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The Participative Design Workshop[1]

The second major form of learning environment we designed and evolved was the Participative Design Workshop. In its publicly recruited form, it was known as the Development of Human Resources Workshop (the DHR). As with Searching (Morley and Trist, Vol. II, "A Brief Introduction to the Emerys' Search Conferences"; Emery and Emery, III), the workshop allows of great flexibility. Participative design may be used discretely or as a phase of a Search to answer the question, "How do we organize ourselves to make sure it all happens?"

When people are accepting responsibility for learning, planning and orientating themselves about their own affairs, it is obvious that to implement and complete the task they will need, in most cases, to design or redesign a continuing form of organization that will also promote ideal-seeking behavior. If a bureaucratic organization is created, the incompatibility of such a structure with the recently experienced structure and process of the planning community will destroy the momentum of that work and recreate the conditions which the Search Conference attempted to change. Most existing organizations are structured according to Design Principle One. A Search Conference is structured on Design Principle Two. Therefore, those

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[1]Revised version of the original, <u>Participative Design: Work and Community Life</u>. Canberra: Centre for Continuing Education, Australian National University, 1974.

who are Searching need the conceptual tools with which to design an organization on Principle

Two. Here we discuss how we can design our organizations so that they meet human as well as

technical and economic requirements--how they become socio-technical organizations.

Bureaucratic structures and the systems of management associated with them have

been unable systematically to provide for the personal growth and development of their

members, in particular the large numbers at the base of the pyramid. To rectify the current

situation, which is still dominated by bureaucratic structures, large and small, we need

knowledge of (1) democratic structural alternatives; and (2) how effectively to introduce them.

There is no longer any real question as to whether these alternatives are workable.

Investigations began in the field of "work" and enabled social scientists to identify

a number of important determinants of job satisfaction. These factors are called "psychological

job requirements." Also clarified are the genotypical features of these alternatives as opposed to

the phenotypical characteristics. Phenotypical features of a bureaucratic structure would include

such factors as impersonal relations between officials, a functionally specialized division of labor

and the "paper war." These phenotypical features in some ways hide the deeper genotypes,

which are those characteristics that must be changed if an organization is to move from one

design principle to another. Unless people can perceive the genotypes behind the shifting,

graduated faces of phenotypes, they may constantly be in the position of tinkering without

changing the design principle. This is the fundamental criticism leveled at sensitivity training

and "job enrichment," which may temporarily relieve the symptoms while the disease gallops

along.

The participative design workshop provides an environment for conceptual and

experiential learning about the genotypical features of the democratic organizational alternative.

For this learning to be as meaningful as possible it is necessary to include:

> • material about the genotype of bureaucratic structure;
>
> • an experience of democratic structure;
>
> • some experience of using tools and strategies for the introduction of such a
>
> democratic structure.

Design of the Development of a Human Resources Workshop

The final form of such a workshop is illustrated in Table 1.

As with Searching, the basic assumption is that the most adequate and effective designs come from those who do the jobs in question. It is only from people pooling their various--usually fragmented but always detailed--knowledge that a comprehensive and relatively stable design can come. It is only when the people involved work out their own designs that the necessary motivation, responsibility and commitment to effective implementation is present. The aims of the design are spelled out to the participants in the statement of psychological requirements, and they then proceed to

> • analyze how the job is now done;
>
> • assess how far this falls short of meeting the human requirements;
>
> • redesign for a better way of doing the job (if such is felt to be needed);
>
> • work out how the new design could be implemented through a participative
>
> learning process.

Table 1

Development of Human Resources Workshop

Step	Action
1.	Plenary, Final briefing, expectations, exploration of extended social field
2.	Small Groups Desirable futures Probable Futures
	Connections are made to democratic structure
3.	Plenary, Briefing on conceptual tools
4.	Mirror groups
	A + B redesign A, C + D redesign D
5.	Plenary presentations of designs
6.	Mirror groups
	A + B redesign B, C + D redesign D
7.	Plenary presentations
8.	Team groups and/or plenary. Future strategy and process

In Table 1, we have assumed that, following the negotiations and prebriefings described above, four natural teams are present, from one or more organizations or groups. The teams may be deep slices through the existing hierarchy of the organization or section. Given a small discrete or well-defined section or unit, say four to ten persons, it is best that everybody in that unit work together on the design. The size of the group may be increased by the desirable, if not necessary, inclusion of the union representative, first line supervisors and other management. Given a large unit, it is necessary to ask it to select an appropriate number of its members to become the design team for learning purposes. The "deep slice" is a strategic response whereby

knowledge held by each hierarchical level is contributed to system design. It is obviously not a

feasible alternative to have separate groups working on part solutions or aspects of a design.

Stages 1 and 2 follow the design of the Search Conference.

Stage 3 consists of a concise briefing, in everyday language, of the criteria by

which the quality of a job may be judged, relating this to the two basic forms of organizational

design, followed by a set of simple tools to analyze their current form of organization, which

provide clues to finding an effective democratic design.

At *Stage 4,* two teams coalesce into one group to analyze and redesign the

organization of one team's project. Teams are matched for maximum heterogeneity. This serves

two purposes. The first is that the greater the difference between the organizations of A and B,

the more closely B will have to question A if B are to gain sufficient information to help toward a

redesign. During this process it is inevitable that the B's must question A's hidden assumptions

about the necessity of some aspects of the status quo and thereby help A *unlearn*. The second

purpose reflects the need to recognize that the basic choice between organization design

principles is always present, regardless of the nature and purpose of the organization itself.

These groups work autonomously within the workshop structure, thus experiencing the

alternative they have come to explore.

Stage 5 is self-explanatory. Team B and Team D present reports on A's and C's

organizational redesign.

Stages 6 and 7 repeat the process, reversing the roles of A and B, and C and D.

Stage 8, the final session, picks up loose ends, points of future process and

strategy.

The Briefing--Conceptual Tools for Organizational Design

The most important thing to remember when delivering this briefing is that it will be most effective when it is simple, brief and visual. To save time in your presentation, have already prepared and mounted on the wall at least three large sheets of paper. The first should look something like the visual set out in Figure 1. You then speak about it in more or less detail and with various emphases depending on the membership. The following is designed primarily for places of paid employment. It can be adapted for families, communities, etc.

Figure 1
Visual for first set of concepts
Criteria for Satisfaction in Work

Should be optimal for the individual	1. Elbow room decision making 2. Learning -- (a) setting goals 　　　　　　　　 (b) getting feedback 3. Variety
Can't have too much	4. Mutual support and respect 5. Meaningfulness (a) socially useful 　　　　　　　　 (b) able to see relation 　　　　　　　　　　 of own contribution 　　　　　　　　　　 to overall product 6. Desirable future, not dead-end job

Score items 1-3 from -5 to +5
Score items 4-6 from 0 to 10

These are the six most important psychological criteria for job satisfaction. The first three concern the content of the job. Satisfaction with differing levels of these criteria will vary between individuals and within individuals over time.

• Adequate elbow room: the sense that they can make decisions and don't have some boss breathing down their necks. But too much autonomy can leave people

feeling lost.

• Chances of learning on the job and going on learning: such learning is possible

only when people are able to set goals that are reasonable challenges for them and

get feedback of results in time for them to correct their behavior.

• An optimal level of variety: people can vary the work to avoid boredom and

fatigue and gain advantages from settling into a satisfying rhythm of work.

The next three criteria relate to the climate or environment of the workplace.
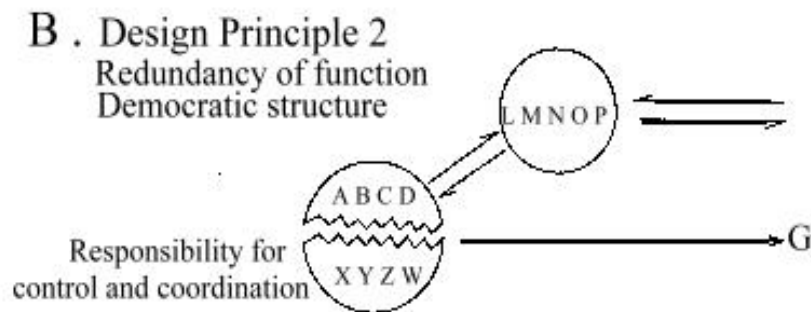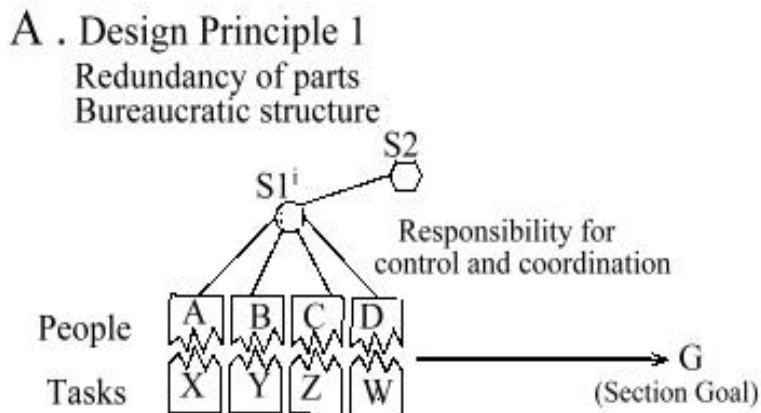
These aspects can always be improved.

• Getting help and respect from their workmates: this includes all forms of

support and tolerance of individuality.

• A sense of how one's activity contributes to bettering the overall social

condition, making or doing something essential for the welfare of others. Part (b)

is related to the satisfaction gained form seeing how your little bit is of

consequence to a larger scheme of things. (Assembly work has become so

fragmented that many workers do not know the final product to which they are

contributing.)

• A desirable future; not necessarily promotion, but not a dead-end job: hopefully

one that will continue to allow personal growth or some sort of career path.

These psychological requirements cannot be met by simply fiddling with

individual job specifications, using such means as job enlargement, job rotation, rest pauses or

humane supervisory contacts. If the nature of the work allows room for improvement, this will

be best achieved by locating responsibility, for control over effort and quality of personal work

and for interpersonal coordination, with the people who are actually doing the job. This is the

group solution. It is a structurally different arrangement of people, tasks and supervisor.

The second sheet is shown in Figure 2. Model A defines the dominant

bureaucratic form of organization also known as "scientific management."

Figure 2

Visual for second set of concepts, organizational genotypes

(Elements are defined in the text)

A . Design Principle 1
Redundancy of parts
Bureaucratic structure

B . Design Principle 2
Redundancy of function
Democratic structure

The building block for this type of organization is the one person/one shift unit. Controls might be sloppy or tight but the principle or genotype is the same. The organizational module is the supervisor and his or her section, with responsibility for control and coordination being jealously defended as the prerogative of the supervisor. The module can be indefinitely repeated upward to the managing director. It is based on the premise that human beings can be used as redundant parts. When individual tasks have been fragmented to the point where each of them demands almost no skill, unskilled workers are, in fact, simply slotted in and out as if they themselves <u>were</u> machines. The first level supervisors ($S1^i$, $S1^{ii}$ ...) control the relation between A and X, B and Y and coordinate all the individual tasks to ensure an adequate performance or product (G). A, B and C are denied responsibility for control and coordination. In this structure there is little opportunity for decision making, learning or variety. The tighter the job specifications, the more control the supervisor has over the subordinates.

But in this structure there will be an almost universal tendency to develop an "informal system"; one designed "to beat the system." A, B and C may, for instance, evolve their own rules and norms for production. Cliques will form around a common basis of trust such as race or religion whose purposes are not related to achieving either quantity or quality of production. They will institute alternative mechanisms of coordination that suit them personally. In a tightly run section where it is difficult for an informal system to take root, the structure will inherently foster a competitive atmosphere between A, B and C. Each of them will feed only that information to S which makes them look good relative to the others.

We can then begin to see why a redefinition of individual jobs has no real chance of changing things; why it is so much favored by some managements and arouses suspicions of

some unions. Enrichment of individual jobs usually entails switching bits of task X from A to B.

This can easily degenerate into "robbing Peter to pay Paul." This is, of course, very difficult to

do if Peter happens to be in a craft union.

Such manipulation leaves the communication pattern basically unchanged. If

person A, confronted with new circumstances, believes that he or she needs some help from

person B, he or she must still direct the request up to the supervisor who may or may not direct it

back down to B. Communications, both between workers and S1 and between cliques (A and B)

and (C and D), are characterized by the "them and us" phenomenon. They operate as a filter and

amplifier and are essentially error producing. Only the supervisor's interests relate to the overall

achievement of G (the section goal), and S1 has an S2 looking over his or her shoulder. The

"us's" will amplify what makes them look good, and they will hear as little of the downward

communication as suits them. S1 will be anxious to hear and remember what will sound good to

his or her supervisor, including excuses for malperformance. There can be little mutual support

and respect in such a situation.

The power structure is similarly unchanged. Regardless of any loosening up of

the system in easy times, or the appointment of a friendly, "human" supervisor, with the return of

crisis and the demands to tighten up the usual operation of managerial prerogatives will enable

the individual jobs to be screwed back to tight, specialized, supervisable performances that will

yield a guaranteeable performance level.

The alternative democratic organizational module has markedly different

potentials. The first and obvious feature is that it is not restricted to just redistributing jobs X, Y

and Z between A, B and C. Responsibility is handed back to A, B and C so that they may share

and allocate *among themselves* the requirements for control and coordination of their task-related

activities. They take responsibility for X, Y and Z plus all the task interdependencies, XY, XZ,

YZ, XYZ. The group must share the tasks of monitoring and controlling the contributions of its

own members and organizing their mutual support to cope with individual and task variations.

They are now all jointly responsible for the achievement of G. In this module individual "job

enrichment" is qualitatively different. Individuals can negotiate an optimal degree of variety and

autonomy for themselves and renegotiate it according to changing circumstances. As a desirable

flow ensues in the workplace, the individual is provided with a human scale organization, a work

"home" and "family" territory whereby people feel that they fit into the organization, no matter

how large it may be. It is now in all their interests to help each other and to begin to appreciate

individual differences. Because this structure is explicit and formally agreed, the quality of work

life cannot easily be degraded.

Communication and power within groups take on markedly different

characteristics. They are not basic variables of organizational design but secondary or derivative

characteristics of the underlying or genotypical structure. It is a waste of time teaching people to

"communicate" if they have to continue to communicate through a bureaucratic medium.

Changes in organizational design, therefore, affect the nature of communication

and power, but the reverse does not hold. Provided we have a group which has accepted

responsibility for a *group* task, then they will seek to make their life easier, or more productive

for their ends, by

> • communicating quickly, directly and openly the needs for coordination arising
>
> from task or individual variability;

• allocating tasks, rewards and punishments to control what they consider to be
fair contributions by members.

Such groups can get a sense of an overriding group responsibility only if they have
at least four members. With three it is too often unstable, simply a matter of interpersonal
relations--two against one. If the groups are kept to eight or under they are less prone to "group
emotional" behavior. Larger groups can be effective if they share a deep-rooted culture and if the
parts of the group task are highly interdependent.

These groups can be only "semiautonomous," or self-managing, not fully
autonomous as they often were in cottage industry. They may be using materials and equipment
which others own. In any medium to large organization, there are complex interdependencies
between sections or groups. The groups may also be working in conditions where others are
responsible for observing social legislation. Many circumstances indicate that varying degrees of
autonomy will be agreed to for different groups, starting with less and gaining more as taking
responsibility is learned and practiced. People cannot be expected to accept responsibility as a
group unless goals are explicit, realistic and challenging and they get feedback as a group. They
must feel that the membership and possible leadership of their group are to some degree under
their control. Group integration and sharing will be low unless there is sufficient multiskilling to
allow flexible allocation of work within the group. Steps toward setting up self-managing groups
require more explication of goals, methods and responsibilities than is usual. This is essential for
learning and democratic control.

A modified form. The democratic group implies that a fair degree of multiskilling
is possible, and hence that people can make real decisions about helping each other or swapping

jobs. However, there are important areas of work where multiskilling is not feasible because of the training time involved in special skills and knowledge. Each highly skilled person has his or her own special contribution to make and, while the overall success of a project depends on the effective coordination of their activities, we cannot expect to achieve this by each person becoming expert in all areas. The management of enterprises confront the same dilemma.

Beneath the managing director are usually functional managers for such things as production, finance, marketing, R & D, personnel and administration. They are typically chosen for their expertise, and it is not expected that the production manager will be as good at financial matters as the finance manager. They, in turn, expect to be judged and rewarded for their expertise in their function.

Organized bureaucratically, these work sections show the same shortcomings as are described above. Concern about this has been manifested in the rash of efforts at "matrix" and "project" organizations for R & D work and "team building" for management. A more prosaic but effective solution uses the same principle of locating responsibility for coordination clearly and firmly with those whose efforts require coordination.
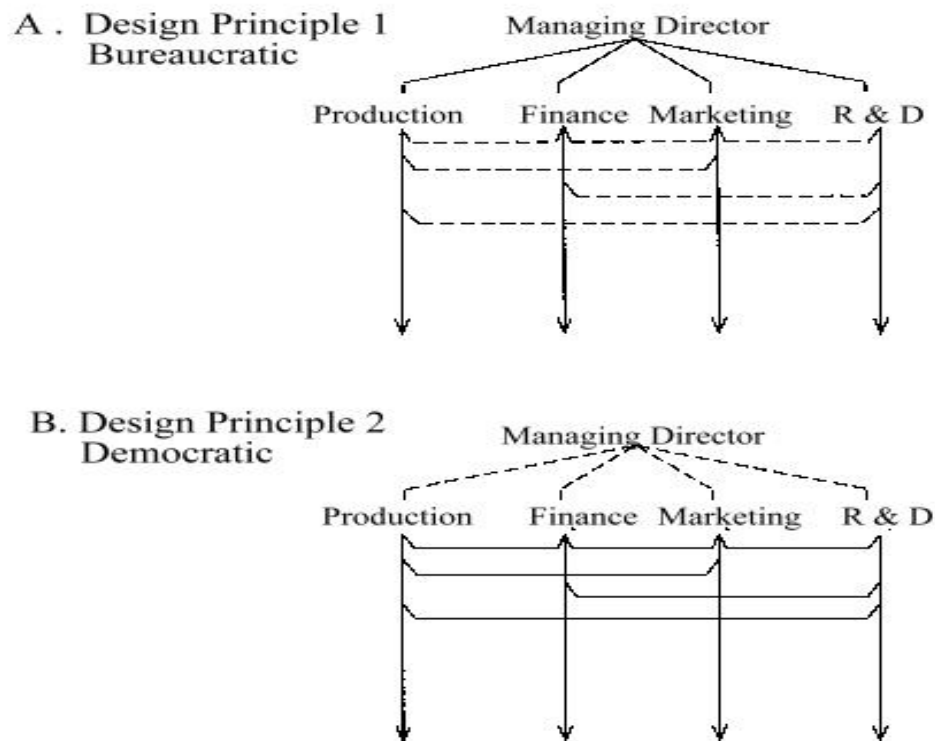
A management example is given in Figure 3. In the bureaucratic state (A) the dynamics of competition are identical with those discussed with respect to (A) in Figure 2.

In the team concept (B) the functional manager is judged and rewarded, or punished, as much for his or her effective coordination as for his or her ability to propose and implement policies in that division of the organization. If an unresolved conflict arises between the managers, the managing director must sort out whether it is because one or more of them are incapable of, or unwilling to find, a suitable compromise or whether the framework of policy

Figure 3

Visual for third set of concepts
modified where multiskilling is not feasible

(Elements are defined in the text)

A . Design Principle 1
   Bureaucratic

Managing Director

Production   Finance Marketing   R & D

B. Design Principle 2
   Democratic

Managing Director

Production   Finance Marketing   R & D

that he or she is responsible for is inadequate. In the first case, he or she must decide on some

reeducation or redeployment; in the second, he or she must move from the normal operating

mode where he or she is relatively free from ongoing intra-organizational commitments, into a

policy-forming or Search mode. The managing director and managers as a group need remain in

the mode only long enough to create an adequate framework of operating policies.

Respecifying job responsibilities in line with (B) would seem to be a simple

matter. In fact, it seems from experience that only time and a few unpleasant but exemplary

experiences are needed before the changed nature of team responsibilities is grasped.

A final point should be made about this modified design. This concerns the emergence of leadership. The bureaucratic system (A) makes it very difficult to identify a potential leader because people are paid for putting their best efforts into their specialties. In a genuine team structure (B) it is relatively easier to see who is best capable of grasping and using constructively the concept of supra-individual goals. It is the ability to work in this way that would indicate a potential for overall leadership.

There is one other concept which is of use in the participative design of organizations. It is the concept of the "jury system" as a replacement for representative forms of coordination in large organizations or systems. It has, however, not yet become an integral part of this initial briefing phase of a design workshop, although it could become one. It is considered under the heading of *strategy*.

Operational tools. The use of these analytical tools will help teams obtain a profile of the current structure and function.

Following the conceptual briefing, time should be available to introduce three ways in which the concepts are converted into practical tools.

1.First show the team how to convert the six criteria into a table, which *through discussion* they will fill in and then analyze. An example of such a table is given in Table 2.

Individual names may replace the classifications across the top. Remember that criteria 1-3 are scored from -5 to +5 (too little or too much) so that 0 indicates

about right; and criteria 4-6 are scored from 0 to 10, indicating none to extremely

good. While a psychometrician would berate this process as subjective and

unscientific, it has substantial power to promote better understanding of persons,

tasks and interdependencies. Once the table is complete it is immediately obvious

where the organizational structure is causing particular problems.

2. Once this analysis is completed to the group's satisfaction, they should begin to

look at how the work flows through the section to gain an appreciation of

interdependencies, imbalance and size of total task.

Within this analysis, tasks should be assessed in terms of training or skilling

requirements, and any natural breaks in the process or flow should be noted in

case the section should need to be divided into more than one self-managing

group. The group often finds it useful to set up a skilling table such as that shown

in Table 2 to help assess future training needs if mulltiskilling is not currently

adequate to allow self-managing group function.

In the example given in Table 3 it is obvious that Alice and Jenny would be

unable to replace any others in an emergency, or to rotate to gain job variety. Also

skills K and M can only be handled by two individuals which may inhibit

flexibility. Although it is rarely essential that there be complete mulltiskilling in a

group, there should be sufficient flexibility built into it to cope with absentees and

the extremes of fluctuation in work load at any stage of the work flow.

Requirements and priorities for on the job learning and external training will be

obvious.

3. Using the visual models presented in the briefing, the team should also attempt

to draw up the organizational structure of their workplace as it exists at the

moment. This can be one of the most educative tasks for any organization. Some

discover that the complexity of reporting lines is beyond their power legibly to

convey on paper; others discover that there is almost nothing to draw--laissez-

faire.

Table 2

Example of First Stage Analysis (by class of job or skill grouping)

	Typist	File clerk	Receptionist	Accountant etc
1. Decision making	- 2	- 4	3	5
2. Variety	- 4	- 5	0	2
3. Learning	- 2	- 3	1	4
4. Mutual support				
And respect	3	3	1	0
5. Meaningfulness	3	1	5	7
6. Desirable future	4	2	2	9

Table 3

Skills req'd for group task

Individual	J	K	L	M	No. of Skills
Mary	X		X		2
Jim	X	X	X		3
John	X			X	2
Alice	X				1
Joe	X	X	X	X	4
Jenny	X				1
Number with Skill	6	2	3	2	

These three essentially simple tools taken together convey an immense amount of information and can pinpoint areas of weakness to be addressed specifically in a first draft redesign along democratic lines, incorporating all the necessary and unique aspects of their circumstances.

Participative Design Other than in DHR Workshops

Many more organizations have been through this process than could be accommodated within a diverse multiteam learning environment. Examples range from two or more teams from different parts of an enterprise working in a modified DHR structure, mirroring each other, to a single team or the whole of a small organization redesigning themselves. Every sort of contingency seems to have been found and accommodated.

Time spans of design work have varied widely, for example, with work being carried out whenever the organization could afford it. Half a day has been found to be sufficient to get the process well under way.

Membership patterns have also varied according to circumstance but, where the organization is larger than a single natural group or demands a hierarchy of objectives, the deep slice plus design for lateral coordination is essential.

In the on-the-job setting it is virtually impossible, particularly when meeting times are at intervals rather than intensive, to separate stages of learning, design and/or implementation. Evolution will begin in practical terms after the first meeting and will continue hand-in-hand with analysis and formal design. In this sense, the process becomes closer to that of a well established democratic organization where day-to-day operation, technical change, coordination and planning are all in a state of constant but orderly flux. As has been described of a Searching community, the process is erratic to a linear mind; ideas and practices will be tried, dropped and recycled with or without variation. Apparently small or trivial adjustments or changes may later be seen to have consequences unpredicted at the time. All this is part and parcel of the very substantial commitment to change of people who are involved at the level of the system.

In cases where a group, or a whole small organization, is attempting redesign, the managers of the learning environment must to some extent take on the role of the mirror groups in the DHR workshop. That is, they must at least spend enough time with the group to get them seriously to question their cultural and organizational assumptions before they begin to redesign. Otherwise, some at least of the conventional "wisdoms" about how things must be done--"in this

industry," "with our people," etc.--will be carried over to the new design. These understandings

might be totally justified, in which case discussion will serve to build confidence. But those

which prove to be unjustifiable are best exposed and replaced. In this context the managers play

all of the roles of manager, mirror group and expert consultant. Where to put the emphasis will,

at any one moment, be a question of judgment using the primary criteria of which perspective

will contribute most to the long term learning of the group.

Instances where participative design needs no more than a brief introduction to the

structural alternatives, as sometimes happens toward the end of a Search, should always be

concluded by giving a more adequate opportunity for exploration. Should people wish to take

the process further, it is best that they be aware of what it entails.

Those Searches which have been planned to include sufficient time for an

adequate experiential introduction to organizational design have proved particularly successful.

The Search has set the context, the climate and the motivation for asking, "How do we organize

ourselves to achieve these purposes?" At this stage the community has become a self-managing

learning environment in its own right, and its members will pick up and use new concepts

rapidly, adapting them to their own circumstances.

Participative design workshops can also be part of any smorgasbord or cafeteria

type conference for people who have come simply to shop around for ideas. Workshops, in

distinction to a Search, are sufficiently self-contained to serve this type of learning purpose.

Groups of strangers can be formed within such a format with the first task of sharing experience

of their organizations. From this discussion they choose one theme for analysis and subsequent

redesign. This can be in no way more than an introduction but, as stated above, as long as there

is some experiential manipulation of the concepts, a two- to three-hour session can lay the

groundwork for further learning and diffusion.

The question of continuing support from the management team is usually raised at

some point. We have always assured support in the form of further workshops or interventions

during implementation but stress that any such support is entirely dependent upon invitation.

Need for continued support has ranged from zero to quite intensive follow-up. Implementation

has sometimes flowed so smoothly that after some time without contact we have assumed that

nothing ever eventuated. At times Murphy's law appears to operate, and in these cases much

fundamental groundwork must often be laid, or re-laid. One of the temptations for a group

returning from a participative redesign workshop is to become so enamored of their solution that

they attempt to impose it on others rather than repeat the participative learning process itself.

This is a very real danger and the point cannot be overemphasized in the final strategy session.

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