7 Organizational Change and Learning

… we contend, bureaucratization and other forms of organizational change occur as a result of processes which make organizations more similar without necessarily making them more efficient.
PAUL J. DIMAGGIO AND WALTER W. POWELL

… the real problem of strategic change is ultimately one of managerial process and action; of signalling new areas for concern and anchoring those signals in issues for attention and decision, of mobilizing energy and enthusiasm in an additive fashion to ensure that new problem areas found and defined eventually gain sufficient legitimacy and power to result in contextually appropriate action.
ANDREW PETTIGREW

Organizational defensive routines are anti-learning and over-protective.
CHRIS ARGYRIS

Today's problems come from yesterday's 'solutions'.
PETER SENGE

Fast decision-makers use, more, not less, information than do slow decision-makers.
KATHLEEN EISENHARDT

Imaginization – an invitation to develop new ways of thinking about organization and management – an invitation to re-image ourselves and what we do.
GARETH MORGAN

Organizations do change, whether for better or for worse, and writers on organizations have examined the ways in which change comes about. Some have concentrated on the factors in the organization's context and environment which appear both to impel particular changes to occur and also to set constraints on them. Others have underlined that appropriate change which assists the organization to become more effective only comes about through considerable effort on the part of the organization's managers. They have to understand the need for change and be consciously working to achieve it. In addition, modern organizations are in situations which require continuous development. They not only need to change; they have to acquire a capacity for learning.

Paul DiMaggio and Walter Powell argue that organizations change to be more like each other, since the pressures from the state, from other institutions and from professional standards require managers to conform to accepted practice. In contrast, Andrew Pettigrew underlines the specific complexity for each organization of the interacting factors of context, content and process with which managers have to grapple to execute an effective strategic change.

Chris Argyris points to the power of 'defensive routines', the psychological blocks to considering change, which limit an organization's ability to draw on the full potential of its members. He suggests ways in which they might be overcome to produce an organization more open to change and able to participate in new learning. Peter Senge is concerned to establish the characteristics of a 'learning organization', that is, one which, through a systems approach, is able to learn continuously.

Kathleen Eisenhardt advocates a strategy for change for firms in fast-changing environments called 'competing on the edge'. Gareth Morgan maintains that understanding an organization is greatly helped by applying a range of different images to it. This 'imaginization' is the key to being better able to conceive of possible changes.

Paul J. DiMaggio and Walter W. Powell

Paul J. Dimaggio and Walter W. Powell are American professors of sociology based at Princeton and Stanford universities, respectively. They are leading exponents of the particular approach to the study and understanding of organizations known as 'Institutional Theory'.

Institutional theory begins from Weber's views on the functioning of bureaucracy (see Chapter 1). Weber argues that the 'rational–legal' bureaucratic type of organizational structure has become dominant in modern society because it is the most efficient form. It is based on rationally calculating how to organize to achieve desired ends. It has a hierarchy of authority, experts who have specific areas of responsibility, and a system of rules, which together control the organization's activities. It uses the files of the 'bureau' to record the past behaviour of the organization and to capture the professionally determined best available knowledge relevant to its goals. It can therefore carry out its activities unambiguously, predictably, continuously and speedily. Since it is efficient, bureaucracy is used by governments needing both to control their staff and citizenry and to give equal protection under the law. It is also used by capitalist business firms who are in competition and therefore need to operate efficiently.

Writers in Chapter 1 of this book, like Chandler, Mintzberg and others, seek to describe and explain different types of organizational structure. But DiMaggio and Powell point out that bureaucracy has spread continuously during the twentieth century, becoming the usual organizational form. They therefore ask, not why organization structures differ, but why there is such an overriding degree of homogeneity in organizational forms and practices. Organizations of the same type in any organizational field (for example business firms in the same industry, government departments, hospitals) may have displayed considerable diversity in approach when they were first set up. But once a field becomes established there is an inexorable push towards bureaucratic homogeneity.

But, unlike Weber, DiMaggio and Powell question whether this convergence is due to the efficiency of the bureaucratic form, which leads all to strive towards it. Rather, they maintain that the convergence is a result of institutional pressures from the environment on managers in an organizational field to become more similar to one another, *whether this leads to greater efficiency or not*. This emergence of a common structure and approach among organizations in the same field is referred to as *institutional isomorphism*. This is the constraining process which forces one unit in a population to come to resemble those other units that face the same set of environmental conditions. It is important since among the major factors that organizations must respond to are other organizations in their environments. It is through these organizations that managers get their ideas about how to run organizations and obtain legitimacy for the actions which they take. Legitimate actions are those which conform to the common view; they do not have to be effective.

There are three mechanisms through which institutional isomorphism produces conformity: *coercive* isomorphism (which stems from political influence), *mimetic* isomorphism (which results from responses to uncertainty) and *normative* isomorphism (which results from the professionalization of managers and specialists). Each of these mechanisms describes a process by which ideas from institutions in the organization's environment become legitimized and adopted.

Coercive isomorphism results from pressures, both formal and informal, from other important organizations in the environment. These pressures are of various sorts. They may have the force of law as, for example, pollution-control regulations or anti-discrimination legislation. They may come from external institutions, as when government support agencies require certain accounting procedures to be in place before giving their support to charities, or when important customers require particular delivery systems from their suppliers. The pressure may come from internal authority as, for example, in the case of common control information required by the head office of a corporation from all its subsidiaries. The pressures may be persuasive in character, but they are still very real, as when standards for school curricula or new products are publicly recommended.

One result of coercive pressures may be that the conformity obtained is only superficial. Indeed, in some cases there may be a general collusion that something is being done rather than actual change taking place. For example, health and safety regulations may ensure that all organizations appoint a specialist officer, but may otherwise allow the issue to be relatively neglected throughout a whole sector. All these institutional pressures act coercively to produce a convergence in structures and procedures.

Mimetic isomorphism is based on imitation. All organizations face uncertainty, having to deal with problems with ambiguous causes and unclear solutions. This leads to what March (see Chapter 5) has identified as *problemistic search*, that is, a short-term, short-sighted, simple-minded activity to find ways of dealing with a particularly urgent problem. A common result of such searches is to copy what others in a similar situation are reported to be doing successfully, since this gives legitimization. For example, following their application in a firm generally regarded as successful, new management practices, as propagated by consultants, may then be regarded as legitimate and be taken up by many organizations.

So techniques such as job enrichment or zero-based budgeting, and new philosophies, such as 'excellence' or human resource management, quickly spread. A dramatic example of such imitation is the way in which the concept of quality circles was neglected by US managements until it proved popular and effective in Japan, and it was then rapidly legitimized and embraced by Western firms.

Such imitation may lead to a quick viable solution with less expense, but it is often undertaken when no such benefit is obvious, since being the same as the rest reduces management's feelings of uncertainty and can produce benefits in terms of image. As an example, Powell studied a public television station which, on a consultant's recommendation, switched from a functional structure to a divisional one (see Chandler, Chapter 1). Station executives were sceptical of any efficiency gains: some services had to be duplicated across divisions, for example. But they adopted the change because they wanted to give the image that the station was becoming more business-minded. Again, all these pressures to imitate foster an organizational conformity.

The third source of environmental pressures towards organizational convergence is that of *normative isomorphism*. This results primarily from the continuing professionalization of the organization's managers and specialists. They wish to demonstrate that they are fully professional and up-to-the-minute in regard to good standards, whether in information technology, accounting requirements or marketing techniques. Having had a common training, professionals are in many ways much closer to their professional counterparts in other organizations than they are to their managerial colleagues in their own. They therefore propagate common norms of legitimate practice which push all organizations to converge.

An important way in which normative isomorphism is encouraged is through the selection of the top personnel of organizations. A filtering often takes place. This might come about through the practice of recruiting high-fliers from a narrow range of training institutions, for example Ivy League business schools in the US and *grandes écoles* in France. Another filter comes from promoting to top positions only from a narrow range of specialisms, for example financial or legal. Professional careers may themselves be controlled at entry level and at key progression points. All these filters create a pool of individuals in senior jobs with very similar backgrounds, training and experience.

These similarities have been shown among superintendents in a US public school system, and among the board members of the Fortune top 500 companies. Some entrants to senior jobs are different, having managed to avoid the filters, for example black senior officials, women board members and Jewish naval officers. They are likely to be subjected to considerable persuasive pressures to gain legitimacy by acting in exactly the same way as the others. As before, the results are that the norms practised lead to organizational isomorphism.

These pressures for institutional isomorphism are so considerable, maintain DiMaggio and Powell, that the processes can be expected to continue even in the absence of evidence that the changes increase organizational effectiveness. Indeed, if organizations do become more effective, the reason is often that they are rewarded for their similarity to other organizations in their field. This can make it easier for them to transact business with other organizations, to attract professional staff and to be acknowledged as legitimate and respectable – this last being very important to public agencies in attracting financial support. But none of these factors ensures that they are actually more efficient than deviant organizations.

DiMaggio and Powell with colleagues have conducted an international survey of the changes taking place in firms at the dawn of the twenty-first century. In the twentieth century the automobile factory with its standardized assembly line represented the epitome of efficient working. Coming into the twenty-first century it is the computer which provides the ideal model, causing an emphasis on networks and flows. There is general agreement that change is occurring. The structures of business firms are becoming flatter, relying more on teamwork and less on elaborate hierarchies. This is reflected in current mimetic processes such as benchmarking, normative processes such as consultant firms with standard packages of recipes for management success, and coercive processes such as state-backed ownership networks in post-socialist Eastern Europe.

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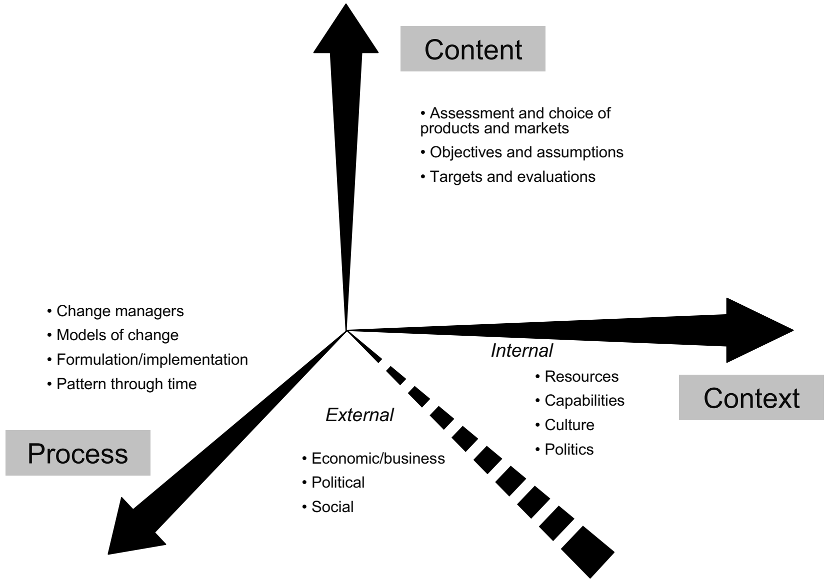
Andrew Pettigrew

Andrew Pettigrew is Dean and Head of the School of Management of the University of Bath, England. For many years he was Distinguished Professor of Organizational Behaviour at the University of Warwick Business School, where he founded and directed the Centre for Corporate Strategy and Change. The centre has been a leader in strategic change research in Britain. In its work on understanding the process of change it takes a historical approach that is grounded in a detailed study of the context of an organization in its industrial environment.

Pettigrew maintains that strategic change is a complex, situation-dependent, continuous process. As the diagram shows, it has to be understood in terms of three essential dimensions: context (both internal and external), content (for example objectives and assumptions) and process (for example implementation patterns). Since management decision making is a political process, change is inevitably suffused with organizational politics. In major decisions, whoever is powerful among the decision group will determine the outcomes.



Dimensions for Understanding Strategic Change

Source: Pettigrew and Whipp (1991).

The bases of power in organizations may vary, *The Politics of Organizational Decision-Making* is a detailed study of how one decision came to be made: the acquisition of a new computer system by a British chain store. In this decision the technical manager was very powerful. One important source of his power was his ability to understand and to control the information on options which went to the board. This is an example of a common power base: the emergence of a strong specialization in a then new technology, which reduces the power of the non-specialists. But other bases of power are also available, and what they are have to be examined in each case by studying the management processes in the context in which they take place. No easy generalizations can be made in relating these to the outcome decisions (see Hickson, Chapter 1).

This focus on the processes of strategic change was continued by Pettigrew in detailed studies of change in a number of divisions of ICI, the then British industrial conglomerate. Change may be viewed as a sequence of four stages, each with its own problems.

1. *The development of concern*: this involves problem-sensing, leading to legitimizing the notion of change and getting it on the corporate agenda. It is a time-consuming and politically sensitive process, and one in which top management plays a critical role. One of the contributions that leaders of ICI such as Lord Beeching and Sir John Harvey-Jones made was to continually flag up key problems facing ICI which required it to change.
2. *Getting acknowledgement and understanding of the problems*: the building of a climate of opinion necessary for change was shown to be a long process, requiring many iterations and encountering blocks and unpredictable areas of movement along the way. Major change always affects power structures, career paths and reward systems and is therefore unlikely to be straightforward in its application. In two ICI divisions management training and development were used to equip the managers with the capacity to carry through the operational changes.
3. *Planning and acting*: it is very important in this stage to have established a desired future state of the organization around which planning can take place and commitment be generated. In one division of ICI this involved giving out clear, simple messages within a broad philosophy of downsizing and reorganization for profitability, and maintaining them without dilution.
4. *Stabilizing change*: in this stage management needs to ensure that the rewards, information flows and pattern of power and authority support the new position. Since changes are often initiated by key figures, a danger is that they last only as long as these individuals remain in their posts. A key task is thus to ensure continuity by the development and appointment of appropriate successors.

Pettigrew also examined the contribution of the various organizational development (OD) groups which were operating in the different divisions of ICI. Their success, and continued existence, varied considerably between the divisions.

One chastening lesson is not to expect too much from such OD specialists. As one supportive senior manager put it: 'using OD is in the first case an act of faith'.

In a further study with his colleague the late Richard Whipp (1954–2005), five key problems of managing strategic change were identified. Each of these is complex in itself, in addition, has to be related to the other four. The problems are:

- assessing the environment;
- leading change;
- linking strategic and operational change;
- treating human resources as assets and as liabilities;
- developing a coherent approach.

These five problem areas are examined in detailed studies of firms attempting to manage strategic change in the British vehicle, book publishing, merchant banking and assurance industries. Among the firms studied were Jaguar, Peugeot Talbot, Longman, Kleinwort Benson, Hill Samuel and the Prudential. For each area there are many factors and mechanisms to be examined, and these are different for each industry and for each firm.

When tackling the first problem, *assessing the environment*, it is not enough for companies to regard this as a technical exercise which can be left to appropriate specialists. Understanding the environment must be regarded as a multifunctional activity in which all top management participates as a continuous learning process. This is because for key firms in an industry there is a large subjective element in which their understanding, and therefore their company's activities, actually determine what the environment will become (see Weick, Chapter 4). Thus the understanding of Longman staff as to the nature of their environment led to actions on their part which altered the shape of the book trade and helped to redefine the nature of that market. Again, the change in the 1970s in the way in which the Prudential Assurance company viewed the basis for competitive behaviour in the assurance industry – away from actuarial risk towards product diversification – enabled it to redefine itself as the 'Prudential Corporation'. It was thus better placed to move forward to the structural changes necessary to operate in the changing market.

The second problem, that of *leading change*, is also complex and situation-specific, best done in a series of incremental steps in which many managers are involved. It requires building a climate accepting of change within the firm and, in addition, building the capability to mount the changes. This is quite the opposite of the 'heroic leader' notion of leading change, which is inappropriate. Thus the regeneration of the car company Peugeot Talbot required the establishment of new, open working relationships among senior management, a reworking of the relations with the parent company, a rebuilding of the confidence of the staff, shell-shocked after earlier major contractions, and the progressive elaboration of a new model programme through improved communications and structures. Such a change from survival to regeneration could not be accomplished by one person or through a single programme. It involved the emergence over a period of years of new leaders both at the top and at lower levels within the company.

The next key problem then becomes the *linking of strategic and operational change.* This is difficult because the implementation of strategic intentions over time inevitably transforms them, and what is done during implementation may overwhelm the original strategy. Indeed, often what are considered as strategies are merely the post hoc labelling of what was done: 'that worked, so it was our strategy to do it'. Great attention is required to ensure that operational aspects do not undermine the general strategy. Actionable targets must become the responsibility of change managers operating at many levels. They have to be supported by re-thought communication mechanisms and new reward systems. A major problem is that both strategic and operational change processes have to happen over the same time span and inevitably become 'political' as they press for change and meet opposition.

The problem is highlighted in the contrast between the two merchant banks studied. In the 1970s, Kleinwort Benson had begun to sense trends in its environment, to identify the need for strategic development and to foster a commitment to strategic change among senior staff. In the 1980s, these capacities allowed the firm to adopt a broad strategic position (the expansion of international banking) and to work to drive the implications of the strategy throughout the organization. It was able to learn from failures (for example the slowness of internal deliberations, which led to the failure to purchase a Far Eastern stockbroker), to make compensating changes linked to the strategy. By the time of the deregulation of the British stock market in the 1980s it was able to take relatively swift action, for example, in the acquisition of specialist firms in new activities such as 'interest rate swaps' and 'Eurobonds'.

Hill Samuel, on the other hand, did not construct a fresh corporate strategy in the 1970s: what strategy there was emerged from the amalgam of operational activities, which were continually growing and diversifying. It did not, therefore, develop a capacity to formulate and implement strategy. So in the early 1980s the linking of strategic and operational change was immensely difficult. The gap between the new ideas and the organization's capacity for change was very wide, and the new chief executive had to build up linkages personally. Over a period he had some success, but the strategic and operational linkages were still comparatively immature. Thus the senior management never resolved differences over location, and when the board offered to sell the company to a Swiss bank, the chief executive resigned. Although that deal fell through, the firm was then purchased by the TSB, a British bank.

It is vital to regard *human resources as both assets and liabilities* and to take appropriate action. The organization's members must provide the knowledge base for learning, but it is also necessary to undertake 'unlearning' when the established conceptions and skills are no longer appropriate. Shedding outmoded techniques and attitudes is not easy. Jaguar, for example, had to launch a major programme of human resource management (HRM) in the 1980s when it undertook the challenge to become a profitable, high-quality car manufacturer. It had to move away from the traditional British motor industry's conflict-focused industrial relations view of personnel management. The new HRM approach involved recruiting staff, training staff and developing the commitment of all to the firm's mission. This was done through the use of new specialisms, such as manpower and salary planning, and internal communications services. Schemes for profit sharing, employee shareholding and learning to develop new skills were established. These added up to a very demanding set of changes that needed considerable resources.

And the final problem is that of *coherence*, that is, the ability to hold the organization together while simultaneously reshaping it. Four elements of strategic thinking are required:

1. *Consistency*: ensuring that the attempts to tackle existing problems do not contain internal contradictions. For example, earlier in Peugeot Talbot's existence its then owners, Chrysler UK, tried to make it into a high-volume car producer although it had not mastered the special production techniques required.
2. *Consonance*: that the strategy should be well adapted to the environment. It should not become the victim of the organization's entrenched partial view of its competitive position, as was the case with Hill Samuel.
3. *Competitive advantage*: that the strategy aimed for should give comparative advantage in the market. For example, Longman's growth strategy included the market-led decision to add the fields of professional and business publishing to its established strengths in educational publishing.
4. *Feasibility of the strategy with the resources needed*: this was a problem that Jaguar, for example, had to beware of in its rush for change and growth.

Together with Evelyn Fenton, Pettigrew later initiated a European network of research groups to study innovating organizations and the effects of those innovations on operational success. A programme of survey questionnaires and 18 case studies was carried out. Innovations are defined as changes which develop new features of organizational design either not previously combined or completely new for that industrial sector. Fenton and Pettigrew's own studies were on two innovative professional service organizations; an engineering consultancy (the Ove Arup Partnership) and a management consultancy (Coopers and Lybrand's Pharmaceutical Network).

These were both network organizations but many of the management processes were different. In Arup there was an imbalance of integration of the groups in the network with many cliques forming, particularly affecting the selection of personnel for operational teams. They needed to optimise 'embeddedness' by emphasising a common culture and the creation of 'hubs of knowledge' that could override personal preferences in the constitution of teams. In the case of Coopers and Lybrand the success of the network in terms of growth and revenues, with its concomitant increase in task complexities, required the development of formal co-ordination mechanisms to replace informal, ad hoc arrangements.

The underlying conclusion of these studies is the recognition of the interconnectedness of all the factors involved. It is not possible to provide a general checklist of dos and don'ts in managing strategic change. Only a full understanding of the situation in each case can identify the course of the changes.

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Chris Argyris

Chris Argyris is a psychologist who has for many years been James Bryant Conant Professor of Education and Organizational Behavior at Harvard University, where he is now Professor Emeritus. He began his career at Yale University, and his important contributions to the field have been recognized with the establishment at that university of a Chair named in his honour: the Chris Argyris Chair in the Social Psychology of Organizations.

Argyris has consistently studied the ways in which the personal development of individuals is affected by the kind of situation in which they work. Each person has a potential which, if fully realized, would bring benefits not only to the individual but also to the working group and employing organization. Unfortunately businesses and other organizations are usually run in such a way that such benefits are prevented from appearing.

This is because the typical approach of the managements of organizations and their lack of interpersonal competence prevent people from becoming mature in outlook. Employees too often remain short-sighted in their actions on the job, shirking responsibility and being uninterested in opportunities.

They develop 'defensive routines' which protect their current ways of working and inhibit them from considering any changes – even changes that would improve their present position. In their limited routine tasks they look forward to the end of the day's work, but are unable to foresee the success or failure of the whole enterprise over a period of years. To their superiors their infuriating inability to see beyond the end of their noses and their own relatively trivial work difficulties are inexplicable. They have come to accept a passive and dependent position, without initiative.

Faced with this lack of response, even among lower managers or specialists, executives are liable to become yet more autocratic and directive. Their existing strong 'pyramidal values' are reinforced. The increased use of management controls deprives employees of any opportunity of participating in the important decisions which affect their working life, leading to feelings of psychological failure. It is not they themselves but control systems (such as work study and cost accounting) which define, inspect and evaluate the quality and quantity of their performance. And as subordinates tell less and less about what is happening, as everyone pays more attention to keeping up appearances ready for the next business process re-engineering investigation or tense budget allocation committee meeting, so defensive routines come to be the norm.

These are some of the problems human beings have in relating to organizational life. Together with Donald A. Schon, Argyris has also examined some of the built-in contradictions that arise from the functioning of the organization itself, which has the paradoxical requirement of both wanting to maintain stability and also to be dynamic or changing. Thus, typically, organization members may be told: take initiatives *but* do not violate rules; think beyond the present *but* be rewarded and penalized on present performance only; think of the organization as a whole *but* do not cross into others' areas of responsibility; cooperate with others *but* compete with others when required.

The main problem is not that these contradictions exist, but that, in the usual poor state of managerial interpersonal competence, they cannot be raised and discussed as issues. Although many managers may *talk* about the openness of communication and the participative approach of their organizations (what is called their 'espoused' theory), what they actually *do* may be very different. There are very strong defensive routines built into many managements' thinking, ensuring that they resist the openness which leads to interpersonal change.

Argyris and Schon have demonstrated that the basis of many managers' actions (called their 'theory-in-use') can be subsumed under four rules of behaviour, referred to as Model I: (i) design goals unilaterally and try to achieve them, (ii) maximize winning and minimize losing by controlling the task with as little dependence on others as possible, (iii) minimize generating or expressing negative feelings in public, keep your own thoughts and feelings a mystery, (iv) be rational and objective and suppress the voicing of feelings by others, thus protecting yourself and them from facing important issues which often have an emotional content to them.

Managers who operate on Model I have a unilateral view of their world, in which they are striving to have complete control. Their aims are to defend themselves and impose on others. They thus generate mistrust and rigidity and are therefore confirmed in their Model I view that open discussion of issues is best avoided. The only learning that occurs is learning how to conform (called 'single-loop' learning) and the process becomes 'self-sealing'.

Argyris and Schon propose a Model II theory-in-use which does allow organizational learning. The norms here are: (i) take action on valid information and be open about obtaining it, (ii) take action after free and informed choice, with all who are competent and relevant taking part, (iii) generate internal commitment to the choice with monitoring of implementation and preparedness to change. Managers who operate in a Model II world are not defensive and thus they can participate in 'double-loop' learning. They look for contributions from others who are competent; they are able to confront their own basic assumptions and take part in testing them in public, which allows of their changing.

The issue then becomes: if managers operating in a Model I mode are by definition unaware of this fact since they are using defensive routines to resist change, how may they be helped to develop effective learning in Model II mode? Argyris proposes a training programme to bring out into the open these contradictions, in situations where managers' feelings of vulnerability are reduced. Managers are helped by interpersonal consultants to confront the large gap which usually exists between what is said and done in a decision-making group and what is actually felt by the members. They can then analyse the defensive routines which they habitually use to stop openness and innovation and practise taking a Model II approach in their work.

Using this approach, Argyris conducted a case study lasting over five years, as described in his book, *Knowledge for Action*. It was both a consulting and a research programme – a combination known as 'action research'. He worked with the owner-directors of a management consultancy firm to develop their Model II skills. He shows that his seminars helped them to overcome their defensive routines on many occasions (not all). Inevitably, some managers became more competent at Model II behaviour than others. Often in change programmes it is found that top managers put the need for change high in their espoused theory, but their theory-in-use stays the same. Unusually, in this case it was the senior managers who made the most progress. They are at the forefront of making the firm more capable of organizational learning.

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Peter Senge

Peter Senge, a systems theorist, is Senior Lecturer and Director of the Systems Thinking and Organizational Learning Program of the Sloan School of Management at the Massachusetts Institute of Technology. He argues that, in the present-day complex world, organizations have to be able to learn how to cope with continuous change in order to be successful: that is, they have to become *learning organizations*. His concern is to describe the art and practice of such a learning organization.

It is not easy for organizations to learn because they are afflicted with learning disabilities, such as the following:

- *Excessive commitment of individuals to their own positions*. This limited view leads to people focusing only on their own role and taking little responsibility for the results produced when all the positions interact.
- *Blame always allocated externally, away from the immediate group: the enemy is out there*. It may be other departments (marketing and manufacturing blaming each other), or government regulations, or unfair competition from another country, but blaming external factors hampers learning and is almost always not the complete story.
- *The illusion of taking charge*. Being proactive rather than reactive is attractive to managers, but could simply mean fighting the enemy out there in the same way but more aggressively. Without analysis reflecting on the internal changes necessary, it may simply be disguised reactiveness.
- *Focusing on immediate events as explanations*. This precludes seeing the longer-term patterns of change that lie behind the events and attempting to understand the causes of those larger patterns.
- *Being unaware of slow, gradual processes that present greater threats than immediate events*. It is said that a frog placed in boiling water will immediately jump out but, if placed in warm water which is gradually heated to boiling, will stay and boil, since its sensing apparatus is geared to sudden changes, not to gradual ones. Senge argues that something of the kind happened to the American motor industry from the mid-1960s to the mid-1980s in regard to Japanese and German competition. Over two decades the latter's share of the market rose from near zero to 38 per cent before US manufacturers took it seriously.
- *The delusion that learning comes only from experience*. We do learn from experience, but in a complex system we can no longer directly experience the consequences of many of our important decisions. Decisions on investment

in R & D or on strategic positioning may have large ramifications over a decade or more. It is not therefore possible to learn only on the basis of trial and error.

- *The myth of top management being agreed and united*. This leads to suppression of disagreements and encourages watered-down compromises to maintain the appearance of a cohesive team. If disagreement does come to the surface it is expressed in polarized terms, with those involved finding fault and blaming each other. Thus, as Argyris (previously in this chapter) shows, real 'double-loop' learning does not take place.

To combat these considerable disabilities, Senge proposes five disciplines that organizations need to practise to become learning organizations.

The first concerns *personal mastery*. Individuals need to exercise the highest levels of mastery, not over other people, but over themselves. They need to have a good understanding of themselves and what they wish to achieve. This is the personal learning which is the basis for organizational learning, since no organization's capacity for learning can be greater than that of its members. But few organizations encourage such self-discipline, with the result that there are vast untapped resources of energy and learning potential in organizations.

The second discipline necessitates the continual challenge and review of the deeply entrenched, tacit *mental models* that members of the organization bring to all its activities. Stereotypes of customer behaviour, accepted recipes for product development and the neglect of the possibilities of discontinuous change are examples of mental models that have to be continuously reviewed in an effort to make thinking more open to a wider range of new ideas. The Anglo–Dutch Shell oil company attributes its considerable success over the last two decades in the unpredictable world oil business to its ability to challenge the mental models of its managers.

The third discipline concerns the *building of a shared vision* for the organization and its members of the future that they wish to create. A shared vision has been the key to all successful organizations: the 'value-driven' nature of excellent organizations, as Peters and Waterman put it (Chapter 4). It has to be more than the usual artificial 'vision statement', a genuine vision of what they want to achieve, which firms such as Ford, IBM, Polaroid and Apple computers have displayed.

The fourth discipline is a commitment to *team learning*: an open dialogue of cooperation in groups, rather than turf battles. Only then can the intelligence of the team exceed that of its members, rather than reduce it drastically.

The discipline which unites the others and brings all together in a pattern which can be understandable is that of *systems thinking*. This is the fifth discipline, which provides the title for Senge's book, and is the foundation for organizational learning. It is necessary to think in a systems way which is rather different from our usual focus on immediate events.

There are a number of laws of systems thinking, of which the first is 'today's problems come from yesterday's "solutions".' Often problems arise from 'solutions' which merely shift the problem to another part of the system. A solution to the problem of high stock inventory that involved drastic reductions might result in salesmen spending large amounts of their time pacifying irate customers awaiting late deliveries. The impounding by the police of a large shipment of drugs may result in an increase of drug-related crime as the reduced availability forces the price up and thus increases the crime levels of addicts desperate to maintain their supply. So other laws of the fifth discipline are 'the harder you push, the harder the system pushes back', 'the easy way out usually leads back in' and 'the cure can be worse than the disease'.

A more sophisticated understanding of the way complex systems work is required, and managers need training to encourage systems thinking. Another law of the fifth discipline is that 'behaviour grows better before it grows worse'. Treating the symptoms may bring temporary relief, but at the cost of later, larger problems. There is a fundamental mismatch between the behaviour of complex systems and our ways of thinking about them. This is because, for important issues, 'cause and effect are not closely related in time and space'. The results of a decision taken now may have effects only after some time and in a different part of the organization anyway. Thus the decision to cut the budget of the training department in a particular year may seem a sensible economy. But in the following year the result might be a large decrease in the operational efficiency of a new computer billing system through inadequate preparation.

The basic contribution of the fifth discipline of systems thinking is the art of seeing the wood *and* the trees. Managers do not often take the time to step back from the trees to see the wood and, unfortunately, when they do step back they just see lots of trees! Senge analyses the sad story of the Peoples' Express Airlines, an innovative, low-cost, high-quality airline service in the eastern US, to illustrate the necessity for systems thinking. The airline was founded in 1980 and was immediately successful, growing in five years to become the fifth largest carrier in the USA. But in 1986 it was taken over by another airline, having made a loss of $133 million in the first six months of that year.

What went wrong? Many theories were proposed, including a too great 'people orientation' by the management, lack of an adequate strategy in relation to takeovers, an innovative seat-reservation system introduced by other airlines which allowed price competition, and so on. But each of these theories is only partial. A proper analysis requires consideration of the interactions of five sets of factors (air fleet, human resources, competition, finance and policy levers), which generates a list of over 40 variables which must be considered in a system-wide way. A simulation was built at MIT which allows many of the variables to be changed to evaluate their impact on the system as a whole. Working with simulation suggests that what is required is an organization which is capable of self-analysis, for example, in understanding that you cannot innovate with dramatically new ideas in human resource policies and become a major player in the airline industry within a few years. A firm can grow too fast and so not be able to learn to understand and manage the turbulent changes involved and thus think and act systemically.

A key contribution to an organization's capacity to learn is thus the use of computer-based simulations, called 'microworlds'. These allow for 'play' in developing a more complex systemic understanding of the organization's position and what the possibilities for change are. This leads to the realization of another of the laws of the fifth discipline: 'you can have your cake and eat it too – but not at once'.

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Kathleen M. Eisenhardt

Kathleen Eisenhardt took her first degree in Engineering, then came to the University of Stanford, California where she obtained her PhD in the Business School. She has continued as an academic in Stanford, and is now Professor of Strategy and Organization in the Engineering School. She also acts as consultant to firms in the high technology sector. With a number of colleagues she has conducted continuous research on how managers in organizations seek appropriate strategies and try to carry them out effectively. She has focused on strategies for firms in industries that are changing rapidly and unpredictably, and therefore where an organization must generate 'a relentless flow of competitive advantages' if it is to succeed.

With a colleague, Jay Bourgeois, Eisenhardt has studied executives making strategic decisions in firms in the fast-moving microcomputer industry. The decisions were key ones such as 'Should we develop a new product, and if so, which?' or 'Should we form a strategic alliance, and if so, with whom?' One group of companies was designated as 'fast' in that they made such a strategic decision in under 4 months. The second group was 'slow' in that they spent at least 6 months, and typically more than 12 months in making a comparable decision. These differences challenge some accepted views of effective decision making.

Eisenhardt and her colleagues found that the fast companies made greater use of real-time information than the slow companies. They found that the greater the number of alternatives considered simultaneously, the greater the speed of the decision process. In fast firms, the use by the chief executive of one experienced and well-respected older manager as a regular special confidante or counsellor was common.

In slow firms, the managers' use of 'politics' (for example withholding relevant information, controlling agendas, behind the scenes lobbying and coalition building) was found to be greatest where a powerful chief executive dominated by controlling all the decisions. Real conflict over which decisions to take occurs in all firms, but is not sufficient by itself to generate such politicking. The fast companies avoided politics by making greater use of active conflict resolution, that is, recognizing a conflict and dealing with it, rather than allowing it to linger on.

Genuine conflict – about substantive issues, not personalities – is indeed valuable in causing managers to up their game in situations of pressure. The fast firms typically used a process characterized as 'consensus with qualification'. First, the management team attempts to reach consensus by involving everyone. They focus on the facts, increase the alternatives to be considered, create common goals and use humour in the discussion. If agreement occurs, fine. If not, then the chief executive makes the choice after taking into account the views expressed, and this is accepted by all.

Perhaps the most important finding was that, in this industry, *faster* decision making is associated with *better* performance.

Together with Shona Brown, a management consultant with McKinsey and Company, Eisenhardt has developed these studies and concomitant consulting experience into a framework for understanding strategic decision making for firms in such fast-moving industries where change is incessant. The situation will not even stay the same whilst a strategy is worked out and acted upon. It is necessary to react to changes, but better to anticipate them by foreseeing the market and preparing employees, venture partners and resources in advance. Better still is to lead change by making the moves to which others have to react launching into new markets, raising industry standards, redefining customer expectations.

As Brown and Eisenhardt see it there are three testing questions for managers of such firms: *how to compete*, *how to change*, and *how to keep on changing*? Their answers are summarized as *balance on the edge of chaos*, and *balance on the edge of time* whilst *pacing change*. These are the features of a strategy that they term 'competing on the edge'.

Such a competing-on-the-edge strategy balances the business on the edge of chaos – between chaos and orderly structure. It operates coherently enough to be capable of organizing change but not so organized as to impede it. It balances the business, too, on the edge of time, with multiple time horizons that draw from past experience, focus actively on the present, and continually look ahead to the future. Finally, it sustains a paced change within the business, incessantly bringing forth new products or services or brands or markets.

Competing by balancing on the edge of chaos requires *improvisation* and *co-adaptation* in order to avoid toppling into chaos. Yet being on the edge of chaos is where systems can most effectively change. Systems with more structure than is found at the edge of chaos are too rigid to move. Systems with less structure are too disorganized to be effective.

Improvisation takes on the challenge of balancing sufficient organization to budget, schedule and execute efficiently, with sufficient flexibility to innovate. A telling demonstration of it is given by a continually progressing rock band, or a successful jazz band. These continually improvise as they play, but need a few minimal and semi-intuitive rules, such as who plays first, what are the permitted chords, and who follows whom, to avoid chaos. What matters most is now, the very moment of improvised playing and balancing. In their need for balanced improvisation, businesses are more like rock and jazz bands than might be thought.

Brown and Eisenhardt describe what happened to a computer corporation, which they name 'Royal', when it lost its balance and slipped into *too little structure*. Its management had decided to drive it forward into contemporary markets by adding to its long-established bureaucratic organization some new and rule-breaking sections aimed at bringing in new ideas and new business. Yet because responsibilities were unclear and overlapping, ideas were not effectively carried into action. In Royal both the new hardware section and the existing graphics section considered themselves to be in charge of the product so, whilst each was at the cutting edge in their own field, their technologies were not sufficiently compatible. The scheduling of production was held up by arguments between them. The authority and procedures to ensure coordination were lacking (cf. Burns, Chapter 2). Such ill-defined responsibilities, inoperative rules and communication which, even if plentiful are irrelevant, are all signs of too little structure.

Too much structure, off-balance on the other side, was found by Brown and Eisenhardt in another computer firm, which they called 'Nautilus'. Here there were rules and procedures for everything and a pride in keeping to them. There were detailed plans and organization charts, and minimal time-consuming superfluous communication. The consequence was that, although there was quick and efficient production of their consumer products, these were too often behind the times in such a rapidly changing market where others had the ideas first.

Balanced improvisation on the edge between too little and too much structure is hard to achieve, but one example is the American corporation Nike, based in the athletic footwear market. It has constantly outrun competitors with innovative designs and branding, and moved on into sports accessories (sunglasses, swimming goggles and so on), equipment (hockey sticks, skates and so on) and clothing. Yet it efficiently turns out products at competitive prices that are distributed globally on time. It is said to have the best logistics systems in the industry.

The challenge of *co-adaptation* is to balance the advantages of synergies between different businesses within an organization, with the degree of independence needed by each in its own market. British Petroleum's venture into minerals extraction foundered because of attempted over-collaboration between incompatibles. It looked as if there were economies to be gained from collaboration between the oil and minerals businesses, both of which were based on high-risk exploration, technically complex extraction, and sensitive relationships with governments. This was not so. Sales and earnings of minerals fluctuate in much narrower markets, and the managing of the two businesses could not be profitably interlocked.

Under-collaboration characterized a major American software firm studied by Brown and Eisenhardt. In this vigorous business with youthful personnel the policy was to employ good people and then let them 'do their own thing'. This gave full scope for the creativity needed in this industry from dedicated, hardworking staff. But potential benefits from internal cross-business collaboration were overlooked. The possibilities of sharing programs, including software code and graphics, were hardly recognized. They were no more than afterthoughts. They were no one's concern.

An effective balance of co-adaptation on the edge of chaos has been more nearly achieved by Disney. It has succeeded in a range of businesses from retailing to cable television to its famous animated movie films. The Disney brand image is carried from films into music, video and other merchandising by characters such as Pocahontas and the Lion King. Yet Disney are careful not to overdo this. They have independent film studios that avoid conspicuous links with the rest of the corporation so that what they do is distinctive.

Competing by balancing on the edge of time requires adjusting *regeneration*, drawing on the past, and *experimentation*, venturing into the future. Regeneration ensures that advantages still to be gained from past investment are fully realized. and that the lessons of past experience are not overlooked when venturing forward. The aim must be to exploit the past and to explore the new, not undervaluing either. Organizations balance on the edge of time between past and future, and competing on the edge must make the most of both.

Taking a drastic leap into new business is not the only way to go forward. Managers trying to leave past problems behind and compete on the edge are especially liable to overrate its attractions and underrate its risks. They ignore what can be gained from experience and stake too much on the unknown. Whilst there are businesses that have successfully taken such a leap, the wiser way is to blend past experience with the new, selecting from the past what is relevant to the future. One way is to include a leavening of experienced personnel with the new people who are given charge of new ventures. The other way around, new personnel can revitalize older products. All the best people should not be on the new ventures. Diversification is as much about revitalizing mature businesses as it is about winning new opportunities.

Given that warning, regeneration is nonetheless about moving into the future. McDonalds, for example, has been struggling to shake off its successful past so as to meet the challenge from newer fast foods (like tacos and pizzas) and healthier foods, as well as more variations on the hamburger. They have found it difficult to devise novelty of a kind that does not blur their strong market image and uses their strength in premises and technology. Yet regeneration demands the combination of novelty with experience to progress in an evolutionary way rather than risk the big leap.

The Japanese firm Nintendo demonstrates this. When it lost its lead in the video game sector, it came back with more advanced microprocessor electronics and joystick control that gave its games new levels of speed and visual representation. Yet to retain user loyalty it did not change its previously successful game hero Super Mario. Successful regeneration draws on the past to add something new.

Competing by pacing change is the third element in a competing-on-the-edge strategy. Change should not be left to chance or be just a response to events but it should be paced. One reason for the success of Intel, the leading semiconductor firm, is that it is a more than usually time-paced corporation. It has kept up a series of new products, innovations to existing products, and fresh manufacturing facilities. It has its own rhythm of change, synchronized with that of the marketplace. Similarly, British Airways tries to refresh its service brands at least every five years, and the 3M corporation aims for a third of its sales to be products less than four years old.

Time-pacing means changing because of the passage of time, not because of the occurrence of events. New products, new services, new markets need to come according to the calendar. A momentum of change is built up from within which is insistent, and has a degree of pattern or regularity. It may be synchronized with business rhythms such as seasonal demand, customer fashion or trade exhibitions.

So change becomes familiar and is expected. Personnel at all levels are accustomed to transitions from one product or service or market to another. Although this continual time-paced change may be stressful, the alternative is anxiety over competitors forging ahead, which can be even more stressful.

Event-pacing, the contrasting alternative, is haphazard. It is change in response to events, such as the introduction by a competitor of a new product, or changes in technology. Being reactive it is unexpected and irregular, imposing on personnel spurts of rapid disconcerting upheaval, whereas time-pacing aims at an accustomed, though urgent, rhythm of change that becomes the normal way things are done.

Competing on the edge is not always fully coherent, nor even efficient in the short term. It may take managers 'stumbling into the wrong markets, making mistakes, bouncing back, and falling into the right ones'. Despite the risks, determination to change is more important than short-term profitability, for longer-term profitability will ensue.

The strategy followed by Microsoft in the 1990s, for example, does not look like a carefully coordinated series of initiatives carried through in a planned manner. The series of competitive advantages achieved by Microsoft has occurred in a none-too-coherent way, a strategy more emergent than planned. Their ideas often come from below, as did their switch into Internet working. Some of their initiatives have failed, as did their proprietary version of the Microsoft network. There is no one big move, but incremental steps such as adding a web-page capability to Word, and a web browser to Windows 95. As well as in-house developments there are acquisitions and strategic partnerships to enable the company to remain competitive.

As Eisenhardt sees it, a firm's strategy has to constantly change so as to compete on the edge. So at the heart of a top manager's job is the ability to watch markets, products and organization structures, so as to be able to recognize patterns which point the way to the future.

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Gareth Morgan

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Everyone in an organization has in mind an implicit picture of that organization, a mental image of what it is like. Morgan contends not only that an organization is seen differently by different people, but that it can be seen in different ways by any one person. If multiple images of an organization are used, much greater understanding is gained, for organizations are many things at once, so multiple images envisage more of what is going on. They can reveal new ways of managing and designing organizations that were not apparent before.

Morgan himself puts forward eight possible images of organizations: as machines, as living organisms, as brains, as cultures, as political systems, as psychic prisons, as systems in flux and transformation and as instruments of domination. The name of each image is a metaphor likening an organization to something else and, by doing so, opening up a fresh way of thinking about it.

If an organization is thought of as a *machine*, the emphasis is on the orderly arrangement of who does what and who has authority over whom. This is a mechanical kind of thinking concerned with clear hierarchy, authority and responsibility, discipline, stability and equitable treatment of personnel. It is extolled by classic management theorists such as Fayol and Taylor (see Chapter 4 for both) and analysed by sociologists such as Weber and Burns (Chapters 1 and 2, respectively). The strength of an organization seen and set up in this form is that it works well where a machine would work well; that is, where tasks are straightforward and repetitive, as in a fast-food hamburger chain or an accounts office. Its limitation is that it dehumanizes work.

However, if an organization is seen as a living *organism*, a biological metaphor, then there is less preoccupation with orderliness and more attention is given to adaptiveness. Tasks and lines of authority can be changed to realign the organization continuously in response to its changing environment. This view is extolled by Peters and by Kanter (Chapter 4 for both). It is the organic type described by Burns and one of those described by Mintzberg (Chapter 1). Its strength is that it fosters an organization which is an open, flexible system, giving full scope to human capacities, especially appropriate to competitive and turbulent conditions, as in the aerospace and microelectronics industries. Its limitations are that it can overlook its own built-in conflict potential, and that, as ‘population ecologists’ such as Hannan and Freeman (Chapter 2) have argued, an organization is not infinitely adaptable but can become obsolete and die.

An image of an organization as a *brain* does not mean that it has central planning teams or a research department. Rather, it presumes that intelligence is spread throughout the organization. In this the brain is similar to a holograph, in which any part can reproduce the whole and stand for it. So in all its parts the organization does not just learn, but can learn to learn better. There can be ‘double-loop learning’ (Argyris, earlier in this chapter) that goes further than ‘single-loop learning’ (which only corrects errors) into another feedback loop that questions the operating norms, the ways of working, that lead to error in the first place. Such an organization would accept uncertainty and self-criticism and be able to see further than the ‘bounded rationality’ postulated by Simon and March (Chapter 5 for both). Were an organization to have a rigid structure, these advantages unfortunately might not be realized. Such a structure would have opposing assumptions embedded in it. It would have specialist departments, each holding on to its own specialized information, each unable to learn from the others or to question its own ways of working.

Seeing an organization in terms of *cultures*, Morgan’s fourth image, brings to attention not only its overall corporate culture, but the subcultures of its constituent sections and groups and the societal culture of which its own culture is a part. People who share a culture interpret situations and events in similar ways, sustaining their common outlook with evocative figures of speech, symbols and ceremonies. As an obvious instance, even an empty room symbolizes what is expected, having either ordered chairs and notepads or, alternatively, chairs arranged casually. This cultural view reveals the wide organizational life that is beyond the overtly rational, and shows possibilities of change. Even the relationships of an organization with its environment can be reinterpreted, rethought, and thus changed, as when a railway switches from thinking about passengers, or a hospital about patients, and each begins to think about customers instead.

The fifth image recognizes an organization as a *political system*. An organization can be autocratic or democratic, or anywhere in between. There are departmental interests, management interests and the interests of those lower down, personal career interests, and many more. All interests have a potential for conflict and for wheeling and dealing. They exploit both the legitimate authority classified by Weber (Chapter 1) and the power drawn from controlling resources and know-how analysed by Pfeffer and Salancik (Chapter 2) and Hickson (Chapter 1). The strength of this image is that it helps people to accept the reality of organizational politics and to ask whose interests are being served.

Organizations give purpose and structure to the lives of their members. Our roles become our realities, as Morgan puts it. There lies the danger. For individuals can believe they are more in control than is really the case. In this they deceive themselves, for they can be in a *psychic prison*, attributing to the organization an existence and power of its own and allowing their thinking to be confined by it. Their thinking may indeed be the result of forces in their unconscious, as psychoanalysis has shown. The strength of this prison image is that it exposes how people can become trapped in this way in a certain psychic reality and suggests to them that it is possible to break out of it. Managers can see that their organization is of their own making and take a fresh look at what they are doing.

To see an organization as in constant *flux and transformation*, a seventh possible image, is to see it as being just like everything else in the universe. There are various conceptions of how change takes place. It can be seen as brought about through one-way cause and effect or – and this is better – by mutual causality, in which 'causes' loop back upon themselves; or by 'autopoiesis', whereby the organization changes itself by changing its own environment; or by dialectical change, whereby any phenomenon generates its opposite, as when the power of the employers led to the formation of trade unions. This image warns against an organization being seen as struggling against the environment. Rather it must survive in interdependence with others in that environment.

Finally Morgan draws a picture of organizations as *instruments of domination*. He points out that the building of the Great Pyramid in Egypt was both a triumph of skill and effort and a sacrifice of the labour and lives of many to glorify a few. Organizations achieve much, but as they do so they can cripple people with accidents, diseases and stress. They can abruptly dispose of them after years of service and pollute their habitat. The strength of this image is its recognition that domination of the many by the few is intrinsic to the very concept of hierarchy which exists in virtually every organization.

Morgan shows how the problems of a small firm in the public relations industry may be illuminated by using a range of metaphors. The firm was founded by two senior partners (holding 80 per cent of the equity between them) and two junior partners. It was immediately successful, based on the client-centred, all-round competences of the founders in giving a creative service. New staff, when recruited, were encouraged to develop their overall generalist skills, as well as their specializations. While this was time-consuming and expensive, it did give great flexibility to the firm and allowed greater work interest for the staff. There was high commitment and all worked hard and for long hours. Its success allowed the firm to grow in a few years to 150 staff.

Major conflicts began when the senior partners, feeling that the demands of the organization were too great in view of their family commitments, suggested a change to a more formalized structure. Their proposals included job definitions, set procedures for the change of staff between projects, greater control over when staff were away from the office and, in general, 'more system'. The junior partners objected that the firm was successful precisely because of the present 'creative chaos' and they saw no need for change. They offered to take more of the workload from the senior partners in exchange for more equity participation in the company. But the senior partners were not prepared to relinquish control in this way. In the event, in spite of the convention that the partners operated by consensus, the senior partners installed the changes. They appeared to be accepted, but within a year the junior partners had left to found their own agency in the original 'creative chaos' style. The firm continued, but less successfully, in that its work was now regarded by some clients as 'sound but uninspiring'.

Several of the metaphors may be used to help to make sense of these developments. The *machine* metaphor would point to the increasing bureaucratization and ask what should be the appropriate level of system in view of the size and dependence of the firm. The living *organism* metaphor would focus on the potential incongruence of the organization in its environment and ask whether it has the degree of creative chaos to be successful in its market niche. The *brain* metaphor would note the loss of the holographic character of the enterprise and ask how far it is now constrained to single-loop learning. The *culture* metaphor would lead to asking how far the values of the original culture have changed, and whether there are ways of recreating some of those characteristics in the new situation.

Using the *political* system metaphor points to the considerable differences in power between the partners which allowed the senior partners to impose their own decision when real conflicts appeared. What are the limitations on the organization's processes when this degree of power can be exercised? The *psychic prison* metaphor focuses on the psychological factors shaping relationships, including the senior partners' (probably unconscious) need for dominance and the junior partners' (probably equally unconscious) need to resist.

An important benefit of using a range of metaphors is that they supply competing explanations. Proposals for change from one may be tested against another. For example, if the changes in the company were generated by the owners' unconscious need for control, then the underlying problems cannot be solved by addressing only the issues of corporate culture or learning capacity (see Argyris, earlier in this chapter).

Managers can apply these ideas, says Morgan, by *imaginization*. This is 'an invitation to re-image ourselves and what we do'. In a book with this title, Morgan illustrates what he means and how he uses images in his own work as a consultant 'to create new momentum in stuck situations'. It is a book full of lively cartoons and images, from yoghurt pots to lions. One of them 'imaginizes' an organization as a spider plant. This is a plant which throws out long trailing stems, each with a miniature on its end of the original plant. Managers seeing their organization in this way come up with ideas that they have not considered before. One would be that expansion can be by setting up offshoots instead of by increasing the size of the central plant pot. But then what financial support should these new subsidiaries receive? If the organization already has a dispersed form, this image might prompt them to ask whether the central pot is doing enough. Or too much. Are some offshoots withering and becoming a drain on the centre? And so on. Different images raise different questions and so expose problems or opportunities that might otherwise be overlooked.

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