

Chapter 2

The Complexity and Messiness of Change

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Synopsis

Systemic brokering is a form of change agency for an infinitely complex and unpredictable world. It follows that brokers must develop a realistic appreciation of the nature of change. Brokers, like other change agents, make assumptions about how the world works and how it changes. They must understand their theories of change if they are to understand the likely consequences of their work. HE institutions are complex multicultural organizations within which change initiatives, whether initiated from the top, side or bottom, are received, understood, interpreted and enacted in many different ways. In the academic organizational world every HE teacher is a change agent capable of interpreting and enacting change in his/her own way with varying degrees of freedom to do so.

Empirical research and theories of change favour models of change in higher education institutions that combine the technical-rational thinking and behaviours of the managerial world with human activity systems that respond organically and unpredictably to change. Complexity theory provides the most useful insights into the behaviours of complex institutional social systems. Interpretations of the meaning of change are made at all levels by many individuals but actual changes in practice are constructed and enacted at the micro level by each individual operating in one of many department or sub-department cultures and social groupings. Individual academics are the fundamental change agents in the HE system and they have considerable autonomy in determining both the detail and the overall effects of change. The personal psychology of individuals has a strong influence on individual attitudes to, and engagement with, change and change processes.

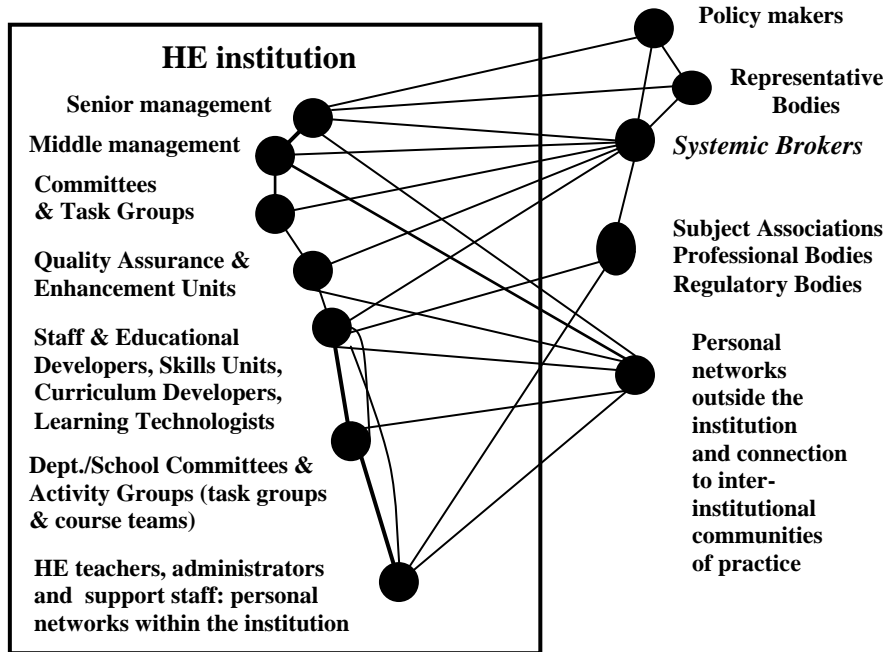
Brokerage aimed at promoting and supporting change in teaching and learning practices must address this world of complexity. It must work with both the technical-rational managerial world and the more organic social/cultural discipline-based worlds in which academics practice.

Introduction

The central thesis of this book is that the process of brokering is an important vehicle for promoting and supporting change in higher education. In doing so it helps HE communities to work with and take advantage of change. Brokers are *agents for change* (people/organizations who promote change through their thinking and actions). If the HE system is to achieve the maximum benefits from brokerage, they need also to become *masters of change – the people and organizations adept at the art of anticipating the need for, and of leading productive change* (Kanter, 1992). The ultimate aim of brokering is to create new worlds and new possibilities. These worlds need to be envisioned, conceptualized and argued for and then created by the people on the ground who enact change.

I define change agency as being self-conscious about the nature of change and the change process. The individual educator is a critical starting point because the leverage for change can be greater through the efforts of individuals, and each educator has some control over...what he or she does, because it is one’s own motives or skills that are in question...every educator must strive to be an effective change agent (Fullan, 1993 p. 12).

Figure 2.1 Representation of an idealized networked community of change agents and change agency in an HE system



If systemic brokers are to engage with this fundamental level of change agency they must develop the communication networks and relationships that reach into each of the change environments they seek to influence and support (Figure 2.1). But Stacey et al. (2000 p.106) warn us that: *A complex adaptive system consists of a large number of agents, each of which behaves according to its own principles of local interaction. No individual agent, or group of agents, determines the patterns of behaviour that the system as a whole displays, or how these patterns evolve, and neither does anything outside the system.* In organizing networks, relationships and processes, systemic brokers (and their evaluators!) have to be mindful of this principle.

Change and Changing

Education systems are complex and dynamic. They continually adapt and change in complex and unpredictable ways in response to many internal and external pressures and stimuli. Systemic brokerage fosters collaborative working in order to help the system cope with, mediate and exploit change.

Whether intuitively (implicit self theory) or through the application of a particular theory of change, brokers need to appreciate the complexity of change if they are to understand the effects and potential consequences of their interventions and how they themselves can facilitate or hinder systemic learning and change. This chapter considers a range of conceptions and theories of change to inform discussion about the systemic brokerage function.

Throughout human history societies have devised ways to achieve wholesale change. Sometimes these have been evolutionary and democratic, on other occasions they have been precipitated by revolution, conflict or driven by authoritarian rule. But at the level of the individual we recognize that the changes we make to our work practice and behaviour are either the result of purposeful action by other people or a conscious decision that we ourselves make.

Dictionary definitions of change contain the process ideas of: making something different (transformation or conversion); replacement or exchange or becoming different. Our perceptions of change are often bound up with the process of changing and becoming different. Such perceptions are influenced by factors such as:

- ❑ the reasons for change – whether it is imposed or self-determined;
- ❑ the scale of change – quantity/amount of difference;
- ❑ the complexity of change – our ability to understand what is happening;
- ❑ quality of change – the characteristics of difference;
- ❑ the speed of change – rate at which a difference is created;
- ❑ and nature of the process – whether change is incremental or radical.

So one notion of change which brings together effect and process might be: making something quantitatively or qualitatively different by some predetermined action(s) undertaken within a recognizable time frame achieved in a particular way.

This notion is all very well if the subject of change is self-contained and easy to define. It is not so easy to apply when change is happening in many different ways, for different reasons, in different contexts, at different rates, over different time scales and when the effects in one area start modifying practice, behaviour or thinking in another. Physical and behavioural changes are usually easy to spot but changes in thinking, attitudes and beliefs which may result in future behavioural changes may be difficult to recognize and quantify. When personal factors are also taken into consideration like self-awareness of the effects of change, personal experience and interpretations of cause and effect, it is not surprising that perceptions of change are unique to each individual experiencing or observing it.

Gaining a *truthful* picture of change in such circumstances, one that matches the perceived reality of many individuals, is well nigh impossible.

It is hard to tell the truth about organizational changes and thus to learn what really makes them happen. I am not referring to something that mundane and mechanical like the limits of participant perception and memory, but to rather more profound systematic forces built into the nature of organizational change itself. In understanding why change accounts are often distorted, we understand some important things about the architecture of change itself (Kanter, 1992).

If this is true at an organizational level then it must be impossible to give an accurate account of change at the level of a whole higher education system. The reader will be conscious that the accounts given in this volume are written from the perspectives of people engaged in the act of brokering and truthfulness will be constructed only from his/her perspective of what truth is. *Where different people perceive the same thing differently it is not a matter of one being right and the other wrong, since right and wrong have no meaning independent of the context in which they are used* (Becher, 1994 p. 57).

Changes in practice and behaviour are brought about by a variety of methods. These methods were grouped by Kanter (1992) into: authoritarian (*managerial decisions, business contractual, external or internal regulation*); political and participatory (*collaborative*).

Brokerage is essentially a collaborative participatory activity for supporting change but the contexts in which it is often applied can be perceived as being overtly political and/or authoritarian. The organizational stories in Part II all have strong participatory elements to them, but in some cases the requirements for change have been driven by the state. Checkland (1999) identifies three types of change:

- ❑ changes in structures – organizational, functional responsibilities, reporting lines etc;
- ❑ changes in procedures (*or processes*) – dynamic elements of structures like planning processes, communication, record keeping, intelligence gathering;
- ❑ changes in attitudes – thinking, understanding, feelings, expectations, values and beliefs.

Changes to attitudes are the most difficult to accomplish especially in environments that value personal and institutional autonomy. While they can be accomplished directly they are normally encouraged by changes to structures and procedures. An example in higher education would be the use of policy (a procedural change) to promote Personal Development Planning which requires a significant change in attitudes, beliefs and practice to make it work. Brokerage was used to create policy (Chapter 6) and it is now being used to facilitate change in attitudes, beliefs and practice (Jackson, 2002a). Brokerage in HE tries to facilitate change by:

- ❑ working with and influencing directly individuals or groups of individuals networked by the broker, e.g. managers, academic practitioners, administrators, educational developers and other institutional change agents;
- ❑ working with individuals and groups of individuals through existing networked communities and associations;
- ❑ working through institutions and their structures, processes and change agents;
- ❑ providing accessible information and resources or the navigational aids to acquire such information.

There is much psychology and emotion in change and it is easy to see how an individual's state of mind can affect his attitude and response to change. An important influence on this state of mind is whether change is self-determined or imposed by someone else. If change is self-imposed an individual's response will reflect his ability to diagnose what he needs to learn and do to learn, to access information and advice, to create time to learn/develop and change and to acquire any other support necessary to implement change.

We know that some people engage more readily in change than others. Such positive attitudes to change are likely to be rooted in an individual's psychological view of the world. In particular, whether the person tends to reflect self-critically and learn from such reflections. It may also be bound up with personal values and beliefs. In HE such people are often driven by a deep commitment to their students and their teaching. Individual attitudes to change are also bound up with an individual's experience of change and their present role and ambitions. If change is imposed many other factors come into play for example:

- ❑ the role the individual is expected to play in the change process (managerial, administrative, technical, academic);
- ❑ the way change is being communicated and promoted;
- ❑ personal and peer attitudes to proposed change;
- ❑ the level of an individual's autonomy in determining responses;
- ❑ the extent to which the nature of change is negotiable;
- ❑ the nature of the managerial, administrative and/or regulatory strategies used to ensure change occurs;
- ❑ the scale and totality of change that an individual is being exposed to and the timeframes in which change is expected to occur;

- ❑ the support given (time and help) to acquire the knowledge, understanding and skills to enable changes to be made and;
- ❑ the organizational cultures (particularly at departmental level) that create the cultural view about a particular change.

Change is a complicated and uniquely individual process. Given such complexity, scale, relationships to and influences on change, it is not surprising that the net effects of change on people in their working environments is difficult to understand, quantify, attribute and articulate. So from the outset we have to acknowledge that change and how we perceive it is a difficult concept to understand in both an abstract theoretical sense and a real sense (as experienced and perceived).

Moral Purposes for Change

Systemic change that is promoted as part of a process of reform within a particular paradigm must be underpinned by an explicit moral purpose if it is to engage a whole HE system or organization (Fullan, 1999). This means that we have to appeal directly to the values of the community if we are to promote real change. Providing opportunities for people to develop themselves through the process of education is inherently a moral enterprise (unlike for profit businesses) and the potential source of an inspirational mandate (Fullan, 1999 p. 31).

At the micro-level moral purpose in education means making a difference to the life chances of students ...At the macro level, moral purpose is education's contribution to societal development and democracy (Fullan, 1999 p.1).

This view of the moral world is supported by Hannan and Silver (2000 p. 27) who found that the predominant reasons given by academics for changing their teaching practice is to improve student learning and to respond to changes in the student population. Another high level (moral) purpose that might appeal to many academics as a motivator for change is the desire to improve teaching arising from an individual's enthusiasm and passion for a subject and to see students learning and developing in the context of their subject (Ballantyne et al., 1999).

But the need to change is also motivated by external drivers. Jackson and Shaw (2002) identified eight major pressures for change in contemporary UK higher education:

- ❑ concern for academic standards;
- ❑ a more scientific and professional approach to teaching;
- ❑ creating opportunities for developing skills for the knowledge economy and improved employability;
- ❑ the use of communications and information technology in teaching and learning;
- ❑ creating opportunities to learn through life and develop self;

- ❑ responding to the market;
- ❑ democratizing/popularizing HE – social inclusion/increasing and widening participation in higher education;
- ❑ working more efficiently and effectively – doing more with less.

It is much harder for academic communities to accept the moral basis for change when the causes are driven by the Government and its agents. A key challenge for systemic brokers like LTSN is to champion the moral purpose for change at the same time as helping communities to make changes that may conflict with their own value systems.

Understanding change within our education system is complicated because we value and celebrate diversity. Diversity means respect for difference – cultures, purposes, structures, vocabularies, interests, ways of thinking and behaving, the list is endless. You cannot achieve moral purpose unless you develop mutual empathy and relationships across diverse groups. To achieve moral purpose in a diverse system *is to forge interaction and even mutual interest across groups* (Fullan, 1999 p. 2). Systemic brokerage offers a potential vehicle for achieving this goal in a large complex diverse system.

Change in Complex Systems

A large, rapidly expanding, culturally diverse, multi-purpose HE system is by definition complex and traditional ways of managing change that were devised for more stable times and environments are inadequate. Complexity theory addresses the issue of learning and adapting (changing) in unstable and uncertain conditions.

The paradox of complexity is that it makes things exceedingly difficult, while the answer lies within its natural dynamics – dynamics which can be designed and stimulated in the right direction but can never be controlled (Fullan, 1999 p. 3).

Most textbooks focus heavily on techniques and procedures for long term planning, on the need for visions and missions, on the importance and the means of securing strongly shared cultures, on the equation of success with consensus, consistency, uniformity and order. However, in complex environments the real management task is that of coping with and even using unpredictability, clashing counter cultures, disensus, contention, conflict and inconsistency (Stacey, 1996a).

Complexity theory and evolutionary theory can help us make sense of change in an infinitely complex systemic environment. The essential features of complexity theory (Stacey, 1996a; Stacey et al., 2000) as applied to organizations are shown in Table 2.1 together with a commentary on the implications for and relationship to the systemic brokerage function.

The science of complexity studies the fundamental properties of nonlinear feedback networks and particularly of complex adaptive networks. Complex adaptive systems consist of a number of components or agents that interact with each other according to

sets of rules that require them to examine and respond to each other's behaviour in order to improve their behaviour and thus the behaviour of the system they comprise. In other words, such systems operate in a manner that constitutes learning. Because those learning systems operate in a manner that consists mainly of other learning systems, it follows that together they form a co-evolving suprasystem that in a sense creates and learns its way into the future (Stacey, 1996b p. 10).

Table 2.1 The essential features of complexity theory

Propositions	Commentary
All organizations are webs of non-linear feedback loops connected to other people and organizations (its environment) by webs of non-linear feedback loops.	Academic organizations are connected at many functional and cultural levels within HE system as a whole. A major function of brokerage is to create even greater connectivity within and across communities. The challenge for brokers will be to create just the right amount of connectivity to foster adaptation. Too much connectivity creates gridlock, while too little creates chaos (Brown and Eisenhardt, 1998).
Such non-linear feedback systems are capable of operating in states of stable and unstable equilibrium, or in the borders between these states, that is far from equilibrium, in bounded instability at the edge of chaos.	The building of networks through brokering is intended to increase the sense of community and therefore improve the stability of feedback systems. Brokerage can support diverse ways of implementing change by gathering and disseminating information on different approaches to implementation, thus providing an important feedback loop into the system as a whole. Such feedback can then promote further responsive and adaptive change in the direction of those practices that are found to be most effective for particular contexts.
All organizations are paradoxes. They are powerfully pulled towards stability by the forces of integration, maintenance controls, human desires for security and certainty, and adaptation to the environment on the one hand and decentralization, human desires for excitement and innovation, and isolation from the environment	This is equally true of the HE system as a whole. Systemic brokerage has been used as both an agent to increase stability, e.g. through the creation of policy and regulatory frameworks that seek more consistent approaches across HEIs, and as a catalyst for adaptation to the environment through its support for innovation and experimentation. It is a powerful force for increasing connectivity with the wider environment and therefore an opponent of isolation.
If the organization gives in to the pull of stability it fails because it becomes ossified and cannot change easily. If it gives in to the pull of instability it	The same must be true at a whole system level. Perhaps systemic brokerage has a role to play in helping academic organizations (and the system as a whole) to maintain their

disintegrates. Success lies in sustaining an organization in the border between stability and instability. This is a state of chaos, a difficult-to-maintain dissipative structure.	position in the territory between stability and instability, i.e. working at the edge of chaos.
The dynamics of the successful organization are therefore those of irregular cycles and discontinuous trends, falling within qualitative patterns, fuzzy but recognizable categories taking the form of archetypes and templates.	Systemic brokerage should recognize that this is the reality of the organizational dynamic and support accordingly.
Because of its own internal dynamic, a successful organization faces completely unknowable specific futures.	Systemic brokerage has the potential to help academic organizations understand better such unknowable futures by coordinating, harnessing and disseminating the collective thinking of the system.
Agents within the system cannot be in control of its long-term future, nor can they install specific frameworks to make it successful, nor can they apply step-by-step analytical reasoning or planning to long term development. Agents within the system can only do these in relation to the short term.	This is a very important point of principle for systemic brokers to take on board. Brokerage will be most successful if it can anticipate, support and work with real time change and not aim to control change in the longer term.
Long-term development is a spontaneously self-organizing process from which new strategic directions may emerge. Spontaneous self-organization is political interaction and learning in groups.	Brokerage is about facilitating collective learning in an infinitely complex system. The key to successful brokerage will be developing capacity to react spontaneously to new circumstances, to engage the system in the political activity of learning and to then facilitate organizational change that is perceived to be appropriate. In a diverse system such change is also likely to be diverse but within agreed principles that define the direction for change.

Sources of information: Stacey (1996a) and Fullan (1999 p. 4). A commentary and interpretation of theoretical propositions in the context of brokerage in UK higher education, is also given.

Perhaps the best argument for creating the systemic brokering function is to help create and support a complex adaptive system by building cultures and facilitative mechanisms that help the system to ‘create and learn its way into the future.’ A powerful inspirational vision for any systemic broker!

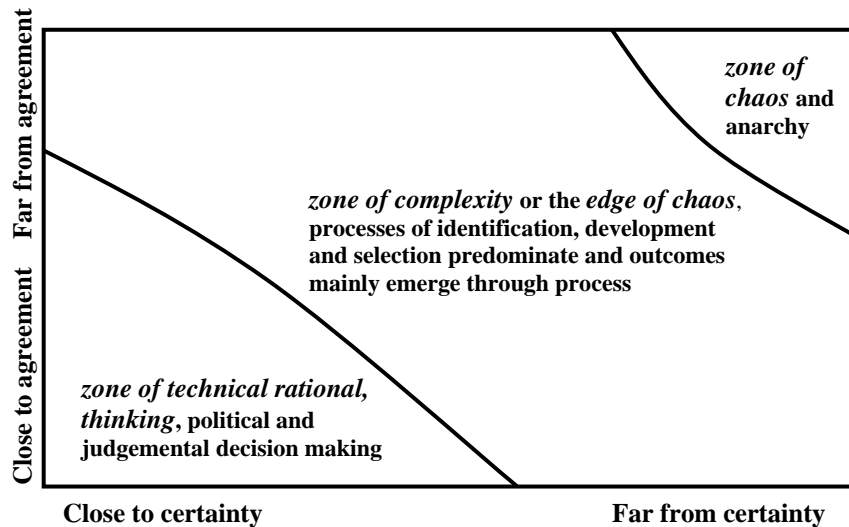
Complexity refers to the condition of the universe which is integrated and yet too rich and varied for us to understand in simple common mechanistic or linear ways. We can understand many parts of the universe in these ways but the larger and more intricately related phenomena can only be understood by principles and patterns - not in detail.

Complexity deals with the nature of emergence, innovation, learning and adaptation’ (Santa Fé Group, 1996; cited in Battram, 1998 p. v).

Figure 2.2 uses the conceptual imagery of Stacey et al. (2000) to represent the domains of behaviour within complex adaptive systems. The imagery is useful in understanding the worlds of the systemic broker.

Complex human systems tend to organize themselves through traditional management practices and controls on behaviour. But they also contain within them interactions and behaviours that are best understood in terms of living and operating on the edge of chaos. These are conditions for high creativity, innovation and transformational learning, but they are also conditions where traditional management approaches are not very effective and where new forms of organization and interaction continuously and spontaneously emerge as people working within a system learn to self-organize. Sometimes these inherently unstable regions of behaviour become chaotic and practice disintegrates into anarchy. Tosey (2002) provides good examples of applying the thinking underlying complexity theory to evaluating and understanding his own teaching as he works on the edge of chaos!

Figure 2.2 Conceptual framework for understanding complexity theory



Source: Stacey et al., (2000).

The strength of the idea of brokerage is that people can work creatively within and across complex systems in ways that are sympathetic to these different dimensions of the system. This makes it a powerful tool for systemic learning and development. Systemic brokerage can be used to create new systems that seek to

occupy the zone of stability (e.g. the UfI and eUniversity systems Chapters 8 and 9). But it can also be used to work with complexity on the edge of chaos to work with complicated fuzzy ‘problems’ in order to develop in ways that only emerge through the process of problem working and learning (e.g. Chapters 5, 6 and 7).

These conceptions of complex change raise the question of how people and the social systems they inhabit interact and collaborate to evolve over time: a matter which is addressed in the change literature by *evolutionary theory*. In behavioural terms the main difference between human activity systems and other natural systems is culture – ideas, knowledge, practices, beliefs and values, that enter the consciousness and can be passed on (Ridley, 1996 p. 179). Ridley contends that cooperative groups thrive and selfish ones do not. This is an implicit assumption that underlies systemic brokerage: by fostering the conditions for collaboration the organizational groups within it will prosper. The motivation to share and the opportunity to access information requires ongoing interaction. Interaction is also required for the development and internalization of higher order (moral) purposes (Fullan, 1999). We can consider moral purpose and complexity together within Goerner’s (1998) lessons of ‘dynamic evolution’ (Table 2.2).

Table 2.2 The lessons of ‘dynamic evolution’

Learning – surviving by changing one’s mind is a lot more efficient than surviving by changing one’s body. Learning is never done. It regularly requires that we reorganize what we know. (*Brokerage provides a tool for systemic learning. It enables us to organize our collective knowledge, learn what we already know, identify what we need to know and most difficult of all, learn what we need to unlearn!*).

Collaboration – learning is best done in groups. The greatest evolutionary leaps come from independent life forms that learn to work together. Commitment to the greater good is crucial to success (*This ideal underlies traditional collegiate behaviours but it is increasingly compromised as competition increases. Brokerage is a way of fostering collaboration in creative, adaptive and competitive learning enterprises*).

Intricacy – Underneath, the rules of dynamic evolution are still at work. Size, for instance pulls us apart. Failure to stay connected and flowing creates a world designed to crumble. Thus growth creates regular crisis points that will require we learn anew. (*Brokerage provides a vehicle for sustaining and improving connectivity to maintain the flow of ideas, information and knowledge that will hold the system together*).

Source: Goerner, 1998 cited in Fullan, 1999.

Organizational Change

In contrast to the messy, unpredictable, emergent and dynamic view of change embodied in complexity theory, organizational development (OD) views the world of change as a rational process that can be planned, managed and controlled. The end is knowable and change proceeds logically in an environment in which the

responses to change are predictable and manageable. The term technical-rational thinking is used to describe a conception of change in which all eventualities can be anticipated and planned for, actions are controllable and outcomes are predictable. *The approach emphasises efficient goal or vision directed change processes in organizations. Control is directed from the top and may operate through tight coupling, where strong lines of command are intended to ensure that what happens is a faithful replica of what has been planned* (Trowler and Knight, 2001).

There are hard and soft versions of this managerialist approach, the latter characterised by a looser coupled approach in which responsibility may be devolved to local organizational units (Kickert, 1991). Roles, responsibilities and tasks are clearly defined and progress towards intended outcomes is regularly monitored. The organization as a whole is assumed to act as a co-ordinated unit with an unproblematic conception of the objectives of policy and change initiatives (Trowler and Knight, 2001).

In *The Awakening Giant* Pettigrew (1985) and more recently Preece et al. (1999) and Blackwell and Preece (2001) criticise this technical-rational and reductionist view of the world. The world recognised by Pettigrew was messier, fuzzier, confusing, contradictory and unpredictable. Pettigrew focused on the complex *process of changing* or becoming, rather than the *planning for change* (a useful lesson for systemic brokers!). Organizational change is seen as an emergent, iterative, complex, contested, inherently political, continuous and discontinuous process of responses to changing internal and external contexts. It is these contexts that promote or condition the scope of human activity and we can only make sense of change, argued Pettigrew, when we can locate the systems where purposeful change is occurring, both temporally and contextually. His model of change, known as the Contextual-Processual (CP) framework, comprises three inter-related components (Table 2.3): contexts (the ‘why’ of change and its connectivity to the wider world); content (the ‘what’ of change) and process (the ‘how’ of change).

Table 2.3 The components of the Contextual-Processual Framework for organizational change

- **Contexts** refers to the external environment – such as social change, political intervention, economic imperatives, competition and market forces and increasingly global influences and the internal organizational environment – managerial, administrative and social cultures, belief and value systems, histories, structures and procedures, roles and functions and working practices.
- **Content** refers to the types of changes being made through purposeful action.
- **Process** refers to the purposeful actions that are enabling change, e.g. through top down managerial imposition, changes in contracts, bottom-up consultation and negotiation, participative and collaborative projects, training and education, benchmarking, regulation etc.

Source: Pettigrew (1985).

Table 2.4 Contextualist-processual model of organizational change

Preconditions for contextual analysis Of organizational change	General applicability to systemic brokerage
1. Contextual analyses are multi-level studies – behaviour is accounted for at the level of individual, group or unit, organization and the wider society. The levels of analysis must be connectable both theoretically and empirically so that a coherent analysis of these multi-levels may be developed.	The fact that the practice of an individual can be connected through structures and wider practices within a department/HE institution/HE communities to the external environment is an essential requirement for modelling change in brokered systems.
2. Contextual analyses favour an analytical approach which focuses on changing. The processual form of analysis considers organizations or any other social system as a continuing system with a past, a present and a future.	For every future that a brokered intervention is trying to create there is a past and a present. These histories and current positions will be unique in every HE institution and systemic conceptions of change must accommodate this.
3. A processual model of organizations/communities and changing requires an explicit model of humanity in which actors (humans) operate as choice-makers within bounded social processes.	This an appropriate model of humanity for academic communities in which there are high degrees of professional autonomy and personal choice which is exercised within bounded social contexts and processes.
4. The multi-level contextual form of analysis must be integrated with the processual horizontal analysis. This implies a view of context that overcomes the more limiting notion of environment. This recognizes that there are a complex set of relations and interactions between the horizontal and vertical lines of analysis.	This notion of complexity of human interactions at different levels, each of which may be embedded within a different process or slice of a process relating to a brokered activity, is a realistic if complicated view of change within a system. There will however be occasions where brokerage applied at a particular level, e.g. within subject communities, may have minimal engagement at other levels. Conversely, brokerage applied at a high strategic level could come back down through institutional structures and process into the subject and individual practitioner levels.

Source: Pettigrew (1985) and Collins (1998 p. 71).

For Pettigrew, change and continuity, process and structure, are inextricably linked. This holistic view of change requires all three aspects of change to be connected and worked with simultaneously. Pettigrew’s model of an organization actively engaged in change initiatives implies that actors at all levels will be working with change. Some will be leading and promoting it, others will be mediating, facilitating and supporting it, while most will be involved in

implementation and changing their existing practice either voluntarily or because they have to. While brokerage strategies can never anticipate the complexity of responses, they should be informed by an appreciation of the interplay of multiple levels of actors, cultural communities, organizational structures, politics, diverse traditions and histories. Table 2.4 summarizes the key features of contextual/processional models of organizational change and provides a commentary on their applicability to the analysis of brokered interventions.

How People Respond to Change

A purely technical-rational view of the world of change, within a complex social environment like a higher education institution, is at odds with a world that seems to make sense when viewed from the perspective of complexity theory. It bears little resemblance to the world seen from the perspective of the main actors and change agents, the academic staff and the people who are involved in helping staff to learn and develop.¹ Brokers need to develop an appreciation of how people actually change and work with change.

Self-determined Change

Like any population, academic practitioners will occupy a continuum from people who continually seek to improve and develop themselves and their practice to people who are content to remain as they are. That is not to necessarily imply that the latter need to improve their practice but to define an attitude to self-motivated change. Between these two extremes many academics will be self-motivated to improve an aspect of their practice if they are inspired to do so. So the key question here is what fires the imagination of such individuals?

It is perhaps easier to begin with people who are self-motivated. In a cross-disciplinary study of 'exemplary teachers' in one Australian research-led university Ballantyne et al. (1999) found that there was a widespread feeling that role expectations, high workloads and the lack of institutional support and encouragement combined to obstruct the development of high quality teaching practice. But in spite of these conditions such teachers continued to engage in change. So what drives these people? Ballantyne et al. suggest that the motivation to improve ones own teaching is personal and intrinsic arising from an individual's enthusiasm for a subject and a desire to see students learn and develop. This motivation derives from *a profound sense of commitment, excitement and enthusiasm and their intuitive ability to connect with student interests and ways of thinking*. Ballantyne et al. believed that these were the fundamental hallmarks of exemplary university teaching and perhaps supporting those who are committed to self-determined change constitutes a key moral purpose for brokering.

¹ See Paul Trowler's work below on the responses of academics to the introduction of a modular curriculum.

Studies in the UK (Knight and Trowler, 2000) and Australia (Taylor et al. 1998) show that the massive changes to work contexts that resulted from systemic changes in the first half of the 1990s have created a generally unfavourable environment for self-motivated change. Knight and Trowler (2000) summarize the changes in HE environments that mitigate against self-motivated engagement in change processes to improve own work practice as:

- ❑ Intensification of work – longer hours, more marking, pressure to publish, increasing expectancy of service leading to reduced time and energy for improving own practice especially in a climate of work degradation.
- ❑ Managerialist environments – which produce a reduced sense of professionalism as a result of more management intervention in everyday work. Loss of trust and greater accountability and spending time on evidencing what is done through bureaucratic controls. New expectations for administration and fragmentation of work time.
- ❑ Reduced collegiality – no time to socialize, less time in the work place when not teaching because of interruptions, hard managerialism only lends itself to ‘contrived collegiality’. Opportunities to share/discuss practice reduced.
- ❑ Uncaring institutions – asking for more without caring for the impacts on staff.
- ❑ Weariness – aging, malaise and marginality, progressive loss of vitality, self-esteem and self-confidence as the environment changes and the energy and motivation to innovate decline.

However, there is also evidence that underlying what is a worsening set of conditions there is still a considerable residue of autonomy, enrichment and development (Trowler, 1998). Because academics have choice in their actions they can maximize opportunities for achieving satisfaction through work in spite of structural and attitudinal changes within the organization as a whole (these views accord well with the Pettigrew model of change). Knight and Trowler go on to argue that individuals are still amenable to changing their practice in local (departmental) contexts. ‘The key factor in the equation is the staff member’s perception of the context of academic work’ (Ramsden, 1998 p. 63 see also Hannan and Silver, 2000).

Knight and Trowler attempted to get at ‘perceptions of work contexts’ through a study of academics new to teaching. These academics:

- ❑ recognized that academic life still affords freedom and opportunity but that the architecture of the space they occupied (and perhaps the attitudes engendered by this freedom) also created a sense of isolation;
- ❑ felt uncertainty and unease arising from multi-tasking, tacit expectations and a lack of feedback and support;
- ❑ identified an absence of support to develop their teaching in the new context: have high aspirations for their teaching but find it hard to teach as they would wish;
- ❑ experienced stress induced by considerable pressure to be productive in research;

- ❑ believed that although workloads were heavy they were coping and enjoying it;
- ❑ experienced stress induced from the heavy investment of time required to complete work tasks and resultant conflicts/tensions arising from interference with home life;
- ❑ and had developed the view that doing a good job is not rewarded and that little is achieved by collective endeavour.

One interesting finding is that in spite of the rhetoric about discipline allegiance, many new staff perceived their discipline to be fragmented, sometimes feeling quite isolated within their department. The backgrounds and specialized interests of departmental colleagues actually keep staff from talking to each other. Such a perception provides evidence of discrete sub-communities of practitioners within a single department.

Imposed Change

Few of us like to be told to change, and at least initially our thoughts are likely to be antagonistic to managerial directives and instructions to change. All too often change requires us to be more accountable, it often involves more bureaucracy and leads to a greater investment in time in support of administration. At its most extreme it may also require a radical rethinking of our practice challenging many long held assumptions and beliefs.

There can have been few more inhospitable change environments than the one confronting many universities in the early mid-1990s when the system expanded rapidly and per capita funding decreased. One response to this massive expansion in many universities was to create a modular credit-based curriculum in the belief that it provided a more manageable environment for the efficient use of resources to support student learning. Many institutions also reformed the academic year creating two semesters from three terms and creating four interruption points rather than the previous three.

The combined impact of the rapid migration from a low to a high participation HE system, curriculum reform and reorganizing the academic year, make this the most complex and profound set of changes that HE communities in the UK have ever had to deal with. It provides a natural laboratory to study how academics respond to complex, profound, management-driven change on a massive scale.

Gregg (1996a, 1996b) interviewed 152 academic and administrative staff in 14 institutions across the UK seeking their views on the introduction of modularization. At no institution did staff feel that they had been adequately consulted and almost universally staff felt the decision to introduce a modular curriculum had been unilaterally imposed. She also concluded that most of the criticisms of modularization are not the effects of modularization per se but concomitant changes such as semesterization, having to teach more students with fewer resources, or the local politics surrounding implementation. While there were very few perceived benefits the list of reported adverse impacts is considerable, e.g.

- ❑ heavier administrative and academic workloads (expanding student numbers, increased personal tutoring and advising);
- ❑ semesterization (suspicions that it is the thin end of a wedge: that it will lead to a 12 month teaching calendar);
- ❑ increased assessment loads on students and staff (marking time/tight turnaround schedules: concomitant trend in UK HE to diversify assessment methods);
- ❑ peculiar institutional regulations;
- ❑ overly prescriptive and unnecessary standardization (size shape modules);
- ❑ teaching diverse student populations within the same module.

That academics responded negatively to this managerially driven radical reform in such a turbulent context is not surprising. Issues relate to both the organizational interpretation of the implementation of change and concerns that relate to the epistemology of the subject. In the latter case staff responses to modularization of the curriculum vary according to discipline. The less structured and less hierarchical a curriculum the greater the resistance. The clearer sense a discipline has about its knowledge base the less difficult it was to reorganize the curriculum. The more dependent a subject is on non-cognitive outcomes (e.g. law and art and design) the greater the hostility to modular reform. Gregg's study provides a good baseline survey for what academics felt about a radical transformative change while they were experiencing it. But it did not address the matter of how academics actually responded to such reform. This matter was addressed in a parallel study (Trowler, 1997) who examined the responses of academics to the developing mass model of higher education and the introduction and implementation of a credit-based modular curriculum framework in one post-1992 university. He recognized four types of response (summarized in Table 2.5) which were not mutually exclusive. Academics may move from one type of response to another, perhaps initially sinking then reconstructing in some areas and using coping strategies in others and even exploiting the environment in an innovative way when they have learnt to swim.

Table 2.5 Academics' responses to change brought about by the introduction of credit-based modularization

Relation to environment	Accept status quo	Work around change or policy
Content with their Working context	Swim	Reconstruct
Discontented with their working context	Sink	Cope

Source: Trowler (1997).

For academics in the 'swimming' category, modularization and the expanded higher education system created an environment in which they could thrive. Perhaps these are the natural innovators/enthusiasts who are pre-disposed to exploiting opportunities for change to promote their own and their students' interests. For example, through the *development of modules* to service another discipline, which accumulate to develop *new subjects* within the Combined Honours scheme and eventually lead to *whole degree schemes*. At a personal level those in this category have gained course leaderships, promotion and the prerogative of determining their own areas of teaching and research. Others in this category have exploited the change environment for more pragmatic reasons. For example, academics in disciplines in decline in terms of recruitment of students and in resources used the flexibility of the modular structure and the improved opportunities for marketing to develop new, attractive niche market programmes (with 'sexy' titles) which attract new resources and larger numbers of students.

By contrast, academics in the 'sinking' category are closest to those typically described in research that is critical of the impact of changes in higher education (e.g. Jary and Parker, 1995). Intensification in work-load, decline of resources, deskilling, increase in student numbers and general degradation of the work process as well as specific features of the credit-based system have led to weariness, disillusionment and even illness for these academics.

However, this fatalistic response was very much in the minority. Most staff had developed coping strategies and many had also developed policy reconstruction strategies. Examples of the former included using teaching materials from previous years in order to be able to cope with the administrative and other pressing demands they had. Some had started unofficially 'working to rule', for instance calculating the number of assignments they had to mark, the amount of official work-time they had available for it and then (in the words of one respondent) dealing with it by 'whamming through it'. Others had deliberately made themselves unapproachable and their teaching and assessments very difficult in order to reduce the intolerably great demands made upon them by the greatly increased number of students. Many had given up trying to follow the complex and changing regulatory rules of the system. Many had started to avoid meetings and generally refuse as a matter of course any invitations to become involved in special projects where once they would have accepted. Some had changed their pedagogic techniques in ways which they regretted but which they thought necessary in order to cope.

Trowler's *policy reconstructers*, by contrast, changed the spirit and sometimes the letter of the modular structure through their actions on the ground. Some had used their latitude for innovation to mount what Robertson (1994) calls 'regressive' strategies: ones which move away from the claimed flexibility and other advantages of the credit-based modular structure 'back' to a more traditional model. They reduced the number of optional modules available and 'tightened up' the co- and/or pre-requisites required to study any particular module. This had the effect of reducing the teaching workload but also of undermining the modular philosophy. Academics in general were unhappy with the clear specification of learning outcomes that modularization encouraged. Two responses to this were common. The first was to keep learning outcomes and other syllabus details as vague as possible and to develop

good arguments for this for use at validation events. The second was to use the traditional freedom of the teacher to control what actually happens inside the lecture and seminar room, allowing that to change and develop regardless of the outcomes stated. Some of the academics behaved extremely strategically with regard to the regulations. A final example of the reconstructive response was the conscious adoption of strategies that allow the academic to 'reprofessionalize' the teaching process.

The research studies of Patti Gregg and Paul Trowler suggest that no matter how radical imposed change is, there will always be a group of people who can exploit or come to terms with it. From a brokering perspective it is the copers and innovators who provide the experiential learning from which knowledge of *how to do it* can be grown and shared with those who, for whatever reason, find it difficult to adapt. But the real challenge for brokers is to create strategies that will reach and support those who are not coping particularly well with change.

Emotional Dimensions of Change

But perhaps we also have to look beyond the overt reasons for personal responses to change. David Goleman's (1996) book on emotional intelligence depicts a world in which the capacity to cope with life is strongly dependent on attitudes of mind that have little to do with the thinking rational part of the brain and more to do with the emotional, non-rational and intuitive brain. Being asked to change something does trigger an emotional response and the way it is presented and discussed can be an important factor in the extent to which change is accepted or resisted. Perhaps dimensions of emotions like *anger* (resentment, annoyance, hostility and even outrage), *sadness* (dejection/depression, flatness, energyless, loneliness), *fear* (anxiety, misgiving, apprehension) and *enjoyment* (contentment, satisfaction, pride and even pleasure) have something to do with attitudes to imposed change. Psychological research cited by Goleman (1996 p. 48) suggests that people fall into one of three types in their capacity to deal with their emotions.

- ❑ *Self aware* people are aware of their moods as they are having them, these people understandably have some sophistication about their emotional lives. Their clarity about emotions may undergird other personality traits: they are autonomous and sure of their own boundaries, are in good psychological health, and tend to have a positive outlook on life. When they get into a bad mood they don't ruminate and obsess about it and they are able to get out of it sooner.
- ❑ *Engulfed* people often feel swamped by their emotions and helpless to escape them, as though their moods have taken charge. They are mercurial and not very aware of their feelings, so they are lost to them rather than having some perspective. As a result they do little to escape bad moods, feeling that they have no control over their emotional life. They often feel overwhelmed and emotionally out of control.

- *Accepting* people are often clear about what they are feeling. They also tend to be accepting of their moods, and so don't try to change them. There seem to be two branches of the accepting type: those who are usually in good moods and so have little motivation to change them, and people who, despite their clarity about their moods, are susceptible to bad ones but accept them with a *laissez-faire* attitude, doing nothing to change them despite their distress.

The general parallels with the attitudes and behaviours exhibited by academics in Paul Trowler's study suggest that there may well be an emotional dimension to attitudes and behaviours relating to imposed change.

Innovative Change

Much change in higher education is framed around the idea of innovation. During the last decade UK HE has been induced to innovate its teaching and learning practices through many funded initiatives including Enterprise in Higher Education (EHE), Higher Education for Capability (HEC), the Teaching and Learning Technology Programme (TLTP), the Computers in Teaching Initiative (CTI), the Department for Education and Employment Innovations Fund, and the Fund for Development of Teaching and Learning (FDTL) to name six major publicly funded change initiatives.

The word innovation is synonymous with change and it has come to be associated with planned deliberate change directed towards, but not necessarily achieving, solving or mediating, a perceived problem (Hannan and Silver, 2000 p. 10). Engagement with the idea of innovation in *for profit* environments is often systematized – the purposeful and organized search for change to gain competitive advantage or deal with a crisis. It is generally a less systematic process in HE environments where traditionally innovation is done by individual enthusiasts or less commonly by sponsored groups or teams of individuals (e.g. the design of a new ground-breaking course).

At the level of the individual practitioner innovation is not normally conceived as original ground breaking change. Rather it is viewed in more modest terms: *what people do that is new in their circumstances* (Hannan and Silver, 2000). In their study of innovation in teaching and learning in UK HE these authors categorized innovations in terms of their sponsorship (individual, guided or directed) and their focus in terms of the area of teaching and learning practice to which it was directed (Table 2.6). In proposing this typology Hannan and Silver (2000 p. 139) concluded that it raised the question as to whether the concept of innovation had any real meaning beyond *what people do that is new in their circumstances*.

Table 2.6 Types of innovative change framed around the teaching enterprise and the nature of the sponsorship

- ❑ *Individual and group sponsored innovations*: classroom and course-related, a direct response to student needs and professional concerns.
- ❑ *Disciplinary sponsored initiatives*: sponsored or encouraged by subject associations or professional bodies, includes informal collaboration across institutions.
- ❑ *Innovations responding to the educational media*: exploiting new technologies and acquiring or developing new materials to support learning.
- ❑ *Curriculum prompted innovations*: to meet the needs of new modular and semester structures (including new assessment procedures) and in response to changing content of fields of study and interdisciplinary developments.
- ❑ *Institutional initiatives*: including policy decisions of many kinds (e.g. computer and information technology-based, work-based or resource-based learning).
- ❑ *Systemic initiatives*: including the creation of new institutions (like the Open University) and the funding of system-wide change (like Enterprise in Higher Education).
- ❑ *Systemic by-products*: resulting within institutions from system-wide policies like Quality Assessment and expanded student populations.

Source: Hannan and Silver (2000).

Disciplinary Cultures

The cultural and intellectual dynamics of disciplines (Creswell and Roskens, 1981; Kolb, 1981; Becher, 1989 and 1994) provide an important context for the way academic communities respond to change. Tony Becher's (1989) influential work characterized the HE knowledge community into:

- ❑ the academic profession as a whole;
- ❑ the four intellectual clusters defined by Biglan (1973) and Kolb (1981);
- ❑ individual disciplinary and sub-disciplinary communities (bearing in mind that there are issues of boundary and temporality in the latter groupings).

Becher's assertion (1994 p. 153) that the cultural aspects of disciplines and their cognitive aspects are inseparably intertwined, is being born out not just in behaviours relating to research-based knowledge production, but in different pedagogic beliefs and behaviours (Braxton, 1995; Hativa and Marincovich, 1995; Smelby, 1996; Gregg, 1996a and b; Hativa, 1997; Gibbs, 2000; Neumann, 2001). Such beliefs also extend to student perceptions of their learning (Cashin and Downey, 1995). If brokerage is about promoting and facilitating change within academic communities then it needs to relate in a profound way to disciplinary cultures if it is to stand any chance of success (see below).

But the studies of Trowler (1998) and Knight and Trowler (2000) also show how important organizational contexts are in shaping thinking and behaviours. Trowler (1998) challenges some of the assertions made about disciplinary cultures

being the key determinant in the way academics view a whole range of issues. He concluded that ‘the attitudes and values among academic staff were much more subtly diverse and unpredictable than those portrayed in the existing literature’.

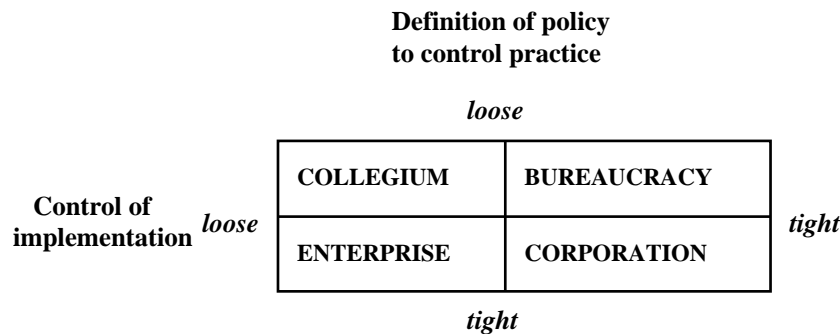
Organizational Cultures

The institutional organizations themselves - the universities and colleges of higher education and further education hosting some HE, constitute another major cultural influence in higher education. Institutional cultures, which are as complex as disciplinary cultures, might be caricatured as ‘the way we do things around here’ (Deal and Kennedy, 1982).

Organizational cultures derive from many factors, e.g. traditions, styles of leadership and management interventions, and structures and processes relating to governance and delivery. In organizations without a strong managerialist culture (as has been traditional in the pre-1992 universities) the culture emerges and develops in a haphazard fashion (Collins, 1998). However, during the last decade, under increasing and powerful external forces, HE institutions have been forced to become more managerialist and the net effect in many universities has been to create a generally managerialistic environment superimposed on a more democratic (or collegial) environment.

On the basis of empirical work, McNay (1995) and Dobson and McNay (1996) recognized four cultural conditions within UK Universities. These have substantial congruence with the generic organizational cultural models developed by Charles Handy (1993). Building on Weick’s (1976) concept of educational institutions as loosely coupled organizations, the dimensions of the model represented in Figure 2.3 relate to the extent of tightness or looseness in definition of policy and in control of practice – the implementation of policy. The four cultural conditions are termed: collegial academy; bureaucratic; corporation and enterprise. None of the conditions is exclusive. The styles of leadership and management (and therefore the environment for change) are different in each cultural context.

Figure 2.3 Models of universities as organizations



Source: Dopson and McNay (1996), McNay (1995)

Collegial academies are organizations of consent (Handy, 1983) in which the members of the institution have a right to be consulted and in which they can exercise considerable influence over proposals for change through their powers of veto. In such a cultural environment leadership and management are transactional activities and change is through personal persuasion and working through consensus and compromise.

In bureaucratic cultures the consent processes are formalized in committees – representative democracy – and procedural power becomes dominant. There may or may not be clear policy in any area but there are precedents against which to judge proposals for change and general principles which condition behaviour. Such cultures are good at saying no and rarely generate innovation from within. Leaders and managers need to command by rules and case law, the control of agendas, minutes and information flow.

In the corporation, the academics recapture the control that they may have lost in a plethora of committees that are replaced by more dynamic and flexible working groups and teams. Committees are slimmed down and dominated by managers. This is often a crisis mode of operating, with positional power and tight control of funding being used to promote conformity to corporate objectives. Key people scan the environment and position the institution in relation to perceived policy imperatives. Leaders are transformational, bringing new values and new visions which they evangelize with charismatic zeal.

The enterprise culture keeps awareness of the market to the fore. It relies on a clear mission statement with priorities and plans that link policy to practice (McNay, 1995). It relies on good market intelligence and good internal management information systems. It's enterprise is commercially focused and extrinsically motivated: values which do not attract most academics. The strength of this culture is that it may be good for innovation and bringing team members together from different cultural enclaves. But this may be ephemeral and novelty is valued more than sustaining quality. Dopson and McNay (1996) conclude their cultural tour of academic organizations by suggesting that the state, through the levers it controls, has progressively pushed HEIs towards the conditions that are most supportive of corporate enterprise.

While there is a place for this type of cultural characterization, it can be criticized for being oversimplified and unrealistic (Trowler and Knight, 2001). Furthermore, it probably has little value in terms of providing a conceptual basis for brokering. Trowler and Knight view institutional organizations as 'protean and dynamic, not singular and static. Any university possesses a unique and dynamic multi-cultural configuration which renders depiction difficult and simple depictions wildly erroneous. So values, attitudes, assumptions and taken for granted recurrent practices may be as different from department to department or building to building in one HEI as they are between one university and the next'.

Trowler and Knight (2001) prefer to visualize academic organizations as networks of networks (Blackler et al, 2000) or constellations of communities of practice (Wenger, 1998). In such a multicultural change context cross-institutional working groups provide an important socializing and multi cultural forum for

influencing change. The Hannan and Silver (2000) study of innovative practice in five UK universities supports this conceptual view of the academic organization.

Innovation [in teaching and learning] depends on a configuration of vital elements: how an institution's culture is interpreted by a range of constituents; the degree of conflict and consensus within it; the pattern of attitudes within which initiatives are received; the nature of and reasons for change and the ways in which it is managed; relationships between the centre and the periphery; and views of what needs to be sustained, adapted or abandoned in the historical moulding of an institution and its substructures. (Hannan and Silver, 2000 p. 95).

Staff perceptions in relation to institutional cultures and sub-cultures, of change and its causes and management are strongly influenced by age, length of service and experience of other institutions. Reinforcing the work of Knight and Trowler (2000) leadership and perceptions of leadership are important influences on staff perceptions of culture and attitudes to teaching and learning, and staff perceive that the department not the organization, which many feel alienated from, is the basic structural, social and cultural unit. *Departments are the real presence and filter of wider institutional behaviours and meanings* (Hannan and Silver, 2000 p. 95).

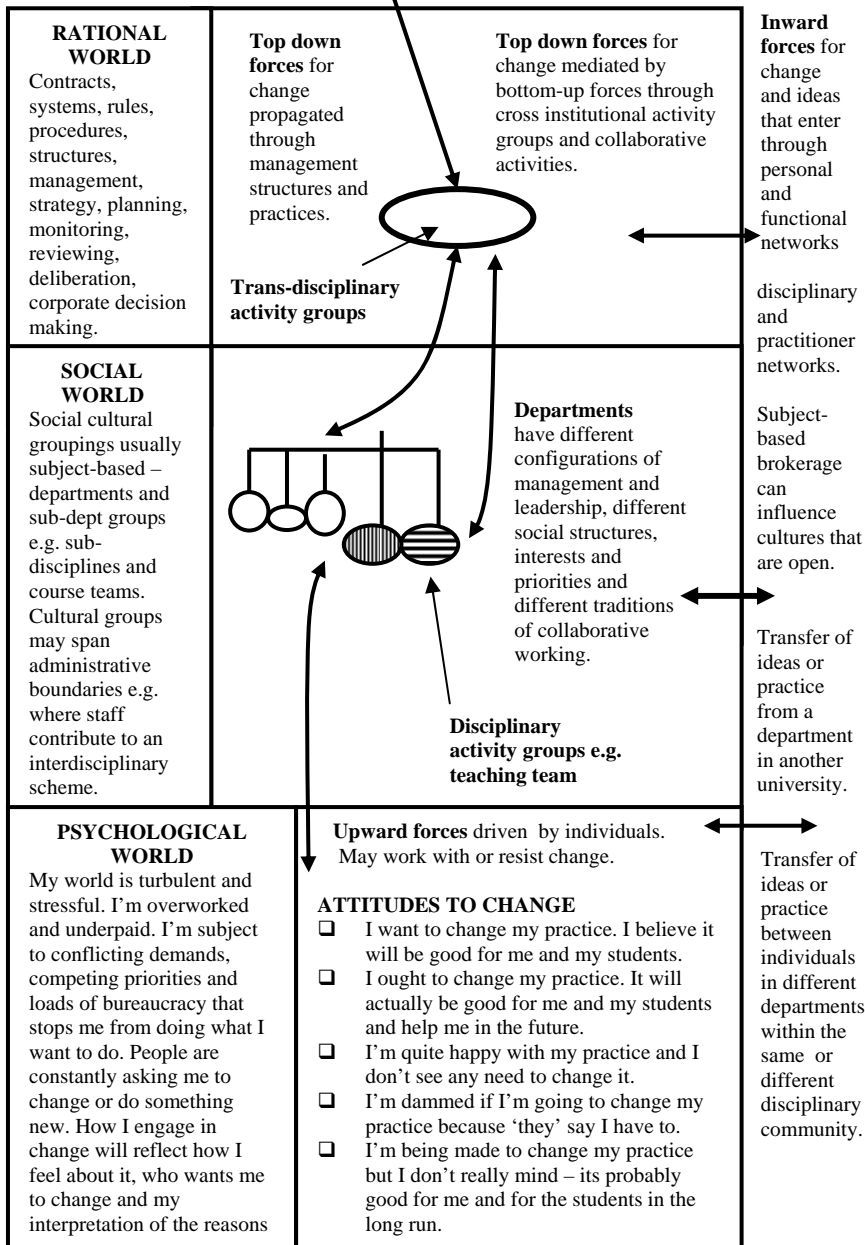
A Working Theory of Change to Aid Systemic Brokers

This review of change literature paints a picture of infinite complexity that systemic brokers must appreciate, navigate and work with. The conception of academic organizations that Trowler and Knight (2001) embrace suggests that systemic brokers have to address the micro- macro- and meso-levels of change agency if they are to have a pervasive influence. But complexity theory tells us that brokered interventions can only be a stimulant for change, the enactment of which is ultimately determined by each individual acting within the complex multi-cultural and operational environment of an institution. Individuals are connected to personal and functional networks within and outside the institution and may be connected to associations, professional or representative bodies. These all have the potential to influence the people who are enacting change.

Theorizing only has practical value if it offers an explanation of phenomena that can then be used to formulate more effective approaches to working with the phenomena. Theoretical conceptions of how change happens in human activity systems are becoming increasingly dynamic and complicated and there is a danger that the very fact of recognizing such complexity deters further action. But brokers require working theories of change to guide their activities and actions if they are to provide effective support for practitioner communities engaged in change. Similarly, brokering organizations must have a realistic appreciation of the scale and scope of actions required to effect change. In the light of this review of the change literature, a working theory of change within institutions is proposed which combines technical-rational thinking and actions with theories of change in more organic and unpredictable human activity systems (Figure 2.4).

Figure 2.4 Representation of the dynamics of change in a typical UK HE institution

Top-down forces created by policy making bodies, Funding Councils working to government agendas and systemic brokers acting as facilitators of change.



Many change initiatives in HE institutions are driven top down by technical-rational thinking and strategies at the macro (institutional) and meso levels (faculty or school and/or department). In England, substantial planned changes related to teaching and learning will be codified within the institution's Teaching and Learning Strategy. These documents promote a technical-rational view of the management of change and provide a blueprint for planned change across the whole institution that can be interpreted and customized by departments and schools.

Institutional change strategies are propagated through management and committee structures, procedural and regulatory frameworks. They may be supported formally by dedicated resources and expertise (e.g. by staff or educational development units) or staff may be left to 'get on with it' with little or no additional resources or professional support. Monitoring of implementation may be through regulatory processes (like curriculum review), management processes (like an annual School or Departmental review) or enquiry-based surveys and audits.

Institutions confronting substantial change often engage in collaborative working through cross-institutional working groups or discussion fora in order to build support for change and grow understanding of how change should be formulated and enacted in the different social-cultural contexts. The knowledge production activity of these trans-disciplinary work groups is consistent with the Mode 2 knowledge production of Gibbons et al. (1994) and with the way systemic brokerage engages in knowledge production. Such activity groups are particularly important where the intended change is radical, complex and contentious for the institutional setting. They are often inhabited by the enthusiastic practitioners with experience of the areas of practice being developed, but they may also deliberately include colleagues who are more sceptical and antagonistic. Trowler and Knight (2000) highlight the importance of such meso-level activity in subjecting proposed changes to the perspectives of multiple disciplinary cultures and practice communities and how they act as a powerful mediating force in creating proposals that can be reworked and adapted at ground level. These groups provide a ready market for the knowledge produced by brokers like the LTSN (Chapter 7).

Ideas for change are transmitted through management structures, policies, regulations, review and development processes and institutional change agents into departments. This is the organic world of change – it is complex and less predictable than the technical-rational world. It is characterized by stress and overwork, conflicting demands and competing priorities (research, teaching and administration) and limited resources. Individuals and groups of individuals often hold fragmentary knowledge about proposed changes, and information/misinformation is often acquired through personal networks. An important dimension of this organic world is the personal psychology (world views) of the inhabitants of each social grouping. Perceptions on the reasons for change and its management and leadership, together with personal beliefs, ambitions and attitudes to change are a major determinant of how change is enacted by each individual and practice community. Departments may use a range of strategies to promote change

(e.g. use of experienced and respected champions to lead, departmental task groups, curriculum review processes) or change may be left to happen by osmosis. These are the conditions that can be supported by systemic brokers like LTSN.

If this model has any validity then systemic brokerage involving HE institutions must address both the technical-rational and social-cultural contexts for change. Some of the ways in which this is achieved will be revealed in the case studies that follow.

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