

**Making Sense of the Notions of Strategy, Systems, and Complexity;
how these concepts are used; how they relate to one another,
and the implications for leaders and managers.**

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Introduction

The concepts of strategy, systems and complexity influence, either implicitly or explicitly, much management thinking and practice. They are informed by theories and sets of assumptions which have similarities but important differences. Sometimes they are unhelpfully conflated and confused. How they are understood and applied have important implications for how we think about leadership and change, and how we make sense of our experience as leaders and facilitators of change.

The notion of strategy in organisations is extremely familiar, probably reasonably well understood, but overused and hence its use has become degraded. 'System' is also a word with a well understood, common meaning. It is used fairly widely to describe a part of an organisation, such as an IT system, but it is also used by many change consultants to describe an organisation as a 'whole'. As such, it derives from systems theory, and its meaning in that context, and some of the implications of a systems perspective on organisations are less well understood. Complexity is again a word with a common meaning which is well understood. However it has recently become associated with a particular perspective on organisations and the nature of change, with some fairly radical implications for leaders.

The purpose of this article is to examine these three concepts, to consider their implications and how they relate to each other, to provide leaders of change with some conceptual frameworks with which to make sense of their experience, and to guide them in the development of their practice as leaders.

Strategy: reflecting on the current use and misuse of the concept of strategy, on its origins and application to business; and reviewing the main schools of strategic thinking

Let us start with one of the oldest business concepts and probably one of the most over-used words in business, strategy. Most managers use this word in two ways; one to describe a three- level hierarchy, namely objective, strategy, and tactics, and at the same time to denote one of the steps in the hierarchy. So when a marketing director decides to develop a '**Marketing Strategy**' he/she will normally start by determining the objective (the what) e.g. to achieve a percentage share in a particular consumer market, then the *strategy* (the how), in this example through some trade-off between price and quality, and finally the tactics, some combination of advertising, sales, distribution, promotion and so forth.

So we start with some confusion over the use of the word. The confusion grows since this hierarchy has come to be used at a number of levels. I could equally, and perhaps more appropriately have given an example of a **'Business Strategy'**, where the overall objective would be some combination of profit, turnover and growth aspiration, and the *strategic* dimension would be a definition of product-market relationships. So the marketing director's objective constitutes part of the CEO's strategy. Then, to go back to the previous example we would probably find that distribution, advertising, sales, HR, IT and so on, all have their own 'strategies'. It seems a good discipline for any department or function to articulate and regularly review what it is trying to achieve and how it intends to go about it, but inappropriate to call this simple discipline a 'strategy'. The over-use of the word has debased it, and it is more often used to enhance a department's or function's sense of its own importance than to describe an organisation's strategy.

The 'concept' of strategy was originally used to describe the relationship between a business and its environment. It became popular as Western economies moved out of production orientation, when consumer demand well exceeded production capacity and Henry Ford was able to say words to the effect of "You can have any colour provided it's black". Up until then power had largely been with producers. Then, as rapid improvements in technology, efficiency and communication increased supply and hence consumer choice, producers had to start competing for markets. The key to survival in competitive markets came to be seen as the ability to think and act strategically, and many consultancies were established with the primary task of bringing strategic thinking into the Boardroom. What I intend to do is to examine the way of thinking which informed the strategic process.

The main school of strategic thinking which has had most influence in business can be described as the school of 'strategic choice' – 'a transformational process in which organisations adapt to environmental changes by restructuring themselves in an intentional, rational manner' (Zajac and Kraatz, 1993). There have been a number of writers broadly within the school of 'strategic choice', and the one who is probably most familiar to managers is Michael Porter (1980, 1985). He suggested that leaders had three main types of choice: a 'Cost Leadership' strategy, a 'Differentiation' strategy or a 'Focus' strategy.



"Strategy is all about competitive superiority."
Michael Porter

There is a generic methodology which is implied by the notion of 'strategic choice' which is generally followed by all writers and is quite familiar to most managers, so a brief overview will serve. The methodology breaks down into four main phases. The first is to carry out some industry analysis, to understand the structure and market dynamics of the industry in which the company operates, and to identify trends, opportunities and threats. The next phase is to carry out an analysis of the business's current position in the market in relation to its main competitors (competitive analysis, share and profitability analysis and so forth) and to undertake a diagnosis of the organisation's strengths and weaknesses. The

third phase consists in identifying strategic options, and the final phase is concerned with making and implementing a strategic **choice**.

Most senior managers, and anyone who has been to business school and had to work their way laboriously through many case studies, will recognise what is essentially a process of **aligning** the company to its environment. We are familiar with it and it appears to have some face validity, so we probably have not thought to question this established and habitual way of approaching business strategy.

However, if we closely examine some of the assumptions which inform the school of strategic choice, some of them appear to have become, at best, obsolete, and quite probably wrong.

The first assumption is that environmental changes are largely identifiable and that future states can by and large be predicted. We now realise that we live in a highly unpredictable world, and this has become almost a truism. When some scientists in the United States defence establishment developed a way of exchanging research information via a 'web', no one could have forecasted what impact this development would have on the way we live our lives; even when the internet was established in its early days, its effects were wildly exaggerated and underestimated at the same time. So the idea that managers can predict future states and base plans upon them does not resonate with experience. Technology has so speeded up the rate of communication that product life cycles have shortened to the extent that product enhancements can be redundant before they reach the market. The Shell oil company gave up its linear approach to planning based on elaborate forecasting techniques, and adopted the methodology of scenario planning whereby it offered its leaders a number of future possibilities to stimulate their thinking, and to provoke their responsive capacity.



Furthermore, while one firm is working out its strategy, so are all its competitors, either formally or informally. As each player **acts** into its competitive landscape, so it changes it, and as all competitors in a market are simultaneously acting into the market landscape, it is clear that the combined impact is complex and dynamic. Taking this one step further, complexity theory recognises that a 'market' as such is a metaphor or a convenient linguistic construction. The 'market' does not exist independently of the businesses and the consumers who create it. We are all participants in a process of interaction, affecting it and being affected by it at the same time. When you think about it, this seems common sense, but we have developed a habit of thought which speaks of 'the market' as if it somehow has an independent existence outside of the companies who compete with each other. This is clearly nonsense.

This realisation – that we are affecting and being affected by our environment *at the same time* - calls into question another assumption of the strategic choice school, that of clear cut cause-and-effect links, where one thing affects another in a clearly defined linear fashion. Most managers are familiar with the experience of unintended consequences, but these are usually seen as the result of poor planning or poor implementation. Ralph Stacey (Stacey, 1995) quotes an example of the

Saturday Evening Post in which promotion expenditure taking the form of free trial subscriptions was having the intended effect of boosting sales volumes, but as the proportion of subscribers on free trials rose, average subscription rates plummeted thereby reducing profits. When this was added to increased advertising rates, leading to more than proportional reductions in advertising volumes, the magazine went out of business. Complexity theorists would assert that unintended consequences are inevitable because, as suggested above, all *participants* (such as organisations) are simultaneously affecting and being affected by a complex process of continuously evolving interaction, which by definition cannot be predicted. Thus organisations are by definition, complex, nonlinear and dynamic processes. Cause and effect is untraceable in this complex process of reciprocal interaction. I shall return to this theme later.

Several theorists have recognised the problem with the strategic choice school's static model of the strategic process; it is not how it is done in real life, because the informing assumptions are invalid. Strategy is actually a dynamic and interactive process. One of the most well known theorists who popularised an alternative approach is Henry Mintzberg. Mintzberg (1994, 1998) made a distinction between deliberate strategy and emergent strategy. Emergent strategy originates not in the mind of the strategist, but in the interaction of the organisation with its environment. He claims that emergent strategies tend to exhibit a type of convergence in which ideas and actions from multiple sources integrate into a pattern over time, which upon reflection is perceived as strategic.



"The very essence of strategy making is a learning process."
Henry Mintzberg

This core understanding, that organisations **consist in** on-going processes of dynamic interaction, of continually emerging understandings and responses and reconfiguring of priorities and activities, gave rise to the notion of 'organisational learning'. Acknowledging this newly understood 'truth' leads to the realisation that managers may be in charge, but they are not in control in the long run (Streatfield, 2001). The best a manager can do is to pay attention to emerging phenomena and continuously respond and adapt. In this view, organisational learning becomes one of the core functions of any business enterprise (See Peter Senge's *The Fifth Discipline* (1990).)

This way of understanding organisations is more or less congruent with a **complexity** perspective, but now I want to deal with some core distinctions between complexity thinking and systems thinking.

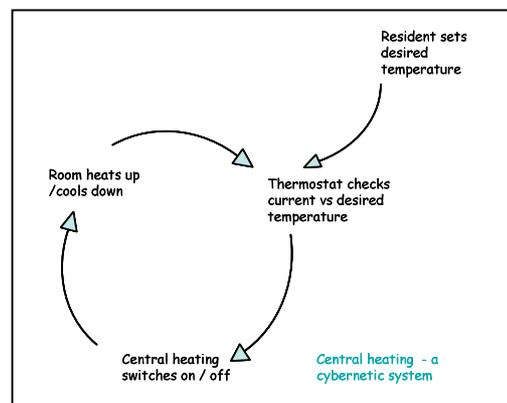
Systems thinking: its origins, influence and main assumptions; its operational usefulness; and its shortcomings as an overarching perspective on organisations and the nature of change.

Until the 1950's, organisation and management thinking had been heavily influenced by Frederick Taylor (1911) in the United States and Henri Fayol (1916) in Europe. Taylor's interest was the observation and analysis of the components of a job, and the identification of the skills needed to perform the job. Fayol's interest was much the same – he focused on splitting an organisation into a number of activities, and so job analysis, time and motion, organisation design were the main legacies of Taylor and Fayol, who were the fathers of 'scientific management.' This way of thinking casts the manager as scientist, and the organisation as a series of parts to be organised in a logical way according to laws of cause and effect, which can be identified.



Systems thinking began to emerge as a potential alternative to scientific management in the 1950's, but there were three broad strands coming from different origins: general systems theory, which arose from the research of some biologists, the best known of whom was probably von Bertalanffy (1968); cybernetics, which was largely lead by engineers (Ashby, 1945, Beer 1979); and a third strand in systems thinking known as systems dynamics. Systems thinking represented a paradigm shift in perspective from the Taylorist focus on parts, to the 'whole'. The whole came to be thought of as a 'system', and the system was in turn thought to be part of a supra system. The parts were not simply additive, but interconnected in that they affected each other. The focus of attention shifted from understanding the parts, or entities, to the **interaction** of the parts to form a subsystem and the interaction of subsystems to form a system.

It is mainly sufficient for our purposes to outline the broad concept of systems thinking as above, but we need to elaborate a little more on cybernetics. With its focus on control, cybernetics has probably had the most pervasive influence in management thinking. Cybernetic systems are understood as self-regulating, goal-directed systems adapting to their environment. A central heating system is a simple example, where the resident sets a desired temperature, and a thermostat acts as a regulator at the boundary of the system and its environment by detecting the gap between the desired and the actual temperature and triggering the system to switch on and off. It thus maintains the desired temperature through a process of negative feedback monitoring and control. This simple cybernetic concept informs most performance management and quality control processes.



Broadly speaking this paradigmatic shift in thinking casts the manager as a system designer. Here the emphasis is on understanding a 'systemic' set of causal relationships and the key parameters which can be used to 'control' the system's operation. The 'self regulation' of the system with its environment is thus maintained through setting, monitoring and controlling these parameters. Systems thinkers made a distinction between largely closed systems, for example an internal combustion engine, and 'open' systems which were involved in a



continuous and quite complex exchange with their environment. It is fairly obvious that many management processes, such as planning and budgeting, are predicated on similar assumptions. It has also permeated the thinking of many organisation consultants who regularly refer to an organisation as 'the system'.

Before I move on to propose my general critique of systems theory as applied to organisations, let me say that in particular contexts it has useful applications. These contexts are largely operational, where work processes require high degrees of consistency and repeatability, such as manufacturing processes, computerised information systems, or regulated clerical procedures which are likely to be suitable for a fair level of automation. In such contexts, where efficiency, effectiveness, and optimal co-ordination are the imperatives, system thinking provides a useful conceptual framework, always provided that it takes account of the need to enable human beings to take initiative and respond in the event of unpredictable and hence unprogrammable events, and to adapt readily to changing circumstances.

Systems thinking thus has a place within a broader understanding of the nature of organisations. However, it becomes problematic in my view when systems thinking is taken as **the informing perspective** on the nature of organisations. The problem is that it makes a number of assumptions which do not really seem to hold water when we examine them carefully in the light of our experience.

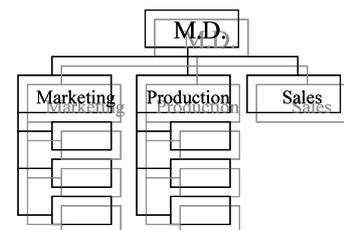
The main assumption is that describing an organisation as 'a system' implies some essence or substance. It reifies an organisation as an 'object', as if it has some existence independent of those who seek to control it. However, if we ask what constitutes this essence, if we try and point to it, we begin to see the difficulty of this way of thinking. Some might say it lies in the financial statements, but Enron has demonstrated convincingly that financial statements are but one construction of a company's reality. Further, it assumes that a manager or consultant can stand outside the 'system' and observe it objectively, but it has now almost become a truism that an observer influences what is perceived. It assumes the existence of objectively definable boundaries, both between subsystems and between the organisation and its environment. But try to define where the boundary between a company and its environment really lies, and the problem becomes obvious; do we, in our definition, include or exclude suppliers and customers, contract workers, franchised operations, contracted-out services, contracted-out R&D and so forth? Internal boundaries are determined by how we differentiate between functions and roles. Many of these distinctions are based in custom and practice, but we know that they are essentially arbitrary as functions converge, and structures evolve and change.

It also poses an ethical problem, because it assumes that only managers have choice, while all other employees are treated as components of the system obliged to follow the rules laid down by managers, so becoming disenfranchised of any freedom or choice. It is easy to say that they have the freedom to go elsewhere and earn their living in another way, but this conveniently avoids reflecting on the ethics of a managerial norm or tradition of thought which treats the majority of employees as system components to whom choice is denied, and whose fate and modus operandi is determined by a minority.

To quote Stacey, Griffin and Shaw (2000), “[with the advent of systems thinking] management science continued as before and the first wave of systems thinking about organisation paid as little attention as management science did to ethics, ordinary human freedom and the unknown nature of the final state towards which human action tends”.

Some of the assumptions of systems thinking are shared by some of the early complexity thinkers, particularly those who were experimenting with computer simulations, or who were working in the physical sciences. However there are some clear differences between complexity **science**, and taking a complexity perspective on social phenomena, and it is this difference which Ralph Stacey is at great pains to make, and on which I elaborate later.

However, before moving on to an exploration of the important contribution I believe complexity thinking makes to our understanding of organisations, I want to conclude this section by emphasising the clear distinction between my own thinking about organisations as ‘complex adaptive **processes**’ (the complexity perspective), and systems thinking. This most important distinction, as I observed above, is that *systems thinkers see organisations as entities which a manager can stand outside and observe*. In that sense systems thinking retains a machine or engineering metaphor in which the manager is cast as architect or designer determining the shape and nature of the system and its rules of interaction. Like setting the thermostat on a central heating system, all that is required is for the manager to have the intelligence and experience to understand the system of interactions which determines the whole, so that he/she can intervene at points of maximum leverage.



It is worth noting that systems thinking fits well with the Strategic Choice school of strategy, because it assumes that outcomes can be predicted and hence that organisations can be controlled; and we can see how attractive this combined way of thinking is to managers who have been brought up to believe that it is their job to be in control, who are charged with making ‘right’ decisions, and are rewarded for steering and directing the organisation in a pre-determined direction; and it is not surprising that it comes hard when the very foundations on which managers understand their practice to be based begins to look questionable.

However, in the following section I suggest that this is what the complexity perspective, in which organisations are seen as complex social processes, does; not because it is mischievous or willfully subversive but because, increasingly, managers are realising that conventional management theory does not explain their lived experience. The *complex social process perspective* suggests that we are all participant in ongoing processes of communicative interaction – that is we are all continuously interacting with each other through verbal and non-verbal forms of communication and that these interactions pattern further interactions over time – thus creating the social and behavioural norms we are so aware of in organisational cultures. Because each of us is a participant in these processes of interaction no one person can detach themselves and ‘see the whole’, no one can claim an ‘objective’ truth or understanding of the ‘whole’, and so no one person can have control. This

perspective offers a different way of making sense of our experience of organisational life and suggests a way of thinking which, while offering no prescriptions, implies very different approaches to leadership and change. For some managers it seems so outrageously subversive of their world view that they refuse to contemplate it; others resonate with it intuitively, but worry about its implications. In the following sections I attempt to articulate the ideas which are relevant to organisations and suggest why we should take them seriously.

The Complexity Perspective: a brief overview of the origins of complexity thinking; distinguishing between complexity science and a complexity 'perspective', which is informed by an integration of sociology, psychology and insights from complexity; and the implications for managers.

THE CONTRIBUTION OF COMPLEXITY SCIENCE

The early formulations of Complexity Theory were radical in that they proposed a new way to make sense of phenomena in the world, a way that shocked the scientific community when the first inklings of it began to emerge in the early part of this century. It proposed that order emerges out of chaos without any external design agency. As Stuart Kauffman (1995) puts it, "Order emerges for free". Such a way of seeing inevitably has major implications for society, religion, politics and of course, organisations. If no external design agency is required for order to emerge, then what is the role of the manager in organisations?

What was discovered was a new kind of order; it was not predictable, repeatable, reproducible order, but unpredictable **pattern**, pattern which cannot be foretold from the original conditions. There seems to be a principle of **self organisation** at work here. There are many examples of this in nature, for examples swans flocking, termites building complex structures, and so forth. Through the development of computer simulations scientists similarly discovered self-organised, emergent order. The simulations consisted of a number of simple programmes or 'agents', each agent being given some rules of interaction about what to do when it encountered another agent. The important point here is that *there was no overall blueprint for how the simulation would unfold* – all that was given were rules of interaction to each individual agent.

The key discovery was that as the simulation was set in motion, and the agents interacted with each other, a **pattern** emerged which could not have been predicted from the **local** rules of interaction. With simple rules of interaction, only one type of pattern emerged; but with more complex rules, including rules for replication, patterns generated further patterns and the agents modified the rules of interaction – *as if the agents had learned to adapt themselves to their environment and adapt their environment at the same time*. Once again none of this was pre-determined or prescribed. A further characteristic of these patterns was that they were not uniform, or to put it another way they were similar and different at the same time. Order emerges in the form of patterns, and these patterns are stable and unstable at the same time, because the on-going processes of agents interacting in complex ways produces stability *and* change **at the same time**.

So, four important characteristics emerged from the complexity simulations which would seem to have some face validity for organisations, namely: **self organisation, emergence, pattern, and stability/instability at the same time.**

THE CHALLENGE TO ORGANISATION THINKING.

Managerial language is full of control metaphors - we talk of “driving the change agenda”, of “managing change”, of finding the point of “maximum leverage” in the ‘system’ to bring about change. To really understand the implications of the complexity perspective is to recognise that such language is meaningless and obsolete. Yet many of the books and articles on the subject written by management theorists are still shot through with these sorts of phrases.

Order in the universe cannot be predicted or made to happen. At the same time, we are all familiar with recurrent patterns in organisations which seem to occur under certain conditions. This tempts us to believe that if we can understand the cause of these patterns, we can also understand how to create new patterns. This misunderstands the core insight of the complexity perspective made earlier, which is that by their complex and dynamic nature social processes are inherently unpredictable and uncontrollable.

If we attend carefully to the language of some organisation theorists who have encountered complexity theory and seek to ‘apply it’ to organisations, it reveals their underlying assumptions. For example, some talk about how to “move” an organisation from one ‘attractor’ to a more desirable one. (An attractor being a concept drawn from quantum physics to describe the apparent focal point of a dynamic system). Others, who have come across the early work with computerised simulations which used only a few simple rules talk of identifying the few rules which will lead to a desirable new pattern. The mistake such writers make is to take the results of some experiments undertaken under controlled scientific conditions, and extrapolate them to social conditions. It is but a short step to a new set of toolkits and recipes, wrapped up in pseudo scientific terminology, on how to “manage” complexity. And we are back full circle to the sometimes banal and often grandiose managerialist language of individual control, unitary purpose, and cause and effect.

FROM SCIENCE TO SOCIOLOGY; THE DEVELOPMENT OF COMPLEXITY THINKING IN RELATION TO ORGANISATIONS

It is important to acknowledge the origins of complexity thinking in organisations as an extension of scientific research, so that some of the early writing about complexity theory and its application to organisations appears to be an easy segue from systems thinking (itself largely originating from engineering and biology), leaving many systems practitioners believing that complexity theory is a development of systems theory.

Complexity theory, like systems theory, has its origins in the natural sciences, which in themselves are deeply rooted in the quest for ‘truth’, that which is ultimate,

universal and unchanging. This quest for truth takes a typical form: the search for the primary elements of matter as the building blocks of reality, and the attempt to find causal relationships to explain phenomena (gravity, magnetism, being examples). Such a 'Newtonian' perspective leads to a mechanistic image of such phenomena, reducible to a mathematical algorithm of which 'the truth' is self-evident.

Much of the early writing by people like Gell-Man (1994) and Holland (1998) was rooted in the scientific paradigm; they studied complexity as scientists studied nature, and their views differ very little from neo-Darwinian views on causality with their emphasis on survival through natural selection and adaptation.

Stacey in his early writing (1993) followed a similar path. However, he and his colleagues Griffin and Shaw (2000) began to question the way the study of **natural** phenomena was being applied to organisations which are **social** phenomena. They see a fundamental distinction between natural phenomena, which have an existence independent of human existence, and social phenomena which emerge through human beings' interaction with one another and with their environment. Whilst many natural phenomena can be reduced to a mathematical abstract, (and this, as stated earlier has its place in manufacturing and engineering) such thinking is not appropriate to the study of the complexities of human social intercourse.



A fern's self-similar form demonstrates the algorithmic nature of some natural phenomena, which can be replicated by science as fractals

Thus in assuming that the properties of complex systems in nature could be attributed to organisations, a category error is being made. So for example, when managers talk of "re-engineering" an organisation, they are making the perceptual mistake of assuming that organisations **are** machines. An organisation is clearly not a machine, nor is it the machinery, the buildings, the brand(s), the logo and so forth; it is not any one of these artefacts of organisation. If one were to refer to an organisation's DNA, one would be making a similar mistake of assuming that organisations **are** biological organisms. An organisation does not reside or exist anywhere in a material sense. It may be useful in certain circumstances to think of organisations **as if** they were organisms or machines, as systems theorists do, so long as we remain aware of the 'as if' nature of our hypothesising.

Stacey et al move away from complexity as science, and offer us a theory of 'Complex Social Processes' which is a synthesis of sociology, psychology and some insights from complexity theory which do seem to shed some light on the nature of organisations. But it is rooted in sociology and the work of George Mead (1934) and Norbert Elias (1989). The core premise is that organisations are nothing more than human beings in an on-going process of communicative interaction, affecting and being affected by their environment, but not in control over it or each other.

The 'organisation' **emerges** in the various patterns and flows of communication as people go on together. The term 'organisation' is a 'social construction'; it is a mental construct created in the meanings people make together, some formalised in

brands, logos, contracts of employment, and some negotiated in the informal conversations which are the stuff of organisational life. It is not held by any one individual but is constantly being re-created through the conversations and interactions that people experience together. A sense of organisational identity develops over time through the norms and habits, the stories and myths, the historical recollections and shared history; it is **social** through and through, and it is continuously being renegotiated in a never-ending process of communicative interaction which manifests as the meetings, reports, policies, procedures, structures and such that people experience as the 'stuff of organisational life'. This is a **process** view of organisation which argues that an organisation, unlike natural phenomena, has no **essential qualities**, nothing that makes it an object in its own right worthy of a noun 'organisation' to describe it. The members of the (processes of) organisation are **participants** in creating a social process which continuously evolves into an unknown future. We cannot by definition get outside it; as participants we simultaneously create and are created by the process of engaging together in joint action.

Mead described this process of communicative interaction rather succinctly. He said "The meaning of the gesture is in the response". He used the word 'gesture' to mean any communicative move, verbal or physical, towards another. While as humans we gesture with intention – for example I want to convey some information to you, ask you to do something, scare you, convince you or whatever - it is only in your response that the 'meaning' of the interaction emerges. Imagine that I move to shake your hand at the end of a quarrel, but you respond to it as an aggressive gesture and move away, and I run after you..... so in a series of gestures and responses, patterns of meaning emerge. This is a spontaneous dance of meaning-making in which neither party can predict the other's response. They can anticipate but not predict, and in a conversation of gestures during which each party is well attuned to the other, the gesturer will be modifying her gesture even as she gestures and notices the respondent's shift in expression, or body posture.

This notion challenges the traditional way of thinking about communication as the transfer of information from one brain to another (rather like digital data is copied from one computer to another), and instead sees communication as a dynamic and non-linear process whereby meaning arises in the process of interaction, being negotiated and constructed in a way that enables the possibility of novelty, or 'learning' to emerge.

Patterns of gesture and response are of course mediated by cultural norms and language rules which enable shared meaning to be more or less arrived at quite quickly; but in a complex exchange, misunderstandings and different interpretations are the norm rather than the exception. In organisations, rules about how things are to be done, custom and practice, and organisational norms fulfil a similar stabilising effect, but we begin to understand that this emergent process of communicative interaction is inherently unpredictable and hence uncontrollable in the way that scientific management and systems theorists have assumed. Much conventional management theory speaks of the need for alignment, but contrary to this received wisdom, it is through misunderstanding, contention, and a certain amount of messiness that novelty (and hence innovation) emerges. This has major

implications for the way leaders and consultants think about the nature of organisational change.

The complexity perspective challenges managers to act in the knowledge that they have no control, only influence. They can advocate and aspire, but they cannot predict. There are no absolute truths, only ethical decisions to be made in the here and now. This may be a difficult premise to accept at first because it runs so counter to our habits of thought, but it begins to appeal to common sense.

One of the real difficulties for managers is that while we have no absolute control in the long run, and we cannot predict with any certainty the outcomes of our actions, we remain responsible for them. It behoves us to pay attention to the impacts and effects of our decisions and to reflect thoughtfully on our intentions, and in the light of experience to attempt to anticipate their likely consequences, and to enter again into the never ending cycle of action, inquiry, reflection, action and so on.

IMPLICATIONS FOR MANAGERS

We have all had the experience of attending regular meetings, where there is a fixed agenda and the participants are usually the same. Often the meeting takes place in the same room at the same time, but while there is a familiar **pattern**, the meetings are never exactly the same – different conversations, slightly different combinations of people and so on. So our experience confirms how conversational patterns emerge in organisational life, some of them formal (such as the meeting's agenda and topics of discussion) and some of them informal (such as the sense-making that takes place outside of the formal topics, the 'gossip' or rumour).

We have experience of how a key event, such as a heated exchange, a particular decision, the inclusion or exclusion of an individual can shift the pattern of interaction, either temporarily or permanently. We have the experience of being taken by surprise, of not anticipating that a particular event would lead to a particular outcome. So our experience tells us that change is unpredictable, that small differences can amplify into larger pattern shifts.

We also know that managerial practice consists in engaging in myriads of connecting meetings and conversations through which we attempt to negotiate and agree joint action. Purposive 'joint action' is broadly what organisations are formed for, and it is continually being negotiated. We know that power differentials play a part in these negotiations, and that what emerges is rarely entirely predictable, and by no means rational, and yet, because we are steeped in the conventions and assumptions of scientific and systemic management, we continue to believe we can plan and control change! Complexity theory confirms what we learn from our experience, but what our education and conditioning makes it hard for us to accept.

What I have described above in referring to 'myriads of connecting meetings and conversations' is what I see as the main **currency** of organisations. Much of this is informal in nature, but clearly organisations require good enough, minimalist structures to manage short term performance, sensible procedures for managing work flows, good systems for managing performance and money and so on. This is

the stuff of ordinary management with which all managers are very familiar; it is clearly important to do it well, but because of the influence of machine thinking it is often overdone.

Particularly in organisations with a bureaucratic history, the capacity for self-organisation is largely suppressed, so that all change is seen to need elaborate planning and the development of detailed blueprints before anything can happen. This focus on getting the 'right structure' is often not only painfully slow, it can also have the opposite effect to that which was intended, or at best reproduce what is already present (such as re-structuring an organisation without attending to how members relate or how they do what they do). Let me conclude by summarising some practical implications for managers of thinking of organisations as complex social processes.

- Managers are supposed to be in charge, and yet they find it difficult to stay in control. It is helpful for managers to think of themselves as in charge but not in control. This requires them to act with intention (anticipating possible outcomes) in the knowledge that they cannot predict outcome. What they need to do is to work with, and learn from the outcomes which **actually** emerge, rather than spend precious time in analysing 'what went wrong'
- Managers need to be relieved of the expectation that they should always know what to do / be able to diagnose the problem / find the solution – these only **emerge** through engaging in processes of conversation
- It is more important and useful for managers to turn their attention to how things actually get done (informal processes of conversation) rather than to designing systems and procedures in the belief that this is how things ought to be done
- Inquire into what works well and encourage it
- What sustains organisational continuity and what makes for creative change are the messy processes of social interaction
- Systems and procedures are merely codified and routinised conversations – at best they will represent good practice, in for example quality maintenance, safety, recruitment etc. – at worst they may become an obsolete and cumbersome set of procedures which inhibit innovation
- Organisations need lean and effective systems and procedures which are themselves regularly reviewed and updated
- Diversity is key to innovation. The pursuit of organisational harmony, consistency, shared values and total collaboration is inimical to innovation – diversity and difference, messiness and contention are necessary for creativity and transformation
- Managers need to engage in both the formal and the informal processes, paradoxically maintaining stability/consistency and provoking novelty and innovation at the same time
- Power differentials need to be minimised if diversity and difference and hence the possibility of novelty is to emerge
- Change starts **locally**. It is far more effective to foster local initiatives and experiments than to embark on costly, formalised 'whole organisation' change programmes

In summary, I am suggesting that organisations are complex social processes which are characterised simultaneously by stability and instability. Stable patterns of

interaction tend to be maintained through designed, legitimate networks of roles and accountabilities through which people pursue official goals and policies. Instability, and hence the possibility of transformation, emerges locally in the simultaneous operation of many informal networks in which significant political, social and other processes are at work contributing in vitally important ways to the effectiveness of the organisation. In my experience the prevailing assumptions which inform much managerial behaviour and consulting practice are still mainly machine based, which leads to an over-emphasis on the importance of, and need to control, the legitimate system through structural, procedural and programmatic solutions.

The radical complexity perspective suggests that organisations continually emerge in an unpredictable way as they evolve into the unknown.

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