of the organization to develop new behavior patterns which were consistent with environmental demands, simply by spreading information about the problem behaviors and a more desirable set of behaviors throughout the system. But our approach also encouraged these managers, with this new set of expectations, to make certain formal changes in procedures and task assignments which reinforced the desired behavior pattern. Clear signals were given to members of the integrating group that they should devote more of their time to coordinating long-term research affairs. New decision procedures were developed for handling research projects, which clarified all parties' expectations about how such decisions were to be made. Confrontation was therefore made easier. Action taking of this sort points to another consequence of viewing organizations as systems. This is the fact that

expectations and behavior are influenced not only by the predispositions of individuals and the nature of the task but also by formal organizational practices. In this case, only a few of these procedures and assignments were altered. In other situations, more work may be required on these variables. For example, in the Corrugated Container example cited earlier, management became involved in a major redefinition of the role of regional managers and local managers and also changed the formal reward system to emphasize profit performance at the local level.

To summarize, our view of the organizational-development process at this interface is influenced in three ways by the fact that organizations are systems:

1. The objectives of each organizational-development effort, and the action steps, must be tailored to meet the requirements of the organization's environment and the current state of the organization.
2. We view organizational change as the process of changing behavior throughout the system by providing information about the need for change and the required direction of change. This alters the set of expectations held by organization members and motivates them to adopt new behavior patterns.
3. Organizational-development involves operating on all variables influencing behavior—the predispositions of individuals, the nature of the task, and the formal organizational practices. These variables, plus educational intervention, can alter members' expectations and their behavior.

This view contrasts in several ways with that held by others involved in organizational-development work. In concluding this discussion, it is useful to briefly mention some of these contrasts.

ORGANIZATION DEVELOPMENT AT THE GROUP-TO-GROUP INTERFACE: A CONTRASTING VIEW

In our discussion of organizational development at this interface, we have focused entirely on the relationship between functional groups. However, it is worth noting that this group-to-group interface also can consist of relations between headquarters and field groups, between newly acquired divisions and established divisions, between unions and management, etc. We mention this because, along with other organizational development

practitioners, we have also done work on these sorts of relationships. While we do not wish to discuss these here, it should be emphasized that we see the differentiation-and-integration model, and the systematic approach of which it is part, as being fully consistent with efforts to work on these other relationships. Thus, the contrast between our approach and other organizational-development approaches is based not on the settings but rather on differences in emphasis and conceptual tools.

The first of these contrasts in the fact that we have used the systemic differentiation-and-integration model. This approach causes us to develop a particular action-planning and implementation approach for each new setting and to put heavy emphasis on diagnosis. Others who have done organizational-development work at this interface have used more universal approaches and have been less concerned with diagnosis.⁴

In essence, they argue that all organizations need certain characteristics at this interface. Simply stated, these include the development of trust and understanding between groups and the confrontation of conflict. We do not argue that emphasizing these objectives in all cases is wrong. In fact, our model also leads us to see confrontation of conflict as necessary. Where we differ from these other practitioners is in placing emphasis on the requirement for other conflict-management variables which are contingent on environmental demands; on the required state of differentiation; and also on the design of appropriate structural devices for achieving integration. Thus we agree with these other approaches as far as they go, but we feel that a more complete examination of organizations as systems would lead other practitioners to a concern for these other factors in defining the goals of organizational-development efforts.

Since these other organizational development specialists are concerned with this particular set of objectives, it is not surprising that they focus on educational interventions which emphasize face-to-face group process and interpersonal skill. We recognize these as important, but again would go further. From our point of view, such educational approaches are only part of the tools available to bring about organizational development. We have used them in our work such as that described above, but we have also used diagnostic data and have encouraged managers to use other means to alter expectations and behavior (i.e.,

4 See, for example: R. Likert, *The Human Organization*. New York: McGraw-Hill, 1967; R. R. Blake and J. S. Mouton, *The Managerial Grid*. Houston: Gulf Publishing Co., 1964; and C. Argyris, *Interpersonal Competency and Organizational Effectiveness*. Homewood: Richard D. Irwin, 1962.

formal organizational changes, redefinition of tasks, and other educational techniques).

Underlying all of these differences, then, is our view that organizations, as systems carrying out transactions with their environment, are complex and variable. To design organizational-development programs at this or any interface we must first understand both the present state of the organization and the desired goals for improvement. Others doing work in this field seem to recognize intellectually these systemic properties of organization, but, in practice, they put less emphasis on addressing them explicitly.

While these contrasts do exist between our approach and those of others involved in organizational development, it would be misleading to conclude that we are taking completely opposite approaches. For in one important respect there is an important convergence of approach. This is around the basic premise we all hold that an organizational-development program, to be effective at this interface, must gain the commitment and the involvement of the affected managers. They must feel that it is theirs. As outside consultants, we can serve only as catalyst to initiate and keep the effort going. We can suggest action approaches but cannot really take meaningful and lasting action without involving managers within the organization. As we approach an organizational-development project, we view ourselves as experts with certain tools—both diagnostic and action-taking; but our primary objective must be to get organization members involved in this process. Striking the proper balance of being sufficiently involved to get the commitment of organization members but not so involved as to dominate the process is a constant concern which faces all of us involved in developing the complex tools we call organizations. We shall have more to say about these issues in the final chapter, but first we want to turn to the application of our organizational-development approach to the interface between the individual and the organization.