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Adaptive Systems for Our Future Governance[1]

There are two paths which we can take in our basic social designs. I am concerned only with that which bases itself upon the multiple capabilities of the human being. I am not concerned with improving on designs that start from assuming that the individual is a redundant part--a cog. We have shown in our work that efficient large-scale production does not necessitate that people be designed into the systems as readily disposable parts (Emery and Thorsrud, 1975). Similarly, I think it has been demonstrated that mass education does not have to proceed on that assumption (Williams, 1975). More than that, the practical demonstrations have shown that productive systems and learning systems are far more efficient when they are designed to utilize the multiple capabilities of workers and students.

In the process of making these practical demonstrations over the past two decades we were, in effect, demonstrating that *participative* democracy could become a reality, even in the hostile autocratic climate of industry. This would appear to be so regardless of technology; there appears to be no form of work requiring the coordination and control of human effort that could not be better done by creating some degree of self-management. After many years of experience it became clear to us that this was true also of management work and the work of research and development teams.

But all of that is, to my mind as a scientist, just about past history. The basic theoretical problems of democratizing work have been confronted and have been solved. The problem I now wish to direct myself to, in honor of the cause for which Rafi Ahmad Kidwai worked himself to death, is how can the ideas that successfully led to participative democracy in the workplace be projected in the higher and more remote areas of management and

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government to replace, or at least supplement, the Westminster model of elected representatives?

It was one thing to have demonstrated what can be done in the workplace, at the coalface, bench, desk and drafting table. At that level it was possible to allocate responsibility to groups that were small enough to participate in helping each other to manage their tasks. How, however, does an operator or even a middle manager participate in the decisions that affect him when 5,000 others in the organization are similarly affected? How does a citizen in a town of only 100,000 participate? How does a citizen of a nation of even three million participate meaningfully in national decisions on things like economic policy or defence? One has only to pose the problem in these terms to see the apparently insuperable difficulties.

A large number of pre-modern societies based on small self-sufficient communities have used participative forms of democracy. However, even meetings in the village place or town square have their marked limitations--to be easily swayed by orators, by rabble-rousers and by unscrupulous chairmen; too little time to allow more than a few to speak; too little "round table" discussion to explore differences or test out whether agreements are based on common understandings; too little preparatory work by most to permit effective participation; too little shared knowledge to permit complex and technical matters to be discussed.

The difficulties in the large and complex modern societies are so great at first sight that only last year, when I confronted the problem, I felt compelled to conclude that "it is not possible to democratize those arrangements (of social power) in any form of (modern) society of which we know" (Emery and Emery, 1975:172). The best I thought that might come to pass was "that they (the power-holders) so arrange their exercise of power that it is consonant with a democratized society. (p.172)

It would seem the crassest form of hubris for one to tackle this problem with any expectation of success. I will, nevertheless, make the effort because

- I think it is a hurdle we must sometime, some place, succeed in jumping or else our hopes of adaptive large-scale human societies are foredoomed;

- new ways of effective participation have been evolving (and I am *not* referring to telecommunications technology); and

- I do not set myself that target of succeeding. I set my sights much lower, namely, to convince others that, if they also try, one day this service for mankind will be successfully performed.

If the problem is so difficult why do we not just settle for using representative democracy to cope with the extended forms of social cooperation and control? After all, when we set course to devise participative forms of industrial democracy in Norway in the early 1960s, we accepted the possibility that they could put flesh and blood on the formal representative schemes, such as Works Councils, and thus enable them to function fruitfully (Emery and Thorsrud, 1969:97). Participative democracy was subsequently brought into many work places but the representative structures did not come to life. Worse than that, when a new labor law in Norway (1973) required elections for Works Councils, the workers in the already democratized plants showed a very significant lack of interest.

I think we have to look below the surface similarities of representative and participative democracy. The system characteristics of representative democracies are not quite what we have been led to believe by the so-called Westminster tradition. First, at the interface of politician and electorate, everything possible will be done to turn it into a "safe seat," a "blue-ribbon electorate." This means actively working to create a captive and non-participative electorate, one that does not pressurize the representative about the changing requirements of their community. Second, the interface with the executive apparatus of the state, or city, will be as

tightly centralized by the politicians as is possible. Thus, even the majority of elected politicians must be non-participants in the work of Government. Third, the tiny minority of representatives who become Ministers, or the equivalent at the local government levels, find that they must accommodate to other sources of social power--sources of power that do not operate via the electoral machine.

In defining these characteristics of this system, I have drawn on experience with representative democratic systems at the social level, i.e., community, region and nation. When the forms of representative democracy are brought into organizations there is one pervasive difference--the owners and managers retain prerogatives of power that are equivalent to those retained by monarchs and lords in the early days of the Westminster model. Those were the days before the "cabinet" system become so prominent. And so we find it with the representative forms of industrial democracy: the first and third characteristics are clearly displayed but the second is in an embryonic form. There has not yet evolved a cabinet system whereby some are elected from amongst the workers' representatives to exercise on their behalf the power they collectively represent. Instead, we find individuals trying to curry favor so as to appear more influential with the bosses. It does seem to me that representative systems of democracy in society and in industry are all members of the same class of systems. They differ in maturity and power but they have the same inherent dynamics. In effect, they are systems that inherently act to minimize participation. In fact, one might say they thrive on the apathy and anomie of the great majority. However, they induce many who have social power without standing for elections to engage in the fine art of politicking to "fix" which minority of politicians will exercise the decision-making functions, and about what. This lobbying is admittedly a form of participation but it has more to do with corruption of the body politic than with democratic ideals.

These tendencies of representative systems to generate mass apathy, elitism and corruption are my reasons for believing that we cannot

stop what we are already doing with democratization of work. In some way or another we must find a way to redesign our larger-scale systems of government so that they are truly based on the multiple capabilities of all the people. Only thus will these systems be adaptive enough to cope with the social turbulence we face.

Before suggesting some new adaptive designs, let me first point out that the problem is not quite as insuperable as it originally seemed to me. Elsewhere (Emery and Emery, 1975) I have shown that replacing a bureaucratic structure in a large organization with self-managing groups at the grassroots reduces the amount of up-and-down communication by about *90* percent. More than that, the them-us context of communication in a bureaucracy distorts all communication and stimulates the insatiable need for ever more communication. This distortion of communication is transformed. The very emergence of self-managing groups defines an area of common interests and a context of "we-ness" which encourages open and truthful communication. More mutual understanding between managers and workers is achieved with a mere fraction of the old amounts of talking and formal reporting.

I have been talking here about effective communication in large *organizations*. Whether a similar change would take place with a grassroots transformation of an extended aggregate, like a city or a sector of industry, has not, to my knowledge, been demonstrated. I suspect it would. In fact, I find it hard to even imagine anything that contributes less to mutual understanding in a community than the current vast expenditure on one-way communications to the masses via television. Let us now take a close look, in turn, at the possibilities for new participative forms for the management of very large enterprises and for the governing of large populations. Remember that we are looking only for points where a start may be made; we are not expecting any final theoretical solutions.

Alternatives to Management Arising from the

Grassroots Participation of the Workers

Let me sum up the situation, as I see it, in three points:

1. When workplace self-management is established, we find that the Managing Director works much more on serving the whole range of concerns of the board, not just internal management and the immediate interfaces with customers, suppliers, regulators and others. He lets his management team look after a great many of the matters of internal management that were formerly centered in his role; that is, he coordinates and controls their efforts so that the operating teams know what is being asked of them and are supplied with what they need to get on with the pursuit of those objectives.

2. I do not think that our experience with democratization of the workplace has suggested that anyone could be in management unless he or she has a proven capability to carry the managerial responsibilities, or has been selected because judged to be able to learn to do so. There seems to be no role for a workers' representative as a departmental or divisional head. This is because there are still many areas of difficult decision-making for which experience in the workplace is not an adequate training. Something like management training is required, because the need for managers is still there in all the larger organizations.

3. What meaning can participative democracy have at this level? I think that participation in management has at least three necessary features:

(a) that the work of the managerial employees be itself democratized;

(b) that the interface of management with the work-teams be participative. Therefore, the translation of management objectives into team objectives and of team performance into release of more company resources needs to be conducted at regular and frequent meetings of a "core group" of workers and management (Emery and Thorsrud, 1975).

(c) that the interface between management and the board be transformed by

(i) clearly defining their shared values by a statement of

organizational purposes and philosophy--one that recognizes the principle of trusteeship ((Hill, 1971); and

(ii) conscious efforts to ensure that the mental models of the organization and its environment held by management and the board be more closely matched, although in the first instance those models should be arrived at as *independently* as possible.

Alternatives to the Company Board

I do not think that the functions of the board are best served by increasing management participation on the board. That sort of participation, even though it is democratic in form, threatens too many other wider and longer-term social interests. I see no viable alternatives to the company board, and that applies equally to private and nationalized enterprises (Emery and Thorsrud, 1969). No other body can perform the function that they serve, i.e., overseeing the allocation of generalized capital to particular investments so as to maximize the growth of that capital.

A board is hindered in serving this function if it includes *representatives* of outside parties, be they customers' representatives, workers' representatives, representatives of regulatory bodies or the like. All such representatives will be biased toward their own special interest regardless of the overall company picture. Negotiating about such special interests must be postponed until there is at least some overall picture arrived at by the board.

Then what does participative democracy mean at this level: I can see four steps that will at least help a board to keep the exercise of its power "consonant with a democratized society:"

- The board explicitly recognize the essentially social character of the resources they use. If they can induce their shareholders to accept this proposition, they are in a position to instruct their

management to make their decisions in this socially responsible way.

- The board produces an explicit statement for their management of the philosophy that must be observed in the management of human resources.

- The board works with the appropriate regional and industry sector organizations to determine in more concrete ways the objectives they can and should pursue in the society.

- The board itself works as a group having joint responsibility for all its actions--not each acting as if he had his own private domain.

Now let us review what has been spelt out as the necessary limitations on participative democracy. The model presented leaves us with three different levels of function--board, management and operators. The boundaries between these functions should not stay where they are now, but it does seem that in large organizations these functions are at any one time best performed by different people. It also seems that these functions would not be better carried out if those responsible for policy-making had to be joined in the first stage of their work by representatives of those who would be subsequently influenced by their decisions.

What I am saying is that if someone is an operator, even a very good one, this is not evidence that that person could act as a good manager; being a very good manager is not in itself evidence that that person is what a board is looking for as a member. The reverse also holds--being good at management is no qualification for an operator's job.

Do the reservations I have spelt out about management and the board mean that participative democracy in large-scale organizations is a lame

duck; won't fly far or high; or that representative democracy is a dead duck? I think not. But, if there is to be participation it must mean something other than being personally present at all decision-making or always being represented by an elected peer.

With the introduction of semi-autonomous groups the operators have effective *organizational power* and hence the relations between the three parties need not take the *hierarchical* form that is inevitable when the operators are powerless. The control of each other--the workers, the management and the board--can be mutual and directed at some shared objectives. The model for their relationship should be the model which we have already successfully tested for teams in which multi-skilling is not feasible or feasible only to a minor degree, e.g., R & D project teams, teams of craftsmen in heavy engineering and management teams (Emery and Emery, 1974; Herbst, 1977; McWhinney, 1975; Sommerhoff, 1972). That is, for the purpose of getting the work of the organization done, we recognize three broad classes of workers whose skills are not interchangeable to any marked degree, i.e., at management, at the board and in operations.

For a large organization to function in this non-hierarchical democratic way there needs to be:

- sharing of inputs so that coordination is possible.

- mutual awareness of each other's role, of what each is best fitted for and in a position to best do or decide.

- an explicitly agreed hierarchy of *objectives* (not a hierarchy of statuses) as a basis for allocating tasks and responsibilities.

The minimum set of mechanisms adequate to bring about and maintain these conditions has been outlined above in discussing the roles of management and the board. Many more and varied ways can be expected to evolve. However, two

principles need to be observed in the functioning of the core groups, linking management and operator teams:

- What might be called the *jury system*, whereby every employee can expect to be called on to serve in the *core group* at some time; while serving he is expected, like the juryman, to make his own contribution, not to act as if he represented anyone else. The fact that some individuals may not be able to make much of an obvious contribution is not a real drawback if the able ones are prepared to give a bit extra.

- The *principle of re-afference (Sommerhoff, 1972:215-17) or search.* Expecting that learning is necessary, the effort should be made to learn by doing and constantly searching out and trying out new ways. If the people in the core group relapse into just pooling existing knowledge, a pattern of dependence on the experts will certainly assert itself and personal statuses, personal praise and blame, will displace the task orientation required for successful search.

Toward Matrix Organization

Let us now turn to the other class of problems. How can participative self-management emerge in the governing of such extended populations as cities, regions, nations or sectors of industry? There is an advantage in being as concrete as possible, so I will concentrate on the most developed practical solution that I know of from personal involvement--the development of participative self-governing machinery for the Australian manufacturing industry.

There has been a long history of efforts throughout this century to enhance the self-government of industry. Robert A. Brady (1943) has given

us the most detailed analysis of the efforts up to the 1940s. Remarkably similar mechanisms emerged in the US, Germany, Italy, etc., all pointing toward the corporate state model. The essential characteristics identified by Brady were "hierarchical implementation of patrimonial class domination by monopolistically oriented and compactly organized vested interest groups." (p.58)

I think these features are easily recognizable. The state lends its authority to the highest councils of industry and they lay down the law for the lower levels of councils in the branches and the regions. Within this framework the largest and most monopolistically organized firms can claim the right to be on the highest councils and then proceed to shape things to suit themselves. Non-business interests are excluded from the inner councils although the councils are enjoined to extend to the workers fair and just treatment, as a father would to his children. They are also typically enjoined to eschew sharp business practices and to ensure that the customers get good quality at fair prices. It is just too easy to recognize that these forms of self-government are not consonant with a democratic form of society.

The so-called Jackson Committee (Jackson, 1975), whose terms of reference were "to advise the (federal) Government on appropriate policies for the development of manufacturing industry," set its face against such a form of self-government. It deliberately sought to design a matrix organization such that:

1. Councils would exist for national, regional and industry branches but *they would be non-hierarchically arranged*, because "networks work better than hierarchies" (Jackson, 1975:216). There would be no assumption that national interests override the interests of the manufacturer, even a small one. The underlying theoretical model is that of the "self-managing group based on minimal multi-skilling"--a model we have just been discussing.

2. Representation on the councils would not be based on similarity of business interest but on the principle of common concern for the resources of the society that are drawn into the manufacturing process. Thus, workers,

consumers, government officials and other interests are naturally drawn into the deliberations of the councils--not excluded, as in the corporate model. Membership of the councils would naturally overlap.

3. The overriding task of all councils is to strive for common understanding of what is happening in the social ecosystem that they share, what the ideals are that they share and what it is that they commonly value. It is only within the framework of such mutually shared understandings that they seek to identify the changes they need in existing policies and regulations or that they seek to innovate in new directions. This is a reversal of the typical joint stock operation or gambling syndicate. The first step for them is to decide what each wants to get from the venture and only then to consider the social ecosystem. They consider that only in the narrow sense of what the market will bear or what the society will wear.

4. These councils will not seek to do their primary business of searching out common values and what is happening "out there" by operating in the traditional mode of committees meeting or papers-and-discussion in conference. Their processes will require a new tradition in which the searching is conducted without reference to the relative statuses of the participants and stringent efforts are made to ensure that the fight/flight emotions of horse trading are given no chance to emerge before a framework of mutual understanding exists. This will not be achieved by sitting around in meeting rooms with the usual paraphernalia of chairman and agenda; or by passing on business from one meeting to the next. To search successfully they will have to be prepared from time to time to take themselves off to some secluded place for several days and nights of continuous working. (The Committee expected that members would be so occupied three to five times a year.)

In this connection, I will recall the Council of the British National Farmers' Union (NFU) trying to conduct a search operation through a series of 14 half-day meetings. Only after all of this effort did they admit that they were getting nowhere and, in fact, were making matters worse as

confusion, misapprehension and dissension deepened. They finally, in despair, took the whole 50 of themselves out to a country retreat and in two days and nights produced a radically new perspective for the agricultural industry. That perspective was so well worked out that it guided them through a whole series of successful decisions for at least the next seven years (my knowledge of NFU affairs ended then).

To judge from just the four points I have mentioned, it should be clear that the design brought forward by the Jackson Committee stands in diametrical opposition to the corporate model and it does imply some break with the Westminster traditions. It is firmly based on the principle that "integration (of policies) is better done by those involved, in the light of understood and accepted principles, rather than by imposition of a superior authority" (Jackson, 1975:225).

Is this a workable design? Provided that the Councils can learn to work in the style of a genuine "search conference" I see no real obstacles. The existing bureaucracies will bitterly resent having their noses put out of joint but they can hardly claim that their way has been successful

To return to my overall theme. Now that we have had so much success in solving the problems of grassroots participation, we should take up the question of more participative forms at the higher levels. I have tried to indicate some ways in which participation can be increased. We are certainly not in sight of the end of the road but the work of the Jackson Committee demonstrates that even the few theoretical tools we have are practical working tools. The encouraging lesson to emerge from this exploration is that the same basic principles of participative design that guided us in redesigning the work of skilled craftsmen, scientists, engineers and managers at the grassroots level are fruitful guides to redesigning at the higher levels at which we seek to govern ourselves.

Now I think I must confront the question of whether these directions are appropriate ones for the less developed countries. The organizational forms for industry, commerce and administration in these

countries are not very different from those in the Western countries or for that matter the Soviet Union. Hence our discussion of how we might democratize total organizations is of relevance for the less developed countries.

The principles of the extended matrix organization were discussed above by reference to the introduction of democratic non-hierarchical forms of self-management to the Australian manufacturing sector. The principles are certainly not limited to this. In fact, the first consciously evolved matrix organization started to emerge in the British agricultural search conference to which I have just referred. Also, from my preliminary studies, this seems to be the most fruitful direction we can go in our present efforts in Australia to evolve democratic, non-hierarchical forms of regional self-government. I cannot see any general reason why the matrix-type organization would not be equally appropriate in any of the less developed countries that are genuinely striving for participative democracy.

However, I can see a practical difficulty that looms larger in the less developed countries. To work effectively the participative bodies and the government administration at every span of concern--from the village to the nation--must have mutually shared understandings about the tasks they both face and the values and ideals that guide them. We think it is a hard enough problem in Australia to create this mutual understanding between civil servants and farmers, laborers, businessmen, pensioners, young unmarried mothers, etc. We are taking the problem seriously enough to consider discarding some of our civil service traditions. The gaps we are disturbed by are infinitesimal compared with those that exist in the less developed countries. In these countries even the minimal education which will let a person into the lowest clerical grade of the civil service is enough to turn a person right away from village life and, indeed, from any form of manual labor, even skilled labor. When the vast majority live by physical labor in the towns and villages this is a very serious barrier to participative bodies ever effectively commanding their services for civil affairs.

I think that the crux of the problem is at the narrowest span of interest, e.g., where the village development officer is face-to-face with the villagers, the policy constable face-to-face with the local citizens. If, at this point, there is no effective communication leading to shared understanding, there is not likely to be much shared understanding when broader spans of interest are involved. It is possible to do something about this critical interface without waiting decades for the educational level of the villagers to be raised or a hundred years for their style of life to be transformed. In the Northern Territory of Australia, the interface between the Department of Aboriginal Affairs and the nomad and camp aboriginals has traditionally been the district patrol officers and camp superintendents. Each district officer had his own territory and I think we have to conclude that the majority of officers eventually gave up the struggle to understand the viewpoint of the other officers let alone the viewpoint of the aboriginals. Understanding the viewpoints of these others was in no way as critical to an officer's career as understanding what his superiors wanted. The aboriginals had no chance to understand the policies of the Department. All that they could see were the individual officers, some young and eager to help, some lazy and indifferent, some bossy and angry.

As a first step to remedy this, groups of four or five officers were given group responsibility for the whole of the four or five districts that were previously their individual territories. We found, as expected, that these groups of officers enforced among themselves a consistent interpretation of departmental policy and insured that, regardless of change of personnel through promotion, transfers, etc., this consistency could be maintained over time. Working this way the officers were able to deepen their understanding of the situation of the aboriginals and support each other to the extent that each could go on learning. The old pattern of personal enthusiasm giving way to cynicism and then to drunken neglect of the aboriginals has, as far as can be detected, disappeared (Duke, 1975). This experiment had foundered by 1980 from lack of higher-level bureaucratic

support at the Head Office.

We found it possible to go a step further when Papua New Guinea decided to evolve an administrative structure that would serve their traditions of village self-government and not the colonial traditions of centralized paternalistic controls. The step further was to develop in the civil service a new type of civil servant at the interface with the villagers. This is now being done in two test regions, so far successfully. [This experiment also foundered from lack of higher-level bureaucratic support.] The set of ideas underlying these practical trials was fairly complex and hence the briefest way of communicating them is to present the original design document. It outlines both the new ways in which these "barefoot civil servants" were to be selected and trained and the way they would work.

Toward a Village Development Service

There were three basic principles:

1. Teamwork at grassroots interface--four or five officers responsible together for an area.

2. Learning not teaching, not a didactic training of officers.

3. The where and when of learning to be decided by "student" requirements, i.e., near the grassroots, in their best time. Not some sort of "one academic year" in the physical context of an urban teaching institution.

Basically, a plan for learning that starts from the villages and is contrary to the present organization for teaching in educational institutions, and contrary to the usual modus operandi of their staffs.

Principle 1

(a) "Teamwork" not just "team spirit." Team spirit is only going to be persistent and significant if it arises from teamwork; from the people who are supposed to constitute a team actually accepting joint responsibility for carrying out together some significant work and joint responsibility for its outcome.

(b) the interface at the village level (grassroots "interface") must literally be a team, e.g. four or five officers responsible for four or five villages.

(i) Ideally the officers would be fully multi-skilled but in practice we would have to accept that each would have his strong points and weak points. It would be up to the team to help out as much as they could in whichever village needed this help at any one time. In this process we would expect a growth in personal skills. We would also expect such a team to cover each other for absences due to holidays, sickness, continued education.

(ii) To start with, the "officers" would be no more than the people recommended by the village for a slight upgrading of skills of use to the village. The inter-village teams would start from such selected people learning together at some district center for a week or two, then subsequently helping each other out in joint projects.

(iii) People surviving the introduction to this upgrading of skills would be given opportunities for additional upgrading.

(iv) As an inter-village team started to emerge, the teams would be given opportunities to improve their operation as a team and, in particular, a social mechanism whereby they could set periodic goals together with the local council and the district coordination committee of departmental representatives.

Principle 2

(a) The educationalists should accept that teams chosen for an area should design their curricula, decide what resources they will use and how and

decide when and where they will do their learning. If some educationalists feel that they cannot go along with these decisions then they can stand aside.

(b) The extension officers should be encouraged to do as much of their learning as possible on the job or at least in the villages they are going to serve. If in the villages, then as many villages as possible should be included in each particular learning session.

(c) In keeping with the way they are going to work, learning should be organized around semi-autonomous learning cells. Cooperation between teams should be practiced between those having contiguous territories.

Principle 3

This invokes the broader principle of preserving the identity of the extension officer with his locality. Insofar as their work will concern agriculture, transportation, communication, commerce, medicine, as well as social organization, they should be less prone to politicalization than the North American "community development officers." Their career structures must allow for officers to advance by the process of broadening their skills (as a Boy Scout adds on his badges). This would mean continuous education for these people.

Establishing such a general purpose extension service requires at least:

- Getting it strongly sanctioned by national leaders--political and public service.

- Mobilizing Papua New Guinea teaching institutions--possibly overcoming their rivalries through establishing a joint venture with a fair degree of independence. A search conference would probably be needed to achieve this and to tie such a joint venture firmly to the three principles enunciated above.

- After the first teams have been tentatively brought into being, the middle structure of district management should be tackled.

- The scheme should not have its sights locked on to the *young, educated male*.

What I have described in the Northern Territory and in Papua New Guinea are first steps or small steps. I know of no other way of advancing other than this step-by-step process of carrying ideas into practice. Elaborate theoretical or mathematical models of adaptive human systems are only a barrier to anyone putting ideas into practice.

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