
Intervening in the shadow systems of organizations

Consulting from
a complexity
perspective

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235

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Introduction

This paper explores some implications of the theory of complex adaptive systems (Gell-Mann, 1994; Goodwin, 1994; Holland, 1975; Kauffmann, 1991, 1995) for the practice of organizational consulting, particularly that of organization development (OD). OD praxis is steeped in ways of conceptualizing organizations as open systems in dynamic equilibrium with their environments. This informs the goals and methodologies of OD consultants and focuses them on a design perspective to do with realizing the prior intentions of an organization's legitimate system, its prescribed network of relations or hierarchy, its bureaucracy and its approved ideology or explicitly shared culture. Although the existence of an "informal" organization has long been appreciated (see e.g. Schein, 1965, 1985; Trist and Branforth, 1951), this has been perceived largely as a source of inertia or "resistance" to the legitimate change effort, and much has been written on strategies for understanding and dealing with this (Coch and French, 1948; Klein, 1976; Kotter and Schlesinger, 1979; Kanter, 1985).

I will argue that taking a complex adaptive systems perspective provides a radically different way of conceptualizing how organizations change. This shifts consultants' attention away from planned change to the "messy" processes of self-organization that produce unpredictable emergent change. Complexity science is studying the nature of such dynamics in complex networks of adaptive agents, and suggests that "order emerges for free" without any central or governing control or intention when the network is operating in "edge of chaos" conditions (Kauffmann, 1995). Stacey (1996) has argued that self-organizing processes are to be found primarily in an organization's shadow system – that is, the complex web of interactions in which social, covert political and psycho-dynamic systems coexist in tension with the legitimate system. In the paradoxical conditions of "bounded instability", such systems are capable of spontaneous novelty and emergent strategy.

From this perspective an OD consultant, like every member of an organization, is actively working with a paradox – an official role in a legitimate control system, facilitating an intended change effort, while simultaneously

participating in a shadow system in which no one is “in control” but in which patterns of controlled behaviour emerge that profoundly influence the actual evolution of the organization.

The dominant paradigm in OD

In his 1992 review of OD, Burke acknowledges briefly the work of Jantsch (1980) and of Prigogine and Stengers (1984) who suggest that an understanding of system evolution must focus on disequilibrium rather than equilibrium, on non-linear rather than linear dynamics and on self-organization. Burke says that this disequilibrium approach has been heralded as a paradigmatic shift comparable to Einstein’s move away from Newtonian physics. However, although he emphasizes the increase in complexity and paradox that characterizes our understanding of the nature of organizations and the business environment, he still reiterates throughout his (1992) book that very little “new OD” has been created in recent years. Team building in the form of facilitating off-site meetings remains the most common practice of OD consultants. Why is this?

The systems thinking that dominates the OD profession is that of organic, socio-technical, open systems sustaining dynamic equilibrium with their environments (Miller and Rice, 1967). There are many models offered to OD practitioners for understanding organizations in these terms. The purpose of diagnostic models, according to Burke (1992), is to enable the OD practitioner to predict and explain “the total behavioural output of an organization” (p. 129). Examples include Weisbord’s (1976) six-box model the Nadler-Tushman (1977) congruence model, Tichy’s (1983) TPC framework and the Burke-Litwin model (Burke, 1992). These models play in different ways with the inter-relationships and interdependencies between such variables as tasks, processes, policies and procedures, management practices, leadership, formal structures, missions and strategies, climate, culture, resources, environment and so on. All these models emphasize the need for “fit”, congruence or alignment between different aspects of the system, between different systems and between an organization and its environment. Senge (1990) continues to talk of identifying the primary “levers” for initiating and implementing change. Where there is reference to an informal system (Weisbord), an informal organization (Nadler and Tushman), emergent rather than prescribed networks (Tichy), the emphasis is on managing “gaps” (Dyer, 1984) and increasing congruence or alignment by successfully managing resistance. This inevitably has led OD to focus largely on participative and consensual decision making, improving teamwork and communication, and “transition management”.

For a long time now, the classical OD focus on diagnosing the equilibrium dynamics of an organization has seemed to make sense, sustaining current functioning by seeking to align the various sub-systems or attempting to unfreeze, move and refreeze the system at a new equilibrium. This is Lewin’s (1958) model which has been further elaborated by Schein (1988) in terms of

generating the motivation for change, changing through “cognitive restructuring” and integrating the changes.

However, underlying this focus is an unquestioned assumption that a system can be moved from one dynamic equilibrium to another, by the prior intention of the legitimate system. It is assumed that the existing organizational dynamic came into being through some central purpose, however participatively arrived at, and can be changed in the same way.

Planned change is supposed to be achieved in a consulting assignment by working through the stages or phases of the consulting cycle. As with the diagnostic models, there are many variations based on the original action research model developed by Lewin (1946) and elaborated and applied to OD by French (1969) and Schein (1988). Typically the “consulting cycle” includes the following phases:

- gaining entry;
- agreeing a working contract;
- data collection;
- analysis and diagnosis;
- feedback to clients;
- formulating proposals and decisions to act;
- implementation;
- evaluation; and
- follow up (Phillips and Shaw, 1989).

The contract is a collaborative one between the consultants and members of the client system at all stages (Block, 1983), with the consultant taking a variety of facilitative stances. The consulting assignment, which used to be viewed as a series of sequential steps, is increasingly seen (as in Schein’s (1988) process consulting model) in terms of overlapping simultaneous activities, so that all phases are themselves understood as significant “interventions” in an evolving assignment.

The paradigm of OD consulting outlined above has come to be shared over the last 25 years by both consultants and their actual and potential clients. Figure 1 shows the model put forward in 1994 by a UK consulting firm specializing in strategic change management. Compare this with Figure 2; which is an extract from advertisement and tender documentation that appeared in the UK in the same year. The two fit together like hand and glove.

The challenge from a complexity perspective

Complex adaptive systems are networks of large numbers of agents, each embodying active information in the form of schemas. Through their interaction, such networks create systems of mutual and so non-linear influence. The schemas anticipate the consequences of certain responses to

Managing change: A business-like approach
The elements of a change process

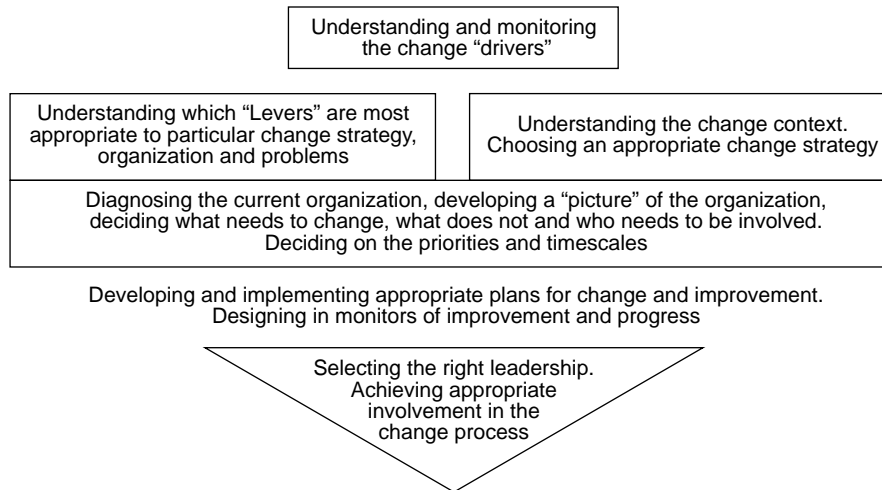


Figure 1.
Consulting firm's
brochure

their immediate environment and both behaviour and the schemas themselves are continuously revised in the light of experience. The networks are therefore adaptive – they learn in both simple and complex ways. The spontaneous interaction between agents gives rise to aggregate patterns of behaviour, which both emerge from and provide the conditions of constraint and enablement in which local interaction takes place, so that neither can be predicted or explained in terms of the other.

Agents, themselves complex adaptive systems, and networks of agents are thus embedded in a perpetually novel, shifting environment which, together with other agents and networks of agents (Waldorp, 1992), they both constitute and create. It is suggested that ecologies of living systems spontaneously evolve to “the edge of chaos”. In these far from equilibrium conditions stability and instability coexist. Iterative processes of both amplifying and damping feedback propagate through the system to produce islands of patterned order which arise and dissolve in a sea of disorder. New patterns emerge unpredictably, through the unfolding logic of self-organizing forms of control and without any single governing set of rules or schemas.

Stacey (1996) argues that social systems can be thought of also as complex adaptive systems, in which agents may be individuals and groups interacting in co-evolving sense-making and active contexts. Peculiarly human characteristics only add to the potential complexity without changing the fundamental dynamics. In particular, any organization can be conceptualized in terms of an ordered network of patterned interactions which is intentionally designed – the organization’s hierarchical structure of roles and responsibilities, its official policies and processes and its espoused ideology – in the form of explicit

INVITATION TO TENDER

MANAGEMENT OF CHANGE CONSULTANTS

'Boroughville' is responding to unprecedented changes owing to internal and external factors. Senior managers have identified key developments and are formulating a strategic plan.

As part of this plan, they require organisational/process consultants to develop a way forward appropriate to the organisation. The Council has a workforce of over 8000 and an annual expenditure in excess of £162 million.

In comparison with other Local Authorities, the last few years have been relatively stable. The organisation tends to be bureaucratic, hierarchical, with central controls and is task-oriented. External and internal factors are now driving major changes within the organisation. The recently appointed CEO is a significant influence on the way the Authority responds to change.

Under the chairmanship of the CEO, (the EMT) have been working on a Vision for the Authority and a corporate management strategy for the many complex issues which the organisation is facing. A copy of the Vision Statement and a copy of a report to the Council entitled "Facing the Future: Towards a New Approach" are enclosed. One of the many human resource issues they are working on is how to introduce the corporate strategy to the rest of the organisation.

The 'Management of Change' project is concerned with one major element of the corporate strategy, namely to introduce the necessary culture change to ensure that people are working to their potential and feel motivated and empowered to respond to changes.....

Consultants were asked to cover the following in their initial submissions:

- * analysis of the organisational needs
- * design and development of a culture change programme
- * delivery of a culture change programme
- * post-evaluation of project and any follow-through work which is necessary

Consultants are required to set out clearly their approaches and methodology under these headings and be able to identify deliverable outputs and timescales for their achievement.

Figure 2.
Advertisement and
tender information

missions and culture. As people interact in the designed network, which he calls the "legitimate system", they simultaneously and spontaneously spin other networks through entirely self-organizing processes. He calls these the organization's "shadow systems" and suggests that an organization's evolution can be understood as emerging from all these local network interactions.

As with other complex adaptive systems in nature, organizations are capable of emergent and unpredictable novelty, he argues, only when they are operating in “edge of chaos” conditions. He suggests that the ongoing paradox and tension of operating in both legitimate and shadow systems is a fruitful way of understanding how such conditions arise in organizations.

OD consulting from a complexity perspective

There have been interesting explorations of organizational change from a complexity perspective by Goldstein (1994), Morgan (1986), Nonaka (1988), Pascale (1990) and Wheatley (1992). I attempt to summarize their implications for OD consulting in Table I. Some of the principles suggested below are explicitly stated by these writers, some have become clear through my own practice.

An OD consulting assignment in practice

I would like to illustrate some of these principles at work by describing the consulting assignment undertaken by myself and a colleague, Bill Critchley, in “Boroughville” in response to the advertisement referred to earlier (see Figure 2).

The early encounters

Our first decision was to challenge the tender documentation. We wrote to say that we could not comply with the instructions because we believed them to be misconceived. We outlined some key differences between our own thinking and that underlying the call for tenders, offering to discuss this further. It is important to say that this occurred in the context of activity in the shadow system, in which the CEO, dissatisfied with the response to the advertisement received by that time, asked a consultant he knew and trusted to recommend others to whom the tender invitation could be sent direct. The consultant recommended ourselves and a few others, and called us all to discuss the situation. In the legitimate system, there was no acknowledgement of this as a real part of the competitive tendering procedures, but from a complexity perspective, it is collaborative processes such as these which evolve the possibilities from which competitive processes select.

When asked to present our proposals to the tenders panel we ignored the presenter-audience structure, in which the room had been arranged, by drawing chairs up to the table and conversing with the client group. We began a discussion about the way those present were thinking with regard to organizational and cultural change, and emphasized the unknowability of the evolution of a complex organization in a complex environment. Instead of offering workshops or programmes, we proposed an emergent, one-step-at-a-time, contract. Under this contract we undertook to discover and create opportunities to work with the live issues and tasks that were exercising people formally and informally in the working environment. The discussion became

From a traditional perspective, the consultant	From a complexity perspective, the consultant
Designs and implements an educational strategy to realize planned changes intended to improve the organization's position in its environment	Stimulates conditions of bounded instability in which the organization co-evolves with its environment, through self-organization
Understands organizational change in terms of transitional instability between dynamic equilibria	Understands change as unfolding in the ongoing tension between stability and instability
Sees large-scale project plans and political and ideological control strategies as legitimate ways of realizing prior intention	Dissuades managers from using inappropriate forms of control to manage the anxieties raised when operating far from certainty and agreement
Contracts to deliver a pre-determined objective or outcome	Contracts for an emergent process of complex learning into an evolving and unknowable future
Chooses an effective marginal or boundary position from which to diagnose the state of the system as a whole and choose interventions	Becomes an active agent in the life of the organization by participating in its shadow and legitimate systems to engage in complex learning processes
Tries to create a change in people's shared beliefs, values and attitudes	Seeks to stimulate and provoke conditions in which people's co-constructed worlds of meaning are spontaneously revised in interaction
Focuses on global whole-system change, whether that of groups, individuals or of organizations	Focuses on feedback loops operating at local level through which activity may be escalated into unpredictable outcomes
Designs and facilitates off-site meetings to develop strategies, and to build teams	Intervenes in the ongoing conversational life in organizations in which people continuously co-evolve action contexts
Collects data on generic system variables through surveys, interviews and other instruments to feed back to the system	Invites an exploration of the relationship between the system's formal agenda (what the legitimate system says it knows) and the multitude of informal narratives by which the organization is working (what the shadow system knows). These feedback loops generate their own outcomes
Emphasizes the need for alignment and consensus around clear directions	Amplifies existing sources of difference, friction and contention so that complex learning might occur, provided that people's anxiety in the face of such learning is well enough contained

Table I.
Consulting activities
from traditional and
complexity perspectives

lively and we were subsequently told that the panel's decision to appoint us was unanimous.

Commentary. We were told by one of the directors: "Everyone else made a presentation based on knowing what to do. You were the only ones who spoke openly about not knowing, while still being convincing. It was quite a relief."

Our success in interesting the client group in working with us seemed to be based on:

- arousing curiosity about the contradictions between the messy nature of our experience of organizational life and the way the client group was speaking about the rational implementation of prior intention; and
- making it legitimate in this situation not to be able to specify in advance outcomes and a plan of action; by so doing we made “not knowing” an intelligent response.

This approach helped to contain the anxiety of facing the real uncertainties of such a project together.

Contracting for emergent outcomes

The purpose of our next meeting with members of Boroughsville was to clarify our contract and to decide on the next steps. We were employed on a per-diem fee, submitting invoices once a month so that the CEO and others could track how much money was being spent. The CEO had agreed a total budget for the project of organizational cultural change, but we did not ask him to disclose this. All we asked was that he stay in dialogue with us about how judgments regarding value for money and the continuation of the project were being made.

The only diagnosis we had available to us was this: the CEO believed that his organization had become frozen in its bureaucratic ways and was no longer evolving in tune with what he saw as the exciting and difficult developments in the whole context of local government and the possibilities he glimpsed. Despite all the work done on a “vision” for Boroughsville and the key objectives stated in a newly developed medium-term plan, he admitted that he did not know what the result of culture change in the organization should be, simply that change was needed. In other words, he was talking about the need to make decisions in conditions far removed from certainty and agreement where it is not possible to plan change. Despite this he had already created a number of task forces and project groups of relatively senior managers. For example there were the devolution, customer service, communications, performance management and compulsory competitive tendering task forces. All of these were briefed to come up with recommendations and action plans to report back to the executive management team.

We explained that we would do some work with the formal system, particularly in finding out what these project groups were doing, but we would not be making surveys or undertaking culture audits, nor would we be interviewing people so that we could report back on our findings. As we began to work with staff in the directors’ areas of responsibility, we agreed that we would meet and talk with them primarily so that they would know who we were. We stressed that we would be making relationships, not collecting data. We asked to be given freedom of the organization: a letter to all employees from the CEO clarified our role in the legitimate organization. This letter also published our contact numbers and an invitation for anyone to call us to talk

and make suggestions about what we should be doing and who we should be working with. We were given the usual formal organization charts, a list of all the existing task forces, working parties and project groups with the name and number of the person chairing each group. We asked for a copy of the internal telephone directory and said we did not need anyone to set up meetings for us. We would be spending some time wandering around the organization making such connections as we could. In order for us to be able to wander around, we were issued with passes like other employees rather than having to sign in and out as visitors. We had “joined” the organization.

Commentary. Key aspects of the “contract” that enabled us to work as we wanted were:

- We had a clear formal role in and accountability to the organization, which was widely publicized.
- The client understood that he would be paying for us to take the time to become active participants in the organization’s shadow networks without a prior plan of action.
- There was a mixture of interest and anxiety about this approach. We agreed to meet and talk with the CEO, and whoever else any of us wished to include, in order to make sense out of our work. Any of us could instigate such a meeting at any time. Instead of monitoring forms of control, possible only in a linear system where the links between cause and effect can be traced, a non-linear system needs a process of drawing the map while travelling to create the paths.

Working the net

The member of staff in the reprographics section was our next connection. One of his duties was to take photos of staff for security passes. Conversation with him led to introductions to some of his colleagues, and suggestions were made about other people we should meet to learn about current activity that was exercising these people. For some days, sometimes together, sometimes separately, we were handed across links in the diverse networks of the organization. This was exhausting because of the bewildering richness of impressions gained. We had no way of knowing who or what would turn out to have particular significance, nor did we really know what people made of their encounters with us. We learned names, heard many stories and experienced being adrift in the system.

We met one of the sub-editors of the in-house magazine and he inserted a last-minute paragraph in the next issue with the headline “Can we talk?”. In it we asked the organization this question: “How do the two of us engage with an organization 8,000 strong without becoming bureaucratic?” We stated that we would be in a certain room between certain times on certain dates and invited people who were interested to talk with us to simply turn up – the topic was change in Boroughville.

On the first occasion we waited for ten minutes in an empty room with a trolley full of coffee wondering whether anyone would come. Six people did. Next time there were only two, then 18, 14, 12 and 22 on successive occasions. Each time we encouraged people to tell the story of how they came to be at this meeting and invited the groups to discuss the cultural patterns they perceived.

On the last occasion, we said that some 75 people had come to these meetings and someone responded: "Wouldn't it be good if there were a hundred of us?" The nature of the "us" remained usefully shadowy and ambiguous. Thus the seeds of what became the Boroughville 100 forum were sown. We wrote out a note to those who had responded to our "Can we talk?" invitation, to the few who had called us and others we had met on our wanderings, announcing the creation of a forum for communication and participation about the way the organization was and was not changing. It was open to them to come if they wanted and to bring or influence others to come. Again we waited with more coffee in a large hall we had located. Some 60 people drifted in over the first 20 minutes and milled around talking and drinking coffee. We had arranged circles of chairs in small groups and we invited people to sit down and discuss with each other what they thought this forum was for. After half-an-hour we suggested that half the members of each group left and joined other groups and continued the conversation. We repeated this suggestion twice more and then asked people to say what was emerging. We logged up the range of aspirations, frustrations, questions, demands and suggestions that arose in the larger group conversation. We left the inevitable "what happens now?" question to be answered by the group. People wanted to publish the material, as it was, in *Talking Point*. Others wanted to set up informal groups to explore various things. Others wanted another forum meeting. Others wanted to invite other people to another forum.

Over the next year the forum met eight times, evolved other structures and purposes and changed its name to The Exchange.

Commentary. Complex adaptive networks move away from stable attractors into bounded instability as key parameters are raised. These parameters are the rate of flow of information and energy in the system, the richness of connectivity and the diversity of agents in the network (Kauffman, 1991). The forum was an attempt to stimulate the system's self-organizing potential by "tuning up" these parameters. In human systems, other critical parameters have been suggested – the use of power differences and the level of anxiety (Stacey, 1996). We paid a great deal of attention to sustaining the tension in the forum between exciting-disturbing ambiguity and supportive-containing structures. It was, paradoxically, a place where, although people held different amounts of power in the legitimate system, no one person or group was in control of who came or what unfolded at each forum meeting. It was possible only to influence it by participating in the process.

Working in the tension between the legitimate and shadow systems

In parallel with the evolution of the forum, we worked with various official task forces and working parties, and with various groups of managers and their

staff. In all cases we joined these groups as they worked on their immediate business. Our work, as we saw it, was to provoke the groups to examine and question the assumptions they were working with and the structures of meaning they created by their actions.

We also actively followed up official meetings with informal conversations on the phone or by dropping in on people. Some of the people we worked with in such meetings also became involved in the forum and some people whom we encountered informally asked us to attend official meetings. This created many opportunities to surface the way people worked in the legitimate and shadow networks of the organization.

Over a period of some months interesting developments took place. Members of the formally installed task forces and working parties who were briefed to design and recommend the “what” and “how” of change interacted with each other and other individuals and interest groups. As a result, some of the original groups “died”, others split into sub-groups, people co-opted themselves into groups, membership of some groups reached further into the organizational hierarchy, leadership changed and other interest groups came into being. At the fifth meeting of the forum, we drew a map of all the groups at work on various issues while people who belonged to any of the groups were speaking about their activities. The links they saw with other groups, the difficulties they were experiencing, and the progress they were making then became evident. The CEO, who was at this forum meeting, was surprised and delighted. Talking with us afterwards, he clearly found it hard to understand how the switch from the original formalized structure of groups producing reports to a network of activity had happened – it was unplanned. “We must capitalize on this,” he enthused. “I shall appoint someone to co-ordinate and capture the work of these groups.” He caught the expression on our faces, paused and then said: “OK. I think I’ve got it. This is what you have meant by self-organization – I don’t need to appoint a co-ordinator because these groups are co-ordinating themselves.”

Over the next few months the structures of the groups that had emerged became firmer and the change network acquired a quasi-official status with a core group and a broader periphery. After the sixth meeting of the forum, members of the change network core told us that they would take over the organizing and facilitating of the forum. They started taking the forum out to other parts of the borough and changed its name to The Exchange.

Commentary. Several reflections are worthy of note:

- In a complex adaptive system, novelty is created bottom-up, not top-down. The local interaction “at play” in the shadow system eventually creates visible outcomes by which this interaction is recognized more widely. We worked with people in Boroughsville to develop their ability to “see” this dynamic at work and to participate in the process fully rather than interfere with a knee-jerk reaction to try to seize or control it.
- Our “tools” in this work were narratives – the stories people told themselves and one another about how “things really happened”. We

encouraged people to work with the tension between stories told in hindsight and those told in the middle of actions and events, between those that became the authorized version and the unofficial versions. This was often uncomfortable work.

- The social, political and psycho-dynamic processes at play in the shadow system are as potentially destructive as they are creative. People need support to reflect together on what is happening so that complex learning occurs. We also needed the help of a “shadow” consultant not working directly with the client system, to help *us* “see” the part we were playing in the shadow system.

Working with feedback loops – 1

A difficult incident occurred during the third forum, which caused ripples of concern to run through the grapevine. Someone with considerable formal authority was seen to respond with deep concern to a story told by an escort who drove handicapped children to school – she was complaining about the problems she was having with her supervisory management. This reached the supervisors’ ears like wildfire and they complained to their managers that they were being unfairly blamed – higher authority was being told only a partial story. They also complained to their union representatives that they were being undermined. Their managers wrote memos up the line, and one of the directors wrote to the CEO saying that a review of our activities should be instigated forthwith. He said that questions were being asked in council committee about the cost and value-for-money of the whole project. The CEO arranged for a questionnaire to be drawn up and sent around the organization, asking about the results of our work. Wherever we went, people said that they had heard there had been some trouble at the last forum. At the next meeting, an unprecedented number of more senior managers turned up.

We put up a large picture of one of Senge’s system archetypes showing how an amplifying feedback loop can meet a limiting condition which kicks in a damping loop that returns a system to equilibrium when perturbed. We talked about the “incident” and its aftermath in these terms and referred to the effects of what people called the “blame” culture of the organization as an attractor of the system. We invited people to talk in small groups about their understanding of the forum in the life of the organization. What part was it playing? How? What dynamics were being created? These conversations began in a low-key way then began to develop into a loud buzz of animation. Later someone said: “No wonder we’ve got a phalanx of big brother here today.” A ripple of laughter went round the room. We suggested that one of the union representatives should come to the next forum. She became a regular member. The questionnaire faded away.

Commentary. Stable patterns of interaction in a complex adaptive system occur when damping feedback loops produce repetitive patterns. We had touched a key dynamic in the legitimate system which sustained its current

nature. If the forum had existed only in the legitimate system, its usefulness may have been severely curtailed. Reflection on its own processes, without trying to bring these to any explicit consensus, stimulated again the many different interactions which always carry the potential of further unexpected amplification.

Consulting from
a complexity
perspective

Working with feedback loops – 2

One of the sub-groups that emerged from the original employee communications task force found itself in conflict with another group about the nature of communication. One group spent much time researching best practice, drafting policy statements and writing recommendations for managerial behaviour. The other group wanted to show how the issues of poor communication were culturally based. In its determination to demonstrate how misguided the first group was, the second came up with the idea of asking the drama centre, which produced theatrical events for Boroughsville's schools, to illustrate some vignettes at a meeting with the executive management team. In subsequent conversations with us and members of the drama centre, the idea began to grow. Why not produce something that more people would see? Why not produce a play about Boroughsville? Why not get the organization to produce the material for such a play?

A director and scriptwriter began talking to people about the idea. We suggested that the next forum could be used to generate material. At this event, which the mayor happened to attend, a circus-ring of chairs was created and the director explained how he was going to work. Three professional actors began just two or three exchanges in a scene set in the organization of Boroughsville. Three small groups of five people volunteered to work with each actor. At any time a group could call time-out and each group went into a huddle with their actor for one minute to suggest how the character should be thinking, feeling and behaving. We suggested that the other people present also form small groups to discuss how things should develop. In this way, out of a mess of constant interruption, reassessment and a few more exchanges, a surprisingly coherent mini-drama was created which caught the imagination of all those present and led to very animated discussion.

This was so successful that a paragraph was put in *Talking Point*, inviting other people from all over the borough to take part in a few more smaller sessions conducted in the same way. Within two months the scriptwriter had used the material generated to create a play lasting an hour-and-a-half. This was very well produced and acted, provocative and funny in parts, with many themes being explored on stage simultaneously and a highly ambiguous ending. It traced the attempt of a new manager in a fictitious organization to introduce change in the way her department worked. Did the organization change, or not? The play was understood by its audiences in many different ways. It was given 20 performances, morning and afternoon, over two weeks, with anyone in the organization being invited to book a seat for a performance. Members of the communications team, the director and actors afterwards

engaged the audience in discussion about the issues raised. Members of other organizations in the borough and people from other boroughs in the city were invited to a special evening performance. The play was so well received that performances were commissioned by other organizations, and the fees thus earned offset the costs of the production.

The play was followed up in work groups from all over the organization as a team of internal facilitators, developed by the communications team, helped groups discuss the play as reflecting practices in their own situations that they might want to change. From a small beginning a rather unusual form of employee and management development had been created.

Commentary. In a system in equilibrium, damping feedback loops dominate the system and sustain the status quo in the face of perturbation. Since the links between cause and effect are rapidly lost in a non-linear feedback system operating far from equilibrium, it is impossible to predict how small incidents may be escalated to major consequences or damped down to diminish effect. It is not possible therefore to know in advance what in the longer term will seem very significant or what kind of significance that will be. It is no good trying to diagnose the levers of change. However, a consultant, by paying attention to fanning rather than controlling what is actually happening, can help keep a system away from equilibrium where amplifying feedback loops can do their work in creating unexpected outcomes.

In human systems, the existence of covert and less conscious processes in the shadow system are a potential source of both stability and instability. We try to find creative ways to make these more visible and available to influence.

Outcomes?

Two years down the road the organization is still in the middle of a major period of change, just as people had said it was when we first became involved; but the changes have altered. Some people think the organization is a very different place from the one they worked in two years ago. Others think it has changed little. The extent of change perceived depends on a person's particular experience of the two years, as well as his or her sense of the aggregate history. The change network still exists, and there is explicit conflict and much underground tension between its members and a newly formed project team which is officially charged with implementing a major structural change. We learned eventually that the organization had spent on consultancy fees in two years, about a third of the expected budget for a programme of culture change workshops, as originally envisaged.

Conclusions

I have illustrated in this paper, with reference to a cultural change assignment what can happen when consultants who are increasingly dissatisfied with traditional forms of planned change operate from a perspective of complexity. This perspective provides coherent practice which can make sense of itself in new ways. Instead of concerns about the ethical and professional dangers of

getting sucked into the shadow system of an organization, this paper has argued that it is here that people have to deal with the disorderly paradoxes and contradictions of their official and unofficial roles. An OD consultant can work most effectively when he or she operates in the shadow system from which emerges the capacity of an organization to evolve creatively rather than think of itself as moving from one intended state to another.

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