

# Requirements for Effective Participation in Self-Constructed Organizations

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This is an article about effective participation in organizations. It offers insights about the interplay between individual action and organization structure. It is argued that our actions produce these structures at the same time that these structures create the space for our actions in a never ending regression. Effective participation requires that all of us are involved in the invention and formation of self-constructed action spaces. This is in contrast to participation in organizations where a few create the context for the most, that is, where the organizational context of our actions is constructed (for us) rather than self-constructed. Organizations emerging from effective participation are called recursive organizations. The idea of recursive organizations is further developed using Beer's Viable System Model. This is a model of the communicational requirements to self-construct our action spaces and to align them with those of others. The argument is focused on our participation in team work and the requirements for us to develop organizational citizenship, cohesion and effective performance. These are all requirements to have an effective organization. Copyright © 1996 Elsevier Science Ltd

## Introduction

Organizations often constrain our action unnecessarily, thus hindering their own performance and making our work less interesting and rewarding. This article is about action in an organizational context. It wants to answer basic questions about our space for action, or as it will become apparent, about our space for knowing. The problem is the circularity of this situation; organizations are created and developed by our knowledge but this very knowledge is limited by the organizational context of our action. It is this reciprocal relation between us and

our organizational contexts that this article wants to address. This proposition suggests that improving our performance requires more than achieving a better understanding of our tasks; it requires changing their organizational contexts. An improved understanding of our tasks may have no effect if it cannot be expressed in actions, and since our action space depends on its organizational context it becomes evident that this very context may restrict our possible knowing. Understanding and action are the two sides of the knowledge coin. This point is of particular significance; our actions should produce their context in such a way that this (changed) context opens new spaces for these actions. This is an on-going requirement. Whether or not we are aware, our actions are producing their embedding structures which are producing the spaces for these actions in a never ending regression. The challenge for us is creating enabling structures which allow us to act effectively in our self-selected action domains. These are processes creating self constructed realities and organizations, and we need to learn about these processes.

A recursive organization is one which provides this kind of context for all its participants. This is in contrast to organizational contexts where a few create the context for the most, that is, where the organizational context of our actions is constructed (for us) rather than self-constructed. Indeed, for some of us, self-constructed organizations may not be desirable or possible. It is perfectly possible for most of us, because of our operational contexts, to reject the option of self-construction. However this article assumes that self-construction is desirable and it offers a language to understand organizations as enablers to open spaces for self-construction.

Summing up: an organization is not something given to us but something produced by us in our moment-to-

moment interactions. We as participants producing our organizations are both actors making things happen and observers reflecting upon them. The more we understand how we relate to these processes, the easier it should be for us to shape an organization in which we can perform the tasks we select effectively.

The plan for the article is as follows: the next section will discuss our participation in organizations, in particular our contribution in bringing them forth as we interact

with each other. In these interactions we ground our understandings. The extent of this grounding depends, as said before, on our 'spaces' for action. In a hierarchical organization the action space of those at the top may allow them to ground their views at the expense of the views of those elsewhere. The third section will discuss the invention and formation of self-constructed spaces throughout

The organization would not exist without people constituting its relationships. As people interact, they define the structure of the organization

the organization. This section introduces the idea of recursive organizations based on the Viable System Model (VSM) (Beer, 1979; 1981; 1985; Espejo, 1989; Espejo et al., 1996). The fourth section discusses the communicational requirements to increase the chances for all of us in the organization to self-construct and align our action spaces. These are requirements to have a cohesive and effective organization. The article concludes with a reflection about the organizational and personal implications of the ideas developed in the previous two sections.

# People in Organizations: the Participants as Observers and Actors

### Organizations and their Structure

Are organizations rigid entities beyond our control? The common perception of organizations is as entities beyond, and independent of, our participation. This may be a comfortable and necessary belief to reduce frustrations and uncertainties when we are powerless or unable to cope with problems. However, it is also a belief which erodes responsibility, self-respect and opportunities. It leaves in the hands of a few the unchecked power to influence and design these organizations. The view of organizations as fixed institutions or as chessboards for the elite few, clearly has to change if we are to move into the knowledge-based society.

But, what are *organizations*? Are they just the formal institutions we encounter in our daily lives, like companies, government agencies, or formal associations or do they go beyond these formal definitions? Organizations in general emerge from self-organizing processes rather than from formal declarations. Of

course, a declaration, particularly when there is power behind it, may be enough to produce an organization, however in general, organizations emerge from informal networks of recurrent interpersonal interactions. Once these interactions become stable and develop closure, regardless of any formal declaration, an organization is constituted with identity. This *identity* is the set of relationships defining the organization as a whole, independent of the particular individuals involved in these relationships, who can be anyone as long as they

satisfy these relationships (Maturana and Varela 1980; 1987). For example, the identity of a manufacturing plant is defined by, among others, the relationships between managers and workers, or between staff and line managers, or between secretaries and managers, with no reference to particular persons; they may come and go and the organization's identity remains the same.

But the organization would not exist without people constituting its relationships. As people interact, they define the structure of the organization. The particular constitution of relationships, the specific use of resources, the engaging rules among participants, in time and in a particular context define the evolving structure of the organization. Moreover, these interactions must have closure for the organization to be a recognizable whole. The buck stops with its participants; they are the only ones absorbing environmental disturbances challenging its identity. If others were doing this they would be part of the organization, even if any formal declaration of boundaries suggested otherwise. This closure makes the organization structure determined, that is, completely dependent on its own resources and relations to absorb any external disturbance. This is what makes an organization autonomous. Autonomy emerges from organizational closure.

# Participants in the Organization

Within the framework of the above definitions, how can I be an effective participant of an organization? Can I be an effective participant of an ineffective organization? How do I know if the organization is effective? How do I know if my participation is effective? When is the case that I am an ineffective participant?

As a participant I am both constituting the organization by my moment-to-moment interactions with other participants and observing the organization as I reflect upon it. Being an actor in the organization implies (inter)acting. This acting affects others and also myself as I experience my (inter)actions. Naturally, most of the time I am thrown into action; I have no time to reflect upon experiences, I adjust to them, and these adjustments define my knowledge space. However, from time to

time, as I experience breaks in the flow of these actions I may pause to reflect upon my experiences. These observations will have no relevance whatsoever if I fail to express them in some form of action. Languaging these reflections is a crucial form of action.

Moment-to-moment interactions, including the languaging of my reflective experiences, define my operational domain; this is the domain of communications. These moment-to-moment interactions define my structural coupling with others, both inside and outside the organization (indeed, we may see this as the process of creating the organization's boundaries). On the other hand my observations and reflections define my informational domain; this is a space of possibilities not yet grounded in action. My reflections break the automatic link between experience and adjustment. They are necessary to develop my knowledge space.

# The Organization's Operational and Informational Domains

Organizations are constituted by our complex network of moment-to-moment interactions and not by declarations of intention or purpose. They may be triggered by these declarations but are not constituted by them alone. The moment-to-moment interactions constitute the organization's operational domain. It is in these interactions that we form relationships, and as organizational resources, constitute the structures producing these interactions. How is this constitution taking place? We attach meaning to interactions as we ascribe purposes to them. These are mental constructs contributing to the organization's informational domain. We use these constructs to negotiate and renegotiate our views with other participants. In this process we create a shared information space or informational domain. As these shared constructs produce recurrent coordination of actions, we are grounding them in a shared knowledge space or operational domain. By and large, organizations are the outcome of these on-going processes constituting a consensual domain of action, or shared reality. This is an instance of the process by which our knowledge is grounded in a reality shared with others. This generative process underpins organizational learning and change.

### **About Models**

What is the role played by models in our interactions? Models, in an organizational context, are explicit reflections about these interactions, and as such are in our informational domain. We may use them either to steer our organizational tasks, assuming an already shared reality, or to support the grounding of particular views or distinctions while in interaction with other participants, that is, as enablers for creating a shared reality — the organization (Harnden, 1990). The first use implies inserting the models in regulatory loops, assuming an already constructed task or organization, the second use

implies using models in conversations aimed at task and organizational self-construction. The value of models in the latter case cannot be in providing an accurate representation of anything in the 'real world' but in providing a handle to communicate with each other in a process of reality construction.

The discussions of the next two sections are precisely relevant to this distinction. The Viable System Model (VSM) is offered as a tool for reality construction. It is not intended as a descriptive tool to represent an existing organization, but as an enabling tool for us to self-construct our organizations. It is used as an epistemological device coordinating our coordination of actions and not as a regulatory device to control a given organization. However, the VSM is distinctive in this respect; it not only offers a language for reality construction but it also helps us (when we use it in a regulatory mode) to assess whether the structures embedding the related interactions have requisite capacity for grounding this language in the organization's operational domain (Espejo 1993). For instance, it is not enough to construe a group of people as an autonomous team, it is also necessary to operate in a structure that allows this kind of autonomy. In other words, it is necessary to operate in a structure that does not constrain the operational grounding of this autonomy by imposing, for instance, hierarchical relationships. Similar obstacles limiting organizational knowing are not difficult to recognize even when there is conceptual clarity.

In the following sections the VSM is used as a tool for self-constructing organizations. The model itself is not discussed here; it has been extensively developed elsewhere (Beer, 1979; 1981; 1985; Espejo, 1989; Espejo et al., 1996). However it provides the implicit logic underpinning all the discussions below.

# Organizational Self-construction: Unfolding of Complexity

In general we are members of a number of formal institutions; the company, the local club, the professional association and so forth. Our roles in each of them are different, but what is our commitment to them? We may wish them to be viable if they give us some form of long term stability. However, are we truly committed to their viability? Why should you have that commitment when you may be made redundant next time there is a reorganization? It seems important to work out this problem of belonging and commitment. As an owner of an organization, or as a member of a small group holding power in it, you may have a particular stake in its viability, but certainly not as a dispensable participant. This situation offers an interesting dilemma; for an organization to be viable in a highly competitive environment, it needs the commitment of its participants; each of them has to fight for the organization's viability. But if we think in terms of existing large business organizations, there is no reason for this commitment. Of course fear of one kind or another, or perhaps naive beliefs, may produce some form of commitment.

The VSM suggests that to make viable complex tasks in highly uncertain environments it is necessary to have 'autonomous systems within autonomous systems' (Espejo, 1989). This is a structural requirement. These autonomous systems are called primary activities. We may visualize complexity unfolding as a process in which small primary activities are subsumed by larger primary activities and so forth as the organization's complexity grows (see Figure 1). It is not possible for one person or a small group to think about all possible contingencies and possibilities. As task complexity grows, small autonomous groups evolve within the original group, thus unfolding its complexity. Autonomy within autonomy will emerge even in the most hierarchical structure. The problem is the cost of this unfolding. In some organizations, achieving it will be painful and full of conflicts; in others it will be more natural and easy (see the cohesion issue). In most it will be the outcome of an on-going learning process in which the blurred boundaries between (self-constructed) primary activities will be slowly sharpened.

There are several implications emerging from this unfolding:

- Your organization is the primary activity you belong to, that is, your organization is the autonomous unit producing in full (if you have an overview of the total task) or in part (if you only have an overview of part of the task) the products or services of the total organization.
- Depending on your organizational roles you may belong to more than one organization.
- Primary activities in general do not map on to formal organizational units. The requirements to be primary (which are discussed below) often imply the contributions of people who belong to several units (e.g. departments, sections etc.).
- Therefore, it is possible to belong to a primary activity resourced by people operating in different organizational units, working in different places and even at different times. Indeed, often primary activities are virtual organizations.
- In general primary activities are formed by (subsumed) primary activities and a set of support functions or regulatory functions. The exception are basic primary activities; these are primary activities with no subsumed primary activities.
- Support or regulatory functions are those inventing and managing the primary activity. This includes enabling the co-ordination of actions in it.
- ❖ If you belong to a regulatory unit, like for instance Finance, your primary activity is the one serviced by Finance. In the case of a company with centralized finance you belong to the company as a whole. However if your unit services a division (assumed to be a primary activity) your organization is that division.

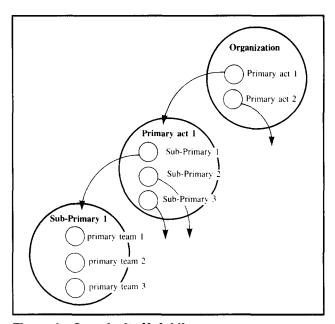


Figure 1 Complexity Unfolding

Whether your task, as a member of a team, is primary or regulatory in a given context depends on purpose.

If the team's purpose is to make its task viable then its aim is constituting a primary activity, but in that case it has to work out its belonging (citizenship). If the team in question has finance/accounting expertise and sees itself as an autonomous organization offering services to others in the market, its embedding may be in the community at large or in a professional association, or it may even negotiate membership within a larger organization in the management/financial services where it can still preserve its identity. Citizenship agreement is more likely to succeed if there is an alignment of purposes between the team and the more global organization.

If the team is only offering services to its subsuming organization but not to other external customers, then it is a regulatory function. This would be the case of the finance/accounting team operating within a company in which finance can only be seen as a service to the whole. If the team wanted to make itself viable in this context an alignment of its purposes with those of the company would be very difficult. If the finance team starts to service its own interests before those of the total organization it may succeed in providing financial services to third parties but fail in resourcing its own (subsuming) organization. This state of affairs may hinder the viability of the whole organization.

Often the situation in organizations is such that people do not see with enough anticipation this problem of purpose alignment. The outcome is conflict and unnecessary abuse of power or position. If you have grown inside the company and now have skills which would allow you to be autonomous then you have a problem of citizenship. If your role in the company is regulatory you will have limited space to be autonomous

within it and it may pay you to develop citizenship elsewhere, or alternatively, you may convince the organization to change its identity. If on the other hand your role is (or could be) primary then you may be ready either to create a subsumed primary activity within the global organization, or you may create the organization's competition.

This is a complex issue at the core of the problems of entrepreneurship and intrapreneurship, which offers itself to much more scrutiny and further development. As a summary, as we create (self-construct) our primary activities we create the unfolding of complexity of the subsuming organizations. This way we do not need to

be the passive objects of single viewpoint designs. The more we take responsibility for the creation of primary activities the more we can move away from the constructed (for us as passive participants) organization, with a 'fixed' unfolding of complexity, to the self-constructed organization, with a fluid unfolding of complexity, in which complementarity and co-

operation create the total organization. A self-constructed organization is one which looks like grapes organized in subsuming clusters and so forth; it is made up of multiple interrelated and highly flexible autonomous small organizations. I call this type of organization the recursive organization. Its meaning will become clearer in the next section.

# **Managing Interactions**

The focus of this section is on three issues; citizenship, cohesion and performance. We all develop a tacit understanding of the organizations we belong to. This understanding is rooted in our histories; we may recognize them as formal hierarchies, as networks of co-operating people, as families, and so forth. Each of these metaphors yields some type of knowledge which is made manifest in our behaviours. To the extent these behaviours are functional and recognized as adequate there is no problem, however new behaviours become necessary when we find ourselves unable to deal with moment-to-moment pressures and our performance is not adequate. The purpose of the discussion here is to make apparent the kind of knowledge emerging for us from the use of the VSM. To the extent that this knowledge makes our action more effective in competitive environments, it is relevant knowledge. As participants in a self-constructed organization we have to take into account at least the following sources of complexity: the complexity implied by our decisions of membership (citizenship), the complexity of maintaining internal cohesion, and the complexity of performing adequately (Reyes, 1996). We will discuss each of these in what follows.

## Citizenship

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Achieving and maintaining membership within a larger organization, that is, being one of its citizens, requires care and attention. In this part, I discuss citizenship from the perspective of a team. Though a person may constitute an organization's basic primary activity, in general autonomous tasks emerge from team rather than individual efforts. We may constitute a primary activity when we perform individually a self-contained task. For instance, the academic work of an academic is likely to be of this kind. The consultancy work of a consultant may be another instance. However, primary activities are more likely to emerge from team than from individual

efforts. In recent years we have witnessed an important move towards the explicit constitution of these teams, yet which team(s) organizational member belongs to or should belong to is by no means always apparent. Working in large functional structures where formal primary teams do not exist, or operate only an implicit level, at increases the problems

effective citizenship. In effect, this lack of clarity may imply too large basic primary activities for anyone to develop a clear sense of belonging. This is a problem of complexity unfolding which affects citizenship since we are likely to relate better to recognizable units rather than to shapeless large organizations. In practice, this may lead to an allegiance to regulatory units to the detriment of the primary activities.

Thus, the idea of citizenship is developed assuming that you are a member of a primary team within a larger organization. Citizenship implies that you take seriously the fact of belonging to this subsuming organization. Accepting, willingly or not, to belong to a subsuming primary activity implies accepting an alignment of purposes. The following considerations about citizenship emerge from our understanding of the VSM, and in particular of the mechanism of monitoring control (Espejo, 1989):

Citizenship does not imply submission to the interests of the larger organization. On the contrary it implies mutual respect between those representing the interests of one and the other. The subsumed primary activity is an autonomous self-constructed organization with its own purposes and interests. It recognizes the value of being part of the larger organization but it is the prerogative of its members to defect if they so wish. Defecting may imply, among other possibilities, dissolution of the team or developing citizenship elsewhere.

Citizenship implies negotiation of programmes, resources and commitment between those representing the interest of both. These are neither top-down nor bottom-up negotiations. Top-down negotiations are the

most common; the larger organization has control of resources. However, we may envisage a growing number of situations in which we agree to create and belong to larger organizations, in which case we may be responsible for providing the resources to manage the total organization. For instance, this is the case with industrial associations. Both, top-down and bottom-up, are cases of belonging but in general they are perceived as very different. The nature of these negotiations may reveal the way one primary activity sees the other. If programmes are imposed from above, with little or no negotiation, then we may infer a lack of understanding of the autonomous nature of the subsumed primary activity. The cost of this behaviour is the waste of human resources since the primary team is seen as a mere extension of the larger primary activity, thus restricting their creative contribution. This is an example where the task is constructed for others rather than selfconstructed. If there is little clarity about the negotiation process, or resources and instructions come from those servicing/managing subsuming primary activities more than one level removed from the primary team we may infer lack of clarity about the unfolding of complexity and an intrusion into the autonomy of the levels in between.

Effective citizenship implies effective communications between the team and those representing the subsuming organization. Information is not enough; they have to develop communications between them. It is not good enough to allocate resources at a distance nor just be informed about progress on agreed programmes. People at the two levels not only may operate in different places and even at different times but more fundamentally in different organizations; this fact makes it apparent that what is going on in the team will remain beyond the experience of the subsuming people unless they develop communications beyond information. This is a requirement to avoid communication breakdowns. Of course the challenge is to produce communications for effective citizenship, avoiding on the one hand uncaring detachment and on the other unnecessary intrusion. If the subsuming people do not develop a healthy appreciation of what is going on within the team, the kind of problems they are experiencing, the opportunities they are seeing, their capabilities and potentials, then the chances of aligning their purposes and interests are drastically reduced; distant information is not rich enough. In these situations team members may be wondering whether there is any interest in what they do; are they trusted at all as valuable members of the organization? On the other hand, they may have their creativity and initiative stifled if those from the subsuming organization are constantly meddling in their affairs; not surprisingly, team members may construe this behaviour as a lack of trust in their skills and possible contribution. Producing a good balance between distant information and local communications is part of a learning process aimed at avoiding organizational constrained learning (Espejo et al., 1996) and indeed a requisite to develop trust within the organization.

#### Cohesion

The above discussion contributes also to understanding the problem of cohesion as it will be seen below.

If our personal tasks are basic primary activities within a team's primary activity then we will have the same problem of citizenship as the total team has in relation to its subsuming primary activity. In this case however the challenge is, in addition to citizenship, integrating several basic primary activities (i.e. the tasks of team members) into a primary team. We are more likely to join this team if we see that the whole is (or can be) more than the addition of the parts. In other words, if we see that working together adds value to our individual worth. Of course whether the whole (i.e. the team) is more than the addition of the parts (i.e. its members) is a problem of self-construction, in which we look for new possibilities, rather than just of conforming to given blue-prints. The challenge for us is making our own and the team's tasks viable; this is the problem of cohesion.

If we are contributors to the primary activity, but our individual tasks are not primary, then we are dealing with the constitution of a basic primary team starting from a set of secondary roles. None of our individual tasks is primary on its own; however together we define a basic primary activity. In this case the problem of cohesion is over-riding; in this organizational context we can only make viable the team's task.

In either of the above situations multiple forms of collaboration, co-ordination and finally integration may be necessary in order to achieve cohesion. We need to take into account two aspects in discussing this issue.

## Defining the team's purpose

The more we spend our time and energy in external communications, the more likely it is that we will develop a good appreciation of our external world, but if this is done at the expense of internal communications, the weaker will be the sharing of this knowledge with others. The less satisfactory our internal communications become and the more detached we feel from the others, the less likely it is that the best of ourselves will be put into aligning our purposes and creating a common task. In other words, the less likely is that we will succeed in configuring and re-configuring over time, powerful, customer oriented, products and services. The trade off is between on the one hand having a good individual grasp of our environment and on the other a good integration of the team's efforts. Reducing our external interactions in order to focus our resources on achieving and maintaining an efficient production of existing products and services is a recipe to make these products irrelevant. On the other hand spending too much of our resources in external interactions at the expense of internal cohesion is a recipe for unaligned purposes and ungrounded ideas. In the former case the team may increasingly lose touch with the market as its products

become irrelevant, in the latter case the team may find it increasingly difficult to agree upon its purposes and global direction. This is the trade off between efficiency and effectiveness. We as team members need to be aware of this trade off in order to steer the team's course. If our assessment is that so far we have put too much emphasis in one direction at the expense of the other, we need to reallocate our resources in order to maintain our relevance and performance in the longer run. In fact this is at the core of being self-aware of our autonomy and our ability to self-construct our tasks. The more balanced are our communications between external and internal concerns the more likely it is that we will produce well defined tasks sensitive to external changes and grounded in the capabilities of all participants. The team will be more effective in the process of self-constructing its tasks with reference to its agreed purposes. Stretching but realistic purposes, produced by rich conversational processes help in developing identity, thus providing a framework for cohesion. The mechanism for adaptation of the VSM underpins the above discussion (Espejo, 1989).

The integration of our contributions into the team's task

More of our personal resources are spent in achieving cohesion, whether because of internal conflicts, lack of goal clarity, undefined purposes, or simply because the team lacks experience in working together, less of our resources will be available to produce the team's products and services, whatever they are. However, this is not a simple trade off; indeed it is possible to have better products with fewer resources if the benefits of achieving cohesion exceed its costs.

The same considerations as those discussed for citizenship apply in this case, however now the problem is internal to the team itself. Our activities, as individual team members, will be at the same time close to, and distant of, the activities of other team members. Caring for our internal communications — bridging information flows with effective communications — is therefore an equally critical consideration. This aspect creeps into all interactions about cohesion.

The clearer we are about the team's purposes the easier it becomes accepting standards and regulations in those aspects that are not essential to its task. This way our focus can be on the team's primary purposes while using the language, systems and procedures provided by others elsewhere in the subsuming organizations. These are enablers of our coordinated work as team members. By making use of the organization's wider resources the team can achieve more with less. These are some of the benefits of being immersed in a shared culture. This way the team can reap the benefits of clarity of purpose and citizenship; the members of the team are now able to produce far more sophisticated products and services than their individual resources, in isolation, would allow them to produce. The mechanisms for monitoringcontrol of the VSM underpins this discussion.

#### Performance

Organizational performance is not independent of the way in which citizenship and cohesion are handled by all its primary activities. It relates to the performance of each primary activity as well as to the performance of the total organization. Each primary activity, starting from the individual or the team, has its own value chain, with suppliers and customers. All of them are producing products or services of one kind or another for external customers. As a team, what we produce should be valued by customers now and should also change as conditions evolve and change in order to remain valued in the future. Additionally our products and services should remain aligned with those of the subsuming primary activities we belong to. These performance requirements make it apparent that for primary teams it is not enough to be efficient in producing well defined products, they have to be effective in adapting to changing internal and external conditions, thus, producing new products and services as conditions change. As members of primary teams we need to recognize requirements and opportunities from suppliers and customers. Maintaining on-going interactions with customers in the long-run requires supplying unique products and services. This uniqueness may emerge from the products we produce by integrating our work or from the products of our subsuming organization produced with our (subsumed) contribution; hence the significance of the relations of citizenship and cohesion. We are again at the core of intrapreneurial requirements emerging from participation in organizations. Primary teams, however small they might be, are concerned not only with operational matters but also with strategic and normative matters; this is a hallmark of their autonomy (see Espejo et al., 1996).

In a primary team constituted by people who themselves are primary activities, the challenge is creating and recreating products which integrate synergistically the products of its members. These products at the same time have to be aligned with those of its subsuming organizations. In a primary team constituted by people who are not themselves primary activities, the challenge is integrating synergistically their skills into basic products which are aligned with those of its subsuming organizations.

In either case the above discussion makes apparent the team's *performance dimensions*. The team has to manage not only its interactions with suppliers and customers, but also vertically its interactions with subsuming organizations' and internally its members' cohesion (see Figure 2).

Therefore we recognize two possibilities; if our tasks are primary activities themselves team performance will be the outcome of our individual performance in our own action domains as well as of the team's performance in its own selected action domain (which happens to subsume our tasks). If our tasks are not primary activities

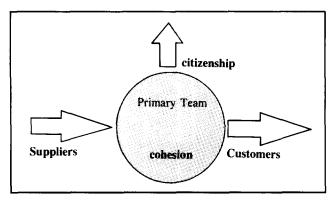


Figure 2 Performance Dimensions

team performance is defined by the team's total performance alone.

# Conclusion: the Recursive Organization

My aim in this article has been to make our organizations more accessible to us. Even for those of us operating in very large organizations we need to experience that we are closing loops, that is, that we are responsible for our own performance and future rather than just being cogs in a machine constructed for us. This requires us to become involved in the selfconstruction of our own organizational tasks. To make this possible throughout the organization it is necessary to have tasks of a human scale. This does not imply giving up with large scale projects or large organizations. It implies developing an awareness of the scope of our actions and the actions of others. It implies mutual awareness of our own and others' autonomy. It implies increasing awareness of the complexity generated, or potentially generated, by us and others, and understanding that managing does not imply destroying the autonomy of those managed but respecting their autonomy. And that respecting autonomy does not mean detachment from the others, but effective communications and communications are far more complex than just information transmission; they require effective interactions. All this is required in order to release our individual and the organization's potentials. The structural implications of these relationships are fundamental; they produce an unfolding of complexity which opens the space for all of us to care about the total organization's viability and our own viability.

Indeed, we have to learn that too much intervention may inhibit unnecessarily the organization's flexibility and too much detachment may decrease cohesion and ultimately performance.

The idea of complexity unfolding is crucial in this respect; we are members of primary activities which in general are subsumed by, and at the same time subsume, other primary activities. The implications of these nestings are manifold:

They help us to realize the immediate organizational

context of our actions and therefore the possibility of recognizing manageable tasks, within our individual or team scope. This is critical to help us close the loop with those being served by our actions and therefore to get into individual and organizational learning loops.

- They help us to take responsibility for our citizenship, that is, for our relations of belonging.
- They help us to appreciate the extent to which our performance depends on the performance of others (the subsumed primary activities) and therefore the need we have to work for their commitments. Indeed, it may be irresponsible on our part to commit ourselves, without proper negotiations, to provide products or services which depend on the work of others (those in the subsumed primary activities). Being careful about these relations is as important as being careful about relations with external suppliers. This requires communications beyond information.
- The same aspects of citizenship, cohesion and performance apply to all primary activities from the most basic to the total organization. Whether we are talking about the senior management team of the company, or one of the shifts on the shopfloor, care for the same above relations is essential for their effective performance. The same patterns of relations recur everywhere in the organization; this is the essence of the recursive organization.

In Summary:

How can I be an effective participant of an organization? By contributing to the self-construction of my organization

Can I be an effective participant of an ineffective organization?

Yes, if you succeed in grounding the language of selfconstruction and therefore contribute to developing the organization's knowledge to change itself.

How do I know if the organization is effective? Effectiveness is more than being successful. In the long run an effective organization is one that allows distributed self-construction without losing cohesion; in short, it is a recursive organization.

How do I know if my participation is effective? My participation is effective if my performance is excellent in my self-selected domains of action, taking into account all the performance dimensions.

When is that case that I'm an ineffective participant? You are ineffective if there is no alignment between the purposes implied by your self-constructed organization and those of the larger organization.

These are the requirements for effective participation in a self-constructed organization. They are grounded in the circular causality between us and our self-constructed organizational contexts.

#### Note

My thanks to Gerard de Zeeuw for our conversations while writing this article.

#### References

Beer, S. (1979). The Heart of Enterprise. Chichester: Wiley.

Beer, S. (1981). Brain of the Firm, (2nd edn.), Chichester: Wiley.

Beer, S. (1985). Diagnosing the System for Organisations. Chichester: Wiley.

Espejo, R. (1989). The Viable System Model Revisited. In Espejo, R. and Harnden, R. (eds.) The Viable System Model: Interpretations and applications of Stafford Beer's VSM. Chichester: Wiley.

Espejo, R. (1993). Management of Complexity in Problem Solving. In Espejo, R. and Schwaninger M. *Organizational Fitness*, 67–92.

Espejo, R, Schuhmann, W, Schwaninger, M, Bilello, U. (1996).

Organizational Transformation and Learning, Chichester:

Wiley.

Harnden, R. (1990), The Languaging of Models: The Understanding and Communication of Models with Particular Reference to Stafford Beer's Cybernetic Model of Organization Structure, Systems Practice 3:289.

Maturana, H. and Varela, F. (1980). Autopoiesis and Cognition: The Realization of the Living. Boston: Reidel.

Maturana, H. and Varela, F. (1987). The Tree of Knowledge: The Biological Roots of Human Understanding. Boston: New Library Science.

Reyes, A. (1996). A Theoretical Framework for the Design of a Social Accounting System. Ph D Thesis, University of Humberside, Hull, UK.



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