

**Applying Complexity Theory
to the Strategic Development
of an Organisation**

Volume Two

**Submission for Doctor of
Philosophy**

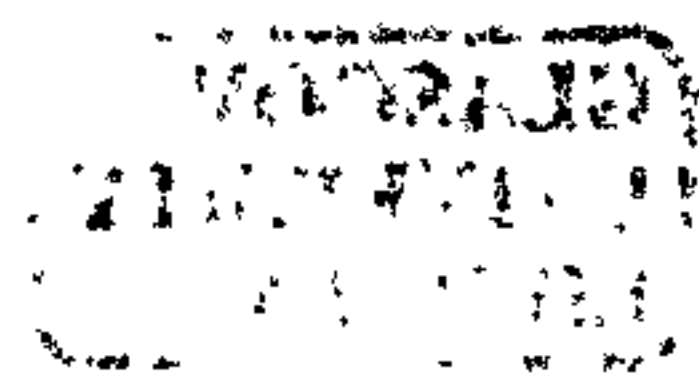
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The Application of Complexity Theory to the Strategic Development of an Organisation

Table of Contents

Volume Two

Chapters	Page
Introduction to Chapters Seven to Ten	140
Chapter 7 Initial Conditions in AYTAG	143
Chapter 8 Disequilibrium Conditions in AYTAG	161
Chapter 9 Negative and Positive Feedback Processes	178
Chapter 10 Strategic Development - Order Emerging in AYTAG	215
Chapter 11 Anxiety Reduction Activity in AYTAG	249
Chapter 12 Emergent Order at the System Boundary	256
Chapter 13 Feedback; its Links to Connectivity, Initial Conditions and Disequilibrium	263
Chapter 14 Complexity Theory and Social Systems – Problems, Limitations and a Possible Way Forward	271

The Application of Complexity Theory to the Strategic Development of an Organisation

Table of Contents

Volume Two continued

Chapters	Page
Appendix One Interview Plan for Interview with Director for Special Projects	290
Appendix Two Using Action Research to Multiskill Professionals and Develop the Management Process in AYTAG	292
Appendix Three Mind Map – AYTAG Initial Conditions	295
Appendix Four Whittington's Framework and the Research Results	296
References	300

The Application of Complexity Theory to the Strategic Development of an Organisation

List of Figures and Tables

Volume Two

		Page
Figure 7.1	The emergence of order	142
Figure 7.2	Initial conditions in AYTAG	145
Figure 7.3	Structure of AYTAG April 1996	155
Figure 8.1	Planned and unplanned actions and events in AYTAG bringing about disequilibrium	163
Figure 9.1	Feedback processes acting against achieving the desired new state	180
Figure 9.2	Feedback processes working towards achieving the desired new state	181
Figure 10.1	Strategy milestones	220
Figure 10.2	Statement of management style December 1996	221
Figure 10.3	Corporate Management Team Actions	222
Figure 10.4	AYTAG culture	223
Figure 10.5	The AYTAG Manager	224
Figure 10.6	Levels and types of feedback required to create desired new order	227
Table 10.7	Emergent order in AYTAG	228

The Application of Complexity Theory to the Strategic Development of an Organisation

List of Figures and Tables

Volume Two continued

		Page
Figure 10.8	Key concepts in relation to the continuation of wide spans of control	229
Figure 10.9	Key concepts in relation to the development of employee flexibility	233
Figure 10.10	Key concepts in relation to the empowerment of managers	237
Figure 10.11	Key concepts in relation to value for money	240
Figure 10.12	Key concepts in relation to a strong corporate centre	242
Figure 10.13	Key concepts in relation to wanting to regulate and influence	245
Figure 12.1	The emergence of undesired order	258
Figure 12.2	The emergence of desired order	258
Figure 13.1	levels of feedback and their effects on organisational change	265
Figure 13.2	The individual as the system. The relationship between individual level human interaction and negative feedback	268

“What was here to be found was not a thing. Things separate from their stories have no meaning. They are only shapes. Of a certain size and colour. A certain weight. When their meaning has become lost to us they no longer have even a name. The story on the other hand can never be lost from its place in the world for it is that place.”

From Cormac McCarthy, *“The Crossing”*

Introduction to Chapters Seven to Ten

Explaining organisation development through complexity theory concepts

In chapters one and two of this thesis I reviewed different approaches to strategy research and concluded that each of these only gave a partial explanation of how an organisation develops. In the next four chapters I use the four key complexity theory concepts I highlighted in chapter 3 as tools to describe the development of AYTAG as an organisation. In chapter 3 I noted that Tsoukas (1998) commented that complexity theory draws attention to certain features of organisations about which organisation theorists were on the whole only subliminally aware. Concepts like, sensitivity to initial conditions, feedback loops, unpredictability, emergence make up the vocabulary of terms with which we can attempt to re-describe organisations.

The four chapters will give my “attempt” to “re-describe” the development of an organisation by exploring what I found while working in AYTAG. In so doing I draw attention to a broader spectrum of features than is possible through other strategy models. Using complexity theory has allowed me to produce a rich description of AYTAG’s development through making use of a wide range of data and interpreting it within the one framework. I will look at each concept of the following concepts in turn.

- sensitivity to initial conditions - I describe the conditions which existed at the start of AYTAG,
- dis-equilibrium - I describe planned and unplanned events and behaviour that occurred during the period of the research that disturbed the organisation and those in it
- negative and positive feedback processes - I give the events and decisions taken which I considered to have an impact on the

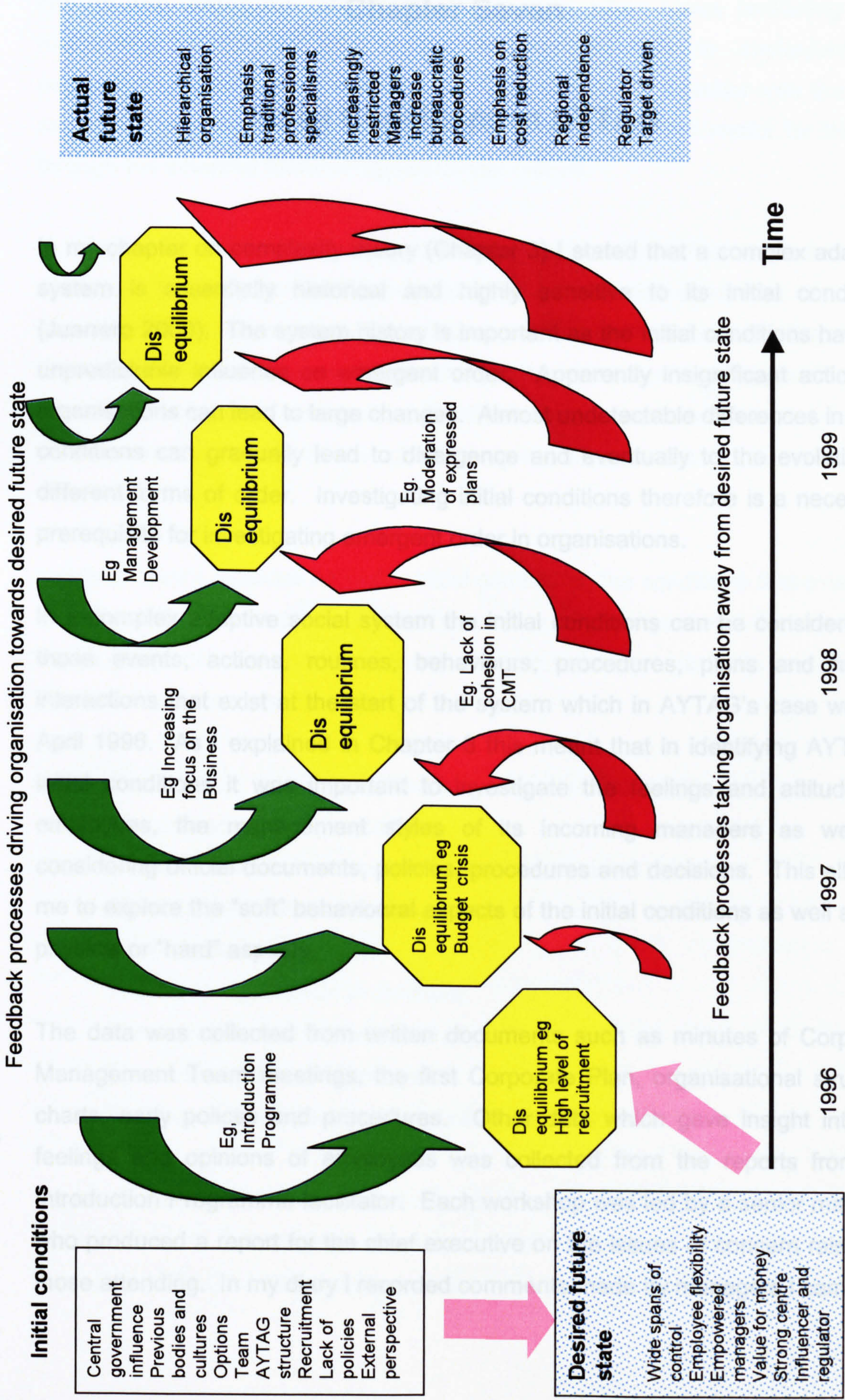
organisation driving the organisation towards or away from its desired equilibrium.

leading to

- the emergence of order. I describe the order which emerged in AYTAG and how I consider these key concepts explain the order that occurred.

When AYTAG was formed there was a strong vision for the organisation contained in its strategic objectives and mission statement. Together they expressed the new dynamic equilibrium the organisation wanted to reach. There was an organisational structure designed to allow the organisation to work towards that vision. Its complex initial conditions influenced the way it moved forward. So many of its staff came into the organisation over a very short period of time not having worked together before. They had so few policies and procedures to guide them. Once AYTAG became operational disequilibrium creating actions occurred, positive and negative feedback processes operated which altogether produced the actual future state of the organisation in August 1999 when this research ended. This process is described in diagrammatic form in Figure 7.1 on the next page.

Figure 7.1 The emergence of order



Chapter Seven

Initial Conditions in AYTAG

In my chapter on complexity theory (Chapter 3) I stated that a complex adaptive system is essentially historical and highly sensitive to its initial conditions (Juarrero 2000). The system history is important as the initial conditions have an unpredictable influence on emergent order. Apparently insignificant actions in organisations can lead to large changes. Almost undetectable differences in initial conditions can gradually lead to divergence and eventually to the evolution of different forms of order. Investigating initial conditions therefore is a necessary prerequisite for investigating emergent order in organisations.

In a complex adaptive social system the initial conditions can be considered all those events, actions, routines, behaviours, procedures, plans and human interactions that exist at the start of the system which in AYTAG's case was 1st April 1996. As I explained in Chapter 3 this meant that in identifying AYTAG's initial conditions it was important to investigate the feelings and attitudes of employees, the management styles of its incoming managers as well as considering official documents, policies, procedures and decisions. This allowed me to explore the "soft" behavioural aspects of the initial conditions as well as the physical or "hard" aspects.

The data was collected from written documents such as minutes of Corporate Management Team meetings, the first Corporate Plan, organisational structure charts, early policies and procedures. Other data which gave insight into the feelings and opinions of employees was collected from the reports from the Introduction Programme facilitator. Each workshop was led by a senior manager who produced a report for the chief executive on the issues of concern raised by those attending. In my diary I recorded comments made by managers I came into

contact with during the Introduction Programme, when I was facilitating early multiskilling workshops and leading training sessions to implement the performance management system. My diary comments together with the semi structured interviews I had with members of the CMT were useful for thinking through the inherited forms of organisational culture.

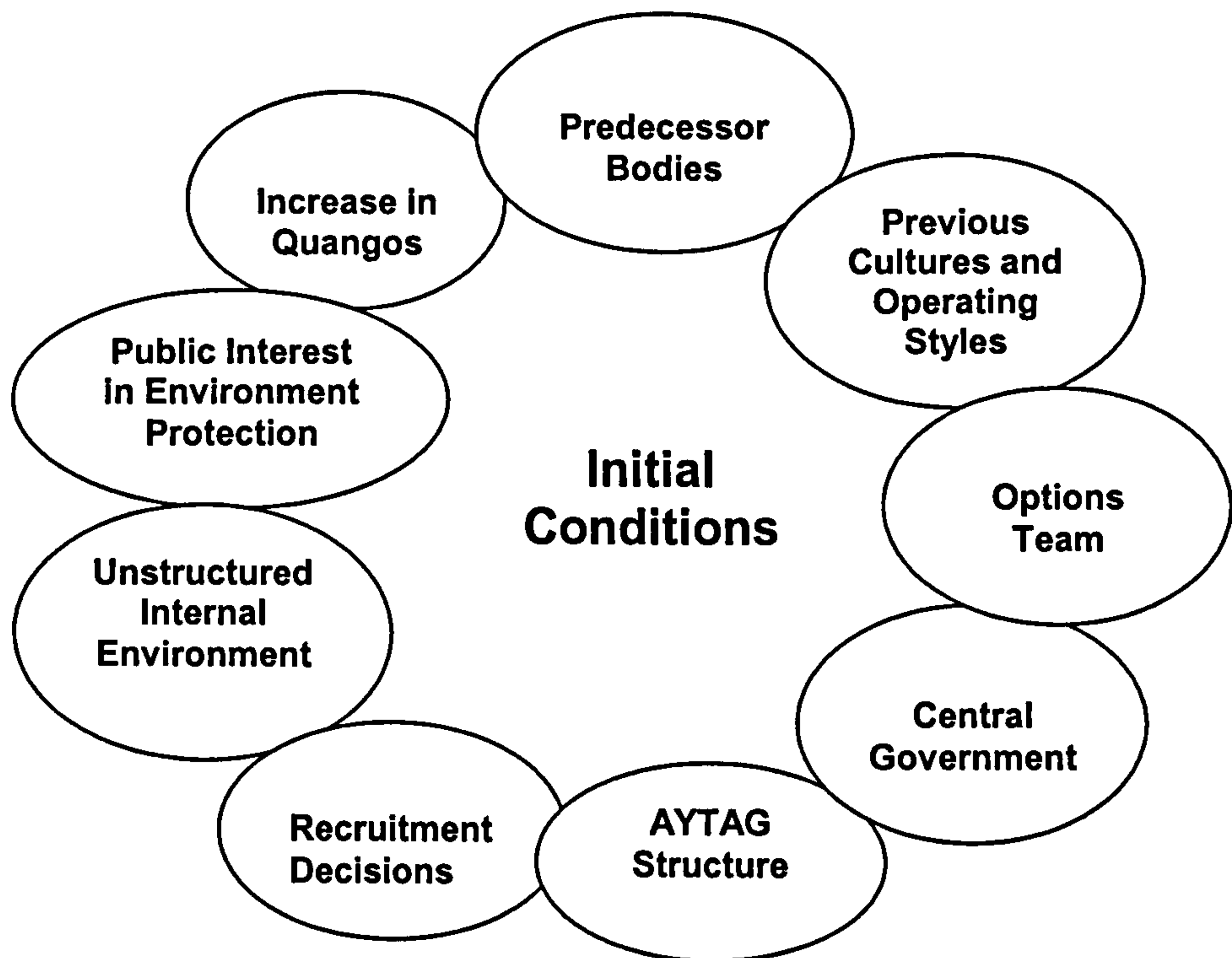
In Chapter 5 I detailed how I first used this data to write a chronological story of AYTAG. To get from the story to identifying the initial conditions, that is to generate the conceptual category of initial conditions from the data (Glaser and Strauss (1967) I used concepts taken from soft systems methodology such as rich pictures, primary task systems and issue based systems to help me construct mind maps of the key factors which made up the initial conditions (Checkland and Scholes, 1999).

In this chapter I describe AYTAG's initial conditions, the conditions that existed in the aftermath of its creation. AYTAG's complex beginnings meant that there was a wide range of initial conditions some of which were in conflict with one another. The individual components were

- The increase in non departmental government bodies
- The predecessor organisations
- Inherited forms of culture and control mechanisms
- The Options Team recommendations
- Central government input
- The initial organisational structure
- The recruitment and placement of staff
- The unstructured environment
- The external perspective – protecting the environment

Together these initial conditions acted as a set of enabling and/or constraining mechanisms on the strategic development of AYTAG. Figure 7.2 overleaf illustrates AYTAG's initial conditions which are then described in more detail.

Figure 7.2 Initial Conditions in AYTAG



1. Increase in Non Departmental Government Bodies – quangos

AYTAG is a quasi autonomous non-departmental government organisation (QUANGO). The British Government defines a quango or non-departmental government body (NDPB) as *“A body which has a role in the processes of national government, but is not a government department or part of one and which accordingly operates to a greater or lesser extent at arms length from Ministers”* (Opening Up Quangos, 1997). The term NDPB derives from Sir Leo Pliatsky’s *“Report on Non-Departmental Public Bodies”* published in January 1980. The growth of the quango state has been an important recent change in the British system of governance. The debate about appointed bodies continues and has become institutionalised through its inclusion in the agendas of the Nolan Committee on the Standards of Conduct in Public Life (Payne and Skelcher, 1997). There has been a reduction in the extent to

which local public policy decisions are open to public scrutiny and influence. This has resulted in changes to accountability and legitimacy structures for governmental decisions at the local level. The growth of quangos is not necessarily an increase in the level and extent of state activity. Rather it is a shift in the allocation of functions and resources between the different domains of the state, from the elected to the appointed or self appointing domain.

“Opening up Quangos” (1997) comments that the establishment of Executive Agencies such as AYTAG in the UK has allowed a clear delineation between the functions of policy formulation and policy implementation. Areas of relative freedom from bureaucratic constraint have been created in which a more businesslike climate can be maintained. The creation of appointed bodies and the consequent power of patronage by ministers enables an expansion of ideological control to be enacted. It can be especially significant where quangos are created to replace functions previously performed by local authorities or on which local authorities held some influence. Local authorities are bypassed with central government strengthening its position (Painter, Kester and Rouse, 1997). When AYTAG was created it took over some local authority functions eg waste regulation and all the functions of the Water Quality Boards (WQB's) which had close links with local authorities through their funding arrangements and local elected members on their boards.

From the early 1990's elected members on quango boards were more likely to be appointed on an individual rather than on a representative basis. Criticisms have been levelled at the method of appointment of quango board members. In some cases they are directly appointed by ministers in other situations nominations come from the quango board itself (Painter, Kester and Rouse, 1997). The Secretary of State appointed all the members of AYTAG's Main Board including councillors. They were recruited through advertisements in the press. Unlike the chairs of the WQBs who were elected by the members of the board, AYTAG's chairman was a central government appointment.

AYTAG's Regional Board members were appointed by the members of AYTAG's Main Board taking account of the Nolan principles.

2. Predecessor Organisations

AYTAG's predecessor organisations were all public sector bodies. There were three distinct groups of organisations coming to form the new quango. These were water quality boards, small sections of local authority district and island councils and one section of the civil service

Water Quality Boards (WQB's)

These were small relatively undifferentiated structures, the largest with over 80 staff the smallest with less than 20. Each was headed by a director who reported to a Board. The Boards were relatively large in comparison to the size of the organisation. Only one WQB had clearly defined support units such as personnel and finance. Water Quality Boards had seen little change since they were established in 1976. The only major change to them came in 1991 when the size of the governing boards was reduced, for example membership of the largest board was reduced from 51 to 20. There was a corresponding reduction of local authority elected members on them. The Secretary of State's recommendations to the boards went up from 30% to 50%. This did not affect the staffing structure. Career progression was usually by seeking a promoted post in another board. There was also joint working between some boards. The result of this was a network of people who knew or knew about one another throughout Scotland.

Local Authorities (LA's)

Waste regulation and air pollution control staff transferred to AYTAG from local authorities. They came from district councils which were much larger than

WQB's with differentiated structures and led by elected councillors. Local authorities had seen changes to their ways of operating since 1976, mainly as a result of compulsory competitive tendering. This primarily affected functions with large numbers of manual workers. Professionals such as those going into AYTAG had seen little change except an expansion of their work as a result of increasing regulation.

The Options Team commented that local authorities had not made waste collection and disposal a priority because they were losing this function to AYTAG. The impression in Jan 1995 was that too few waste personnel would transfer causing problems for AYTAG. The Options Team set up a project group to look at waste regulation operations. The group reported that waste regulation was viewed as a very dispersed function being carried out generally on a part time basis by officers across District Councils. A letter from one local authority district council illustrated the point

“LA staff who are transferring are working in organisations hostile to varying degrees to the transfer. The LA returns for numbers of staff to be allocated to air pollution and waste regulation functions may need to be interpreted with caution. Environmental Health directors may resent transfer and may be reluctant to provide a realistic assessment of their existing regulatory workload particularly if this will reduce their funding for 1996”

Training and development for staff in these predecessor organisations was strongly focused on continuing professional development particularly through the activities of the various professional institutes to which employees belonged. Two of the WQB's had tried to gain Investors in People status in 1995 and as a result had introduced staff development schemes. Neither organisation succeeded in gaining the award. Some managers moving into AYTAG from local authorities had attended management development courses run by their own authorities. The second largest Water Quality Board had invested heavily in training and encouraged its managers to study for an MBA.

When AYTAG was formed managers from this board were well placed to compete for and obtain new senior posts such as regional business manager.

Central Government

Her Majesty's Industrial Pollution Inspectorate (HMIPI) was a section of the civil service. It was staffed with highly qualified experienced professionals who monitored the largest and most complex industrial processes including nuclear installations. HMIPI were considered to have strong engineering qualities. Local authorities and WQBs were thought of as having a more robust enforcement tradition, local knowledge and accountability. (Options Team Report 2 1995) Traditional rivalry between HMIPI and WQB's existed with HMIPI staff considering themselves superior to the "end of the pipe" people.

3. Forms of Culture and Control Mechanisms existing in the Previous Organisations

The predecessor organisations can be described as hierarchical and paternalistic. The nature of the regulatory work was reflected in an aversion to risk and a dependence on rules and procedures. This can be illustrated through the following extracts.

From the Introduction Programme Facilitator Report – October 1996.

“Lack of trust is seem as a major problem with staff not believing what they were being told or feeling that they could speak without fear or retribution. While staff want to be more involved with decision making in AYTAG they do not appreciate the responsibility that increased participation brings with it. Their previous work environments did not by their nature prepare people for increased autonomy. The mentality is very much that everything is some one else's fault or responsibility. In some isolated cases this is represented by staff taking the easy way out. On the whole it is the result of staff not having

the training and skills to know how to approach and work with senior managers on difficult issues. There is a belief that staff were powerless to make a difference. This is often expressed as requests to me (the facilitator) to take issues to the Management Team because they feel I would be listened to whilst they would not. The staff have demonstrated a genuine desire to come together as one organisation very rarely did regional boundaries produce any difficulty. Respect was expressed by staff for the abilities within AYTAG of AYTAG employees."

From comments recorded in my diary

"they said they felt like the rump of a benign dictatorship after the dictator had been got rid of. Floundering unable to take decisions" Rural PPC team leader previously part of a small WQB - 20 Nov 1996

"we are different, we have needs that are not understood" island office – 6 Dec 1996

"we don't know this, how can we work properly" producer responsibility workshop 12 Dec 1996

"some budget holders have no experience of budgeting, determining cash flows before. In the predecessor water quality boards "It was all done for us and at the end of the year the finance person said everything was all right."" Manager on Devolved Budgeting course 9 April 1997

"B. (Head of Finance) likened the WQB's to small family firms without admin systems that would exist in a large company " 10 April 1997

4. The Options Team and its Recommendations

In order to determine the workload of the new organisation and how it should be structured an Options Team was set up early in 1995. The team consisted of two Scottish Office personnel, one person from the largest Water Quality Board and three from the second largest Water Quality Board. Technological support was provided by the second largest Board. Five of the WQB's were not represented. These WQB's had covered the north of the country and the more rural areas of the southwest and southeast. No one from local authorities was involved. The Labour controlled councils who made up the majority of local authorities involved were pursuing a policy of non co-operation with the Conservative Government in its plans to set up AYTAG and to reorganise local government which occurred at the same time.

The chairman of AYTAG rejected the first report produced by the options team. They were asked to reconsider. In their second report the Options Team proposed that the organisational structures of AYTAG should be based on

- *a lean organisation with wide spans of control,*
- *delegation to the lowest point possible*
- *focus on the field force where the core business lies*
- *a strong centre to knit the business together in a single culture/ organisation out of AYTAG's predecessors*
- *national policy making framework with more local tailoring of policy at regional level*
- *strong and centralised administrative support*

The concepts used by the Options Team when defining these options were

- *communications - where functions are interdependent and need to intercommunicate they should be in the same place or organisation department*

- *constructive tension - where objectives conflict institutionalising that conflict in the organisational structure will free staff from the need to resolve it internally*
- *span of control/length of command - more levels, higher cost and more room for communication errors*
- *privileged functions - key functions may be privileged with coherent departmental units or higher graded managers*
- *order and flexibility - two arguments. Endemic change requires organisations to be designed in ways to facilitate it. Regulatory bodies are relatively stable as regards their environment. Therefore they need more regular and stable structures.*
- *cost eg economies of scale , employment of large numbers of specialists expensive*

The Options Team also pointed out that structure may not matter that much. *“Some organisation theories emphasise process more than structure eg use of IT for dissemination of information, culture change through strict accountability and by training etc”*. They envisaged most change in management chains, policy makers and admin support, laboratory staff largely unchanged and a small degree of change in inspection teams in early stages. *“Change need not be completed by April 1996 can be phased in.”*

This second report from the Options Team was accepted in principle by the newly formed Board in September 1995. AYTAG was structured along the lines of its recommendations.

5. The Input from Central Government through the Civil Service

AYTAG with its close connections to central government institutions was required to comply with civil service practices in its approach strategic planning. The emphasis was on a top down, planned approach focussing on

future goals with a logical flow of action and resources to take the organisation forward. A seconded civil servant was responsible for the production of the corporate plan and for other documents required by central government. The following diary extract gives the flavour of the expected approach to corporate planning. "A. (seconded civil servant and management services manager) *is angry because managers will discuss the corporate plan before it is finished. "This is not how we do it here, this is not the right way".*" 22 Jan 1997.

AYTAG was required to operate within the framework set by central government for managing its business. Initiatives such as "efficiency scrutinies", "value for money" and "key performance indicators" had to be implemented.

Prior to the start of AYTAG seven of its eight strategic objectives were given to AYTAG. They formed part of central government's Management Statement for the development of AYTAG. The Management Team developed the eighth objective which focuses on AYTAG as an employer. AYTAG's eight strategic objectives are were

1. To adopt across all its functions an integrated approach to environmental protection and enhancement which considers impacts of substances and activities on all environmental media.
2. To work with all relevant sectors of society, including regulated organisations to develop approaches which deliver environmental requirements and goals without imposing excessive costs (in relation to the benefits gained) on regulated organisations and society as a whole.
3. To adopt clear and effective procedures for serving its customers including developing single points of contact through which regulated organisations can deal with the Agency
4. To operate to high professional standards, based on sound science, information and analysis of the environment and of processes which affect it.
5. To organise its activities in ways which reflect good environmental practice and provide value for money for those who pay its charges and tax payers as a whole.

6. To provide clear and readily available advice and information on its work
7. To develop a close and responsive relationship with the public, local authorities and other representatives and regulated organisations
8. To act as a good employer, providing training and a challenging environment for employees, to develop their potential

Dislike of central government and civil servants came across in the Introduction Programme. It was expressed in statements such as *“the Chief Executive must stand up to them”*. There was some cynicism in the Introduction workshops about the strategic objectives, as they had not been developed by AYTAG itself.

6. The Initial Structure of AYTAG

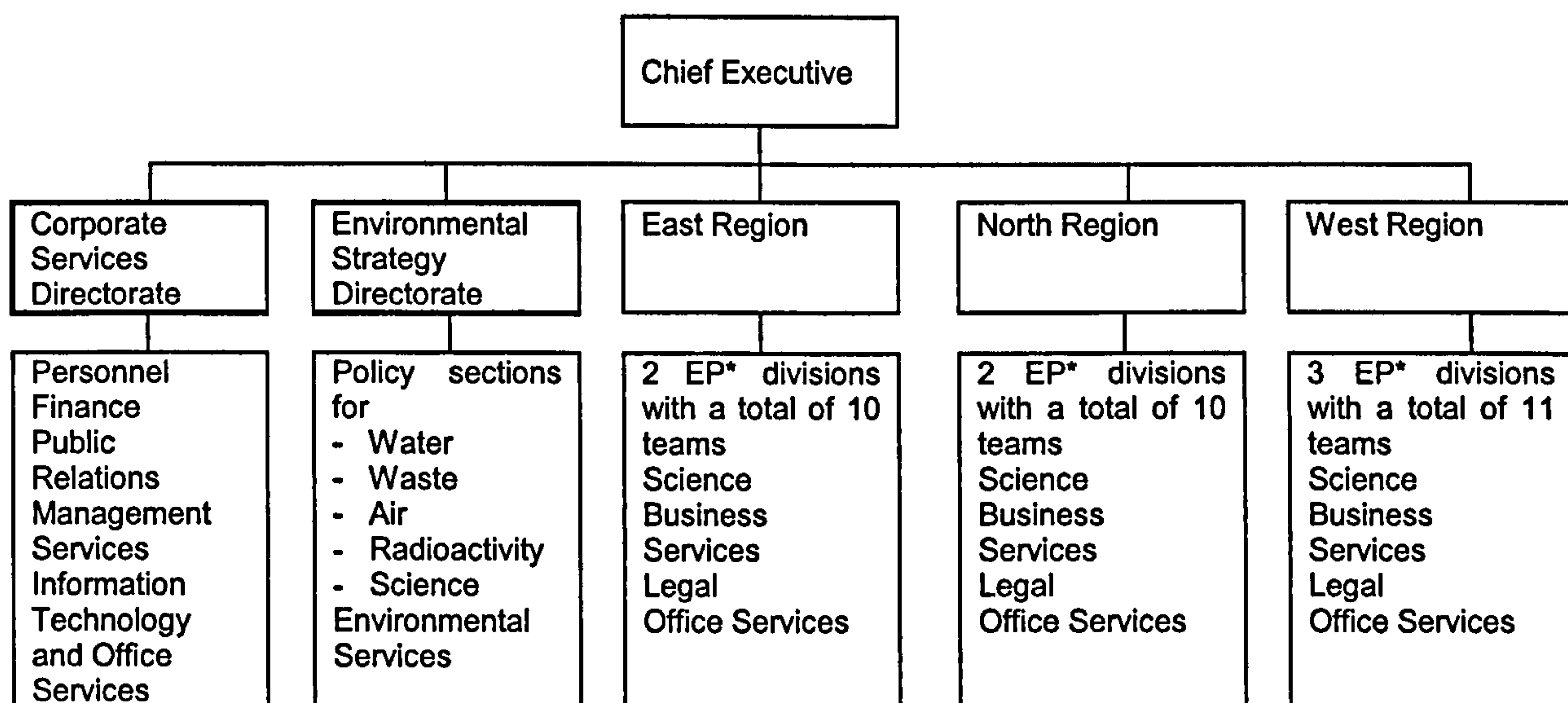
In July 1995 the newly appointed chairman stated that - *“it is generally accepted that the existing water quality board network of offices will form the basis of AYTAG although special provision will have to be made for the islands”*. (AYTAG file 160/010 (2))

The Board had its first full meeting on 24 October 1995 and agreed the structure of AYTAG. The Corporate Management Team comprised the chief executive and the five directors. The directorates were; Environmental Strategy, Corporate Services and three regional directorates North, East and West based on river catchment areas, there was to be no splitting up of the existing WQB areas. East Region was based on the amalgamation of three water quality boards. The North and West Regions were both based on two former water quality boards. AYTAG's Head Office was to be centrally located in a new business park and contain Corporate Services and Environmental Strategy Directorates. The three regional headquarters were based in buildings formally occupied as Head Offices of the larger Water Quality Boards.

Each of the Regions was split into a science division headed by a regional scientist and two or three environmental protection divisions headed by divisional managers. Regional support staff such as business services managers, legal advisers etc reported to the director. The environment protection divisions consisted of environmental specialists and teams of environment protection officers headed by a team leader. Science divisions were split along discipline lines into hydrology, chemistry and biology.

The Environmental Strategy Directorate was made up of policy teams largely based on the different environmental media. Corporate Services contained the support functions of Finance, Personnel, Information Technology, Management Services and Public Relations. Figure 7.3 below shows the structure of AYTAG in April 1996.

Figure 7.3 Structure of AYTAG April 1996



*EP Environment Protection

7. Recruitment and Placement of Staff in AYTAG

In keeping with more flexible approaches to recruitment currently popular in the public sector and recommended as a way of bringing in “new blood” (Kaul 1997) the senior staff; chief executive, directors and the next management tier competed for their posts. The directors’ posts were filled by open competition, the next layer of management eg divisional managers, regional scientists and heads of policy by ring-fenced competition. The layers of management below these such as environment protection team leaders was by post matching. Where there were no suitable internal applicants the posts were advertised externally eg Head of Personnel.

The chief executive was a civil servant. The Director of West Region was an ex Environmental Health Director. WQB directors became Regional Directors, one in East Region and one in North Region. The East Region director remained in his original office. The North Region director chose a building in which he had not previously worked for his headquarters. A further four WQB directors took early retirement and one became a Divisional Manager. Environment protection divisional managers and team leaders were a mix of ex-Water Quality Board, ex-local authority and ex-HMIPI employees. Most of the HMIPI staff retained a role of specialist and some ex-local authority staff took on a waste specialist role.

The majority of AYTAG employees working in the Regions in 1996 were those who had transferred into it from predecessor bodies. Over two thirds of staff were ex Water Quality Board employees either in environment protection or in scientific support. The science staff all came from the WQBs. The majority were in jobs which changed little during the first year of AYTAG. Local authority staff coming in small numbers from District Councils joined the environment protection teams alongside inspection staff from WQBs and were very much in the minority. The largest number of waste and air staff coming from any one local authority was ten. The remaining fifty one district councils sent between zero and four.

The majority of staff working in Head Office Directorates were recruited by open competition, only about 10% came from predecessor bodies. Most of the jobs in these directorates such as policy advisers, technical researchers had not been present in the predecessor bodies. Most of the incoming staff to Corporate Services i.e. Finance, Administration and Personnel were on short-term contracts.

On the 1 April 1996 the majority of AYTAG's senior staff were male and this remained the case for the period of this research. There was one female director, no female divisional managers or heads of policy. Only two out twenty seven environment protection team leaders were female. Front line staff were mainly young with an equal number of males and female in environment protection. On the science side there were no female regional scientists nor were there any females in the next layer of management. Senior policy advisers in the Environmental Strategy Directorate were all male. In Corporate Services the situation was different, females headed up the different departments with a predominantly female staff.

8. *The Unstructured Environment*

The Introduction Programme facilitator wrote an interim report in October 1996. He commented that although staff were enthusiastic and committed to making AYTAG successful their public service background did not prepare them well for the changes they were going through and the relatively unstructured work environment that was currently in place. As a result the staff felt uncomfortable with the lack of structure and direction they saw in AYTAG and were looking for procedures, policies and guidelines to help them make sense of it all. The facilitator also highlighted lack of morale on the part of some staff who had expected a *"new shining light with AYTAG and don't feel they got it"*.

Further concerns were expressed in the staff survey results published in AYTAG News December 1996 which found that

- *80% of staff have general understanding of AYTAG's aims but are not so certain about what is expected of them in their jobs*
- *They are not happy with poor internal communication and the uncertainty.*

As most staff had transferred to AYTAG under TUPE (Transfer of Undertakings Regulations) there were over thirty different sets of terms and conditions, fourteen different pay dates and adherence to different local holidays. The variable pay scales gave rise to big anomalies in the salaries of environmental protection and administration staff. There were very few personnel policies and procedures in place, which resulted in different rules being applied, for example when individuals took maternity leave. Inconstancies in the way individual water quality boards and local authorities had enforced legislation caused inconsistencies in the way AYTAG staff applied regulations. This lack of consistency was seen as a significant weakness that could be exploited by "the polluter" and the news media.

The previous career development processes that staff had enjoyed no longer existed. The Options Team recommendations for multiskilling had been accepted and this caused concern, as some staff no longer saw themselves as sufficiently qualified and felt threatened. This was expressed in AYTAG News reporting the results of the October 1996 Staff Survey.

- *Staff are not certain that they are getting the opportunity to develop in their jobs and feel they need development to reach their desired standards*

9. The External Perspective - Protecting the Environment

The purpose of AYTAG was to provide an integrated and strategic approach to environment protection which previously had not been easy to achieve with the

responsibilities for the different environmental media split between so many organisations.

The legislation setting up AYTAG is the Environment Act 1995 which received the Royal Assent on 19 July 1995. Part 1, Chapter 2 paragraph 20 states that *“There shall be a body to be known as AYTAG for the purpose of carrying out the functions transferred or assigned to it by or under this Act.* Paragraph 21 lists the functions relating to water, air, waste and radioactive substances. In addition AYTAG had a number of general powers and duties. These included the provision of guidance on; sustainable development, general environmental and recreational duties, natural heritage and sites of scientific interest. AYTAG was required to pay attention to the costs and benefits when exercising its powers.

The staff survey in October 1996 highlighted that staff liked the idea of making the environment a better place but were not happy with performance feedback. Only 20% felt that AYTAG was an efficient and effective organisation. When the chief executive held question and answer sessions in regional offices in November 1996 he found staff concerned that they did not have enough resources to carry out their jobs properly.

Extract from the record kept on the Chief Executive’s visit to AYTAG offices

From the Aberdeen meeting

“The Perception in North Region/West Division is that there are not enough resources to carry out the work required. The Chief Executive replied by saying that “six extra staff have been allocated to North region - recognise extra pressure in the North. However we have a ceiling of 650 for AYTAG as a whole””

From the Head Office Meeting

*“With the pressures at Head Office, and the hump of work to get over and the new duties, how can you be sure that AYTAG has the right number of staff?
Reply “As sure as possible at this stage. 650 target was initially set by AYTAG – Central Government thought it should be lower, we thought it should be higher, and 650 is less than the number previously employed by predecessor bodies. However we have to show we are more efficient now, but yes, we may require more staff in future if further new duties are imposed on us.””*

At the start of AYTAG staff were keenly aware that environment protection was a topical and emotive issue and that they could bear the brunt of criticism if things went wrong. As AYTAG was a non departmental government body it was sufficiently distant from central government to take the blame for any mistakes made.

Conclusion

AYTAG was unusual in the way it was formed in a number of ways. It was a public body established by a government that favoured centralisation of services and which was disliked and opposed by locally elected representatives. In order to form it employees from many organisations had to come together. The nature of its work meant that it employed a very high proportion of graduates who jealously guarded their professional expertise. The people who worked in it and the managers that lead it were inexperienced in organisational mergers and their aftermath. In 1996 there was enthusiasm for environment protection work throughout the organisation and it was this enthusiasm that held the organisation together in its early life.

As time progressed actions and events arose which caused and maintained disequilibrium in AYTAG, the details of which are described in my next chapter.

Chapter Eight

Disequilibrium Conditions in AYTAG

Prigogine (Prigogine and Stengers, 1984) identified that when physical and chemical systems are pushed away from equilibrium they survive and thrive. Complexity theories argue that such characteristics can be found in social systems. Complexity theory emphasises the importance of disequilibrium as a contributor to emergent outcomes. One of the major contributions that the theory brings to strategy theory is that an organisation can be viewed as a non-equilibrium system. When organisations are pushed by circumstances or deliberate intervention away from established patterns of behaviour (equilibrium) they are forced to experiment and explore alternate ways of reaching goals (Mitleton-Kelly, 1998).

In order to identify possible sources of disequilibrium I needed to collect data from events and actions which could prevent the organisation continuing with established “patterns of behaviour”. Here also was important to collect data relating to covert activity as well as “official” actions. Such data for example could relate to sudden changes in funding, large scale restructuring of the organisation, an unexpected crisis or covert resistance to change initiatives.

In order to identify disequilibrium occurrences I systematically read through the narrative accounts, referring as necessary to my original data. Basing what I did on concepts from grounded theory (Glaser and Strauss, 1967) and soft systems methodology (Checkland and Scholes, 1999) I developed mind maps and visual process maps to build a picture of disequilibrium activity. I looked for instances that were novel, such as the introduction of training to change traditional working practices. I looked for the unexpected; such as the sudden departure of a senior manager, where there appeared to be an absence of

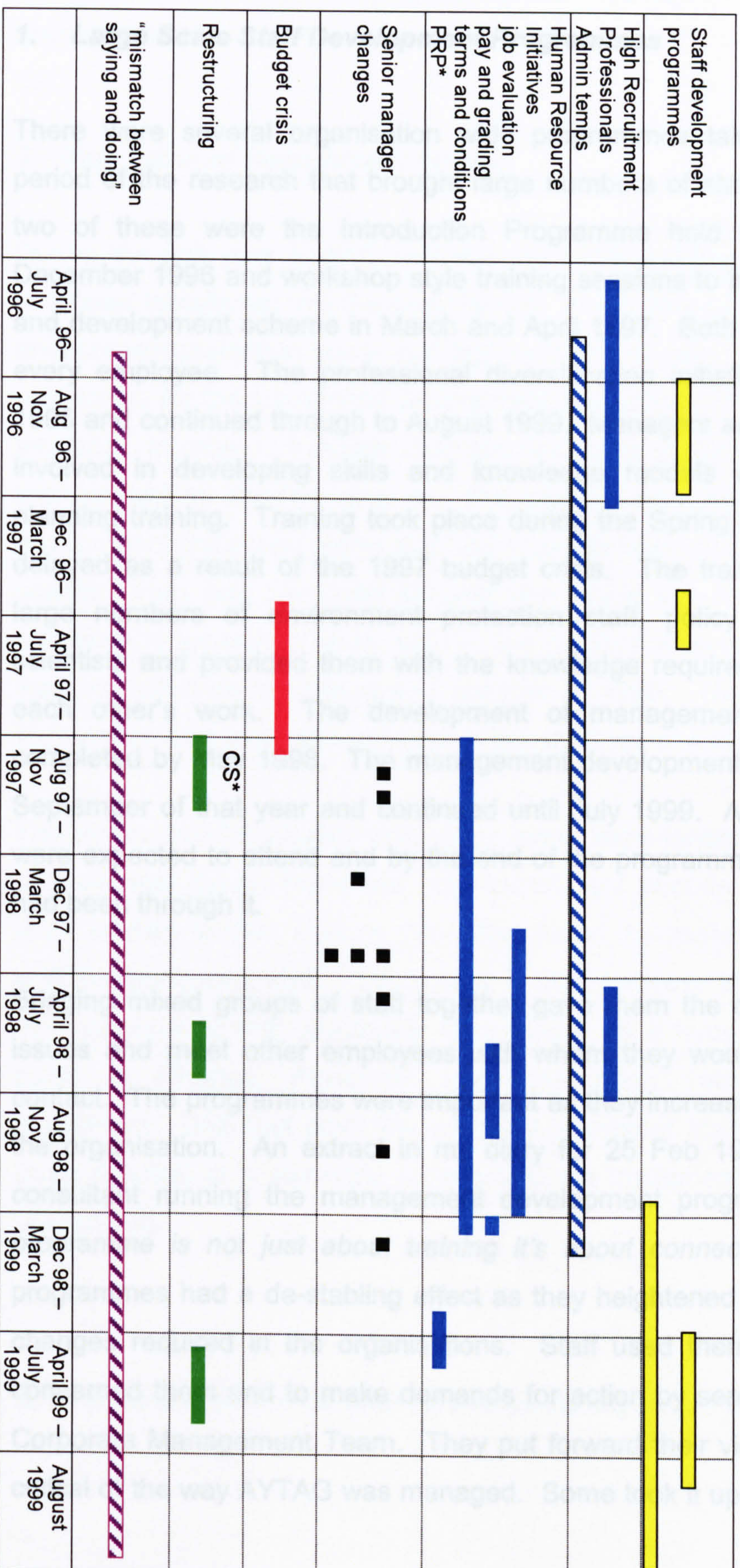
control such as large budget deviations or where there were actions to try to regain control such restructuring to increase hierarchy. Any of these could indicate disequilibrium in the system. During the period of the research there were many events and actions that gave rise to disequilibrium conditions in AYTAG. One of these, the 1997 budget crisis was particularly dominant and everyone in AYTAG immediately recognised that this would have a major effect on the way it operated. Others much smaller, some planned, some unplanned also contributed to its development. Disequilibrium affected every employee to a greater or lesser extent.

In this chapter I describe those events and actions that created disequilibrium in the organisation. Through the mind and process maps I constructed I identified seven themes in AYTAG which together can be viewed as stopping the organisation settling down. These were

1. *Large scale staff development programmes*
2. *High level of recruitment activity*
3. *Implementation of human resource initiatives*
4. *Senior manager changes*
5. *The 1997 Budget crisis*
6. *Corporate Services restructuring*
7. *Mismatch between saying and doing*

The process diagram on the next page (Figure 8.1) shows when they occur. In this chapter I describe each theme in more detail using examples of specific events, activities and actions and comments from my diary. What occurred within each theme prevented the organisation from settling into an equilibrium state. The continuing presence of a variety of disequilibrium inducing factors during the research period resulted in a disaffected workforce whose initial enthusiasm for the organisation gradually wore away.

Figure 8.1 Planned and unplanned actions and events in AYTAG bringing about disequilibrium



*PRP – performance related pay

*CS – Corporate Services Restructuring

1. Large Scale Staff Development Programmes

There were several organisation wide programmes taking place during the period of the research that brought large numbers of staff together. The first two of these were the Introduction Programme held between August and December 1996 and workshop style training sessions to introduce the appraisal and development scheme in March and April 1997. Both programmes involved every employee. The professional diversification initiative began in October 1996 and continued through to August 1999. Managers and front line staff were involved in developing skills and knowledge models which were used for planning training. Training took place during the Spring and Summer of 1999 delayed as a result of the 1997 budget crisis. The training brought together large numbers of environment protection staff, policy advisers and some scientists and provided them with the knowledge required to begin to take on each other's work. The development of management competencies was completed by May 1998. The management development programme began in September of that year and continued until July 1999. All AYTAG's managers were expected to attend and by the end of the programme over 150 managers had been through it.

Bringing mixed groups of staff together gave them the opportunity to discuss issues and meet other employees with whom they would not normally be in contact. The programmes were important as they increased connectivity across the organisation. An extract in my diary for 25 Feb 1999 says, "*M (training consultant running the management development programme) said that the programme is not just about training it's about connecting to others.*" The programmes had a de-stabing effect as they heightened the awareness of the changes required in the organisations. Staff used them to raise issues that concerned them and to make demands for action by senior managers and the Corporate Management Team. They put forward their views which were often critical of the way AYTAG was managed. Some took it upon themselves to take

action for example by arranging peer group meetings in the absence of senior managers to plan their formal meeting strategies.

2. High Level of Recruitment Activity

During the first year AYTAG recruited over 150 employees to join those who had been transferred into the organisation. Head Office Directorates and some environment protection teams had high numbers of new recruits. The range of pay scales for the transferred environment protection officers compounded the situation. In order to increase their salaries many applied for vacant posts and then left behind another vacancy. The problem was particularly acute in rural environment protection teams that had originally been part of small water quality boards. They had previously enjoyed very stable structures. In 1997 AYTAG successfully argued for an increase in the number of waste personnel and thirty were recruited during spring and summer of 1998. The recruitment process took longer than expected because of the shortage of suitable applicants.

The environment protection and policy teams experienced continuous changes of personnel during these two high recruitment periods making it difficult for team leaders to plan work as they often found themselves with skill shortages and inexperienced staff. There was a high turnover in Corporate Services. Appointments to this directorate were mainly on a temporary basis. In 1999 posts in Finance, Personnel and Information Technology were made permanent. Until that point the continual change of staff in key administrative posts resulted in a start-stop approach to the implementation of systems and procedures.

3. Implementation of Human Resource Management Initiatives

Personnel staff worked with managers and union representatives to implement new personnel initiatives throughout the period of the research. I described briefly in Chapter 6 the job evaluation exercise begun in early in 1997 to introduce generic job descriptions and considerably reduce the number of job titles. It took almost a year for the exercise to be completed. When the results were announced between February and April 1998 many employees were dissatisfied and angry about the job grading they had been given. Over 180 staff appealed their grading, nearly one third of those employed. Just over sixty successfully had their posts upgraded on appeal.

A unified pay structure was developed in the spring of 1998 with scales for different groups of staff for example environment protection officers, scientists, policy advisers and team leaders etc. Employees were placed at the appropriate point on the scale. Here too there was employee dissatisfaction. The appeal process continued throughout the summer and autumn. The results of the pay appeals were not made known until January 1999. The waiting time for the appeal results increased frustration and de-motivation amongst the employees involved.

Throughout most of 1997 and early 1998 work was being done to bring about a unified set of terms and conditions. Again staff disliked some aspects of what was proposed. The car leasing and expenses payment schemes underwent several changes before they became acceptable. Agreement was reached with the unions in April 1998 and the new job descriptions, pay structures and terms and conditions were all introduced at the same time in October 1998. At the time the new contracts were issued staff were still awaiting the results of their job evaluation and pay grading appeals.

An appraisal and development scheme based on management by objectives was implemented from March 1997. This met with approval with most managers. It did little to bring about any changes to ways of working. The first attempt to develop this into a performance related pay scheme in 1998 was

rejected. In a Union vote over 80% voted against it. Many were against performance related pay on principle. A project team carried out further work and a revised scheme was implemented without union agreement in March 1999. The four point rating scale for determining performance ranged from "1" for exceptional to "4" for unacceptable. Managers were directed by Personnel to score their staff as "3" if they generally performed well. Many were very uncomfortable with this direction as they felt it communicated criticism and demeaned the work their teams.

4. Senior Manager Changes

Between August 1997 and August 1999 there were significant changes in senior management positions some as a result of managers leaving and some as a result of restructuring. When senior managers left the projects they sponsored stopped being implemented. In most cases their departure allowed the organisation to restructure. When the Management Services Manager returned to the civil service in August 1997 the Information Technology Strategy developed by the working group he chaired was not implemented. The Director of Corporate Services was removed from his post in May 1997 as a result of the budget crisis and given the title Director of Special Projects. He left in September 1997. His corporate services post was filled on a temporary basis by the East Region Director who had a very different management style and views about how central administrative and support services should be run. This paved the way for a restructuring of Corporate Services. The Regional Scientist for West Region was a strong supporter of professional diversification and integrating the work of science and environment protection teams. When he left in October 1998 the workshops he had introduced to promote cross-functional working between science and environment protection in that Region stopped.

Two of the seven Divisional Managers left; the first from East Region in November 1998 and the second from West Region in March 1999. They were not replaced, their leaving was used as an opportunity to restructure. In each case the remaining divisional managers took on an increased workload. East Region changed the nature of the work of its environmental protection teams. The more complex work was removed to a new “super team” angering the team leaders and team members who saw it as a de-skilling exercise. In the summer of 1999 the Director of West Region introduced a similar structure for his Region without consulting his managers who reacted in the same way as their counterparts in the East had done.

Two new senior managers joined AYTAG during the period of the research; a finance director in December 1997 and a replacement for the Regional Scientist in West Region in April 1999. The appointment of a finance director gave the department a higher profile as the new director was a member of the Corporate Management Team. He put in place financial systems and controls which had previously been lacking. The department increased in size as sections such as procurement and internal audit became more influential in the organisation.

5. The 1997 Budget Crisis

AYTAG's major crisis occurred in March 1997 when it was recognised that the organisation was unable to meet its VAT bill and would be considerably in debt at the end of the financial year. During 1996 AYTAG had asked for clarification about its liability to pay this tax and had not kept reserves to pay it. By mid April the size of the debt was put at £3.5 million. The situation was explained to staff in memos from the chief executive and the chairman. Below is an extract from one of these.

Extract from a memo from the Chairman to all staff 22 May 1997

“... The situation is that we shall have to live within the severely constrained budget until we know the outcome of any negotiations taking place. The cuts in service mean the moratorium on staffing and the cessation of capital projects will have to remain in force meantime. However as already made clear there will be no redundancies as a result of the funding problem. As soon as there is a change in the situation then additional funds will be released.

...The purpose of this memo is to endeavour to inform all staff of the events concerning the current financial situation. We are anxious to be as open as possible and hope that this goes some way towards clarifying the reasons for the current situation.”

In April 1997 the new computerised financial system came on stream allowing for a more accurate picture of expenditure. Meanwhile the organisation had to grapple with budget cuts some severe like training and research and development. The training and development budget was cut from £150,000 to £10,000, the research budget was reduced to zero. Staff were alternately angry or subdued about the news they were hearing and there was much gossiping which heightened feelings.

In AYTAG in the spring and summer of 1997 staff and managers at all levels first felt shock and disbelief, then anger then cynicism. I recorded in my diary on 24.4.97 *“first everyone wandering round head office in a daze, not believing, not being able to get on with work then “We’ve no money to do any work.” Now everyone is angry and lots of little incidents to show their anger.”* Gestures to save money appeared at each level. The chief executive introduced a recruitment freeze. A memo from the Head of Personnel on 21 July 1997 announced the freeze. *“As of today’s management team meeting ALL recruitment is frozen. Only exceptions are to be via the management team.”* One director sent back the mobile phones in his region. A divisional manager would not allow his staff to travel to Head Office for training if his

budget was used to fund their expenses. Team leaders restricted the number of inspections to save on travel expenses. Office services staff indicated they were unable to supply tea and coffee to external users of the training suite and so on.

Much of the blame for the situation was laid at the door of the Corporate Services Director. From my diary notes from mid April 1997 to early May I recorded - "A (senior manager – East Region) *commented at his Region's Management Team meeting "We won't rest until he is out of the organisation".* The consultant delivering appraisal training at the beginning of May said "*I've heard at least 20 Corporate Services Director jokes*". Opinions varied on the extent to which the Corporate Services Director was to blame. "*He was told the other directors couldn't work with him*" (member of finance staff). "*They can't sack him as other heads should role – he's been made a scapegoat*" (policy adviser).

During June and July 1997 discussions on funding continued. All staff received a memo via e-mail from the Chairman on 6 August indicating that additional £2.5 million funding had been secured. This additional funding allowed the organisation to continue to operate albeit on a restricted basis. For example training and research programmes planned for the 1997/98 financial year were cancelled. It wasn't until after the start of the next financial year in April 1998 that AYTAG began to pick up on actions it had begun or planned in early 1997.

6. Disbanding Corporate Services

The VAT budget crisis led to the demise of the Corporate Services Directorate. The East Region Director took over the role of acting director of Corporate Services in May 1997. He had been highly critical of the need for the directorate. In June 1997 rumours began to circulate that Corporate Services

was to be disbanded. The acting director confirmed this on 11 July 1997. Management Services was to disappear and the manager a seconded civil servant was to go back to the Scottish Office. Office Services was to combine with Personnel leaving four departments within the directorate; Personnel, Public Relations, Information Technology and Finance. Each Department was to have a sponsoring director.

At their meeting on 23 July 1997 the Corporate Management Team agreed that the three Regional Directors and the Environmental Strategy Director would have the responsibilities of the Corporate Services Department distributed between them.

Environmental Strategy Director	Information Technology
East Region Director	Finance
West Region Director	Public Relations
North Region Director	Personnel (with Office Services)

Part of central government agreement for giving additional funding in August 1997 was the recruitment of a Director of Finance which resulted in the control of this department not passing to the East Region Director. As a result the East Region Director retained Personnel until most of their work went to the North Region Director in February 1998. The finance post was advertised in the middle of August 1997 and filled in January 1998.

Other proposals put forward at the same time as the Corporate Services restructuring and accepted by the management team were the setting up of two sub groups to assist the Corporate Management Team. They were the AYTAG Planning Team chaired by the East Region Director and the Organisation Development Team chaired by the North Region Director. Secretaries were be appointed for these teams and the Board (*“the human glue that holds the organisation together”* Diary 11.7.97). Also agreed was a Clerk to the Board and a Corporate Planner to replace the Head of Management Services. The

AYTAG Planning Team took on the role of business planning for AYTAG, setting targets, determining workloads and producing the corporate plan. As a result many more managers were involved in the strategic planning process.

The staff in the departments making up the original Corporate Services experienced at least three changes to their senior management during the period of the research. As previously stated it was headed by the Corporate Services Director until May 1997 then it passed to the director of East Region until August 1997. Between that date and February 1998 its departments went to different directors. Each change in director resulted in changed priorities for the department concerned.

Using the personnel department as an example we can see some of the effects on those working in these central departments. The first Corporate Services director was a foresighted thinker less able to focus on the day to day issues. He gave his managers considerable freedom to operate. Their second director (East Region Director acting as Head) had been very critical of them prior to taking charge of the department. He took a much more controlling approach getting managers to implement his ideas. When the management services manager protested at this approach the director came to the personnel department and made a general comment *"I'm not putting up with this, get a letter to him immediately"* inferring that he was being released from his secondment from the civil service (diary entry 16.6.97). He operated through favourites and either ignored or belittled those whom he did not favour. This was either done in private conversations or publicly in front of a group regardless of whether the person was there. For example he asked of one member of staff who queried what he was saying in a public meeting to discuss job evaluation in May 1998 *"have you ever successfully concluded a candlelit dinner."* In the same meeting he commented about the chief executive *"pay and increments – he actually understood it"* (diary entry 6.5.98). Staff quickly learned if they wanted his attention the best thing to do was to appear outside

the front door of head office during one of his smoking breaks and much of the decision taking in the department was done that way.

Control of Personnel passed to the North Region Director in February 1998 with the exception of the job evaluation scheme which the East Region Director retained until June 1998. The North Region Director operated a “hands off” approach. He was based over 150 miles from the personnel department and took no part in its day to day operations. He held few meetings with them to plan their work. Although concerned about its poor image he made no changes. After a short illness in October 1998 the CMT agreed to pass the department to the Finance Director. As soon as taking charge he began a series of rapid changes. The department restructured three times between January and August 1999 with staff moving from one job to another. Many procedures were written to guide the work of the department. The personnel and training administration systems were computerised. Personnel staff reacted to these constant changes by becoming angry and resentful. By August 1999 two thirds of those who had come into the department in 1996 had left. Similar patterns appeared in the Public Relations and Information Systems departments, they also had significant changes of staff during 1998 and 1999.

7. Mismatch between saying and doing

While I went about my work in AYTAG gathering data for this research I soon began to intuit that there was a mismatch between what was formally stated as wanted and what actually happened. When I began to sort and analyse the data I had collected I was able to pin point specific examples of this happening. Much of the evidence came from records of conversations in my diary. The following three extracts from the diary are examples of where I saw this happening.

1. My diary extract from 27.6.97 has this comment *“to some extent we are all operating the same way as Allan. C. with job evaluation, me with multiskilling and probably others. We can’t get the management team to direct as we try to be strategic with what we do. We think about statements about values etc that come from the corporate management team and produce work in our areas that we think will take AYTAG in the right direction. We put things to the CMT who agree but somehow or other they don’t understand the implications of their agreement and what agreement means. They seem to agree in principle but in practice things don’t get funded, they don’t discuss implications with managers of the decisions taken – or that’s how it appears.”*
2. On some occasions the apparent mismatch between saying and doing angered and confused people. An illustration of this comes from my diary on 15.5.97

J (Head of Science) says The Corporate Management Team are ruining AYTAG. They haven’t got a grip. They’ve no vision. They don’t listen. J said he had spent six months with hydrology heads developing a strategy for flood risk. He said it was a requirement for AYTAG to do it. “I went to the CMT and they threw it out saying we don’t have to do it. I don’t know why they employ experts if all they do is ignore them”.

3. Organisational Health and Safety issues caused confusion. This diary extract from 8.12.97 gives some indication of it

“We seem to be going round in circles re personal safety. I get Tom L a video and some materials for his staff as he can’t afford a course. Two other Regional directors want a course but cancelled because C (Health and Safety Adviser) said I would do it or rather S (my training officer) would. I think I’ve sorted it out by asking Directors what they want and now I have to

go back to C and get him to go ahead with AD (trainer who will run the courses). It's been a long day and according to R(Head of Personnel) I'm not supposed to get involved with Health and Safety Training."

In public statements AYTAG stated that it regarded health and safety of its staff to be of great importance. For example a Press Statement issued on 9 February 1998 states *"AYTAG considers health and safety matters to be of the utmost importance and takes these issues extremely seriously."* AYTAG's first health and safety adviser was an employee from a former Water Quality Board. He had wanted to take early retirement but was kept on to cover the health and safety function. The second adviser was appointed in the summer of 1997. He stayed barely 6 months and found little support in the organisation for the work he undertook. Only one organisation-wide health and safety course occurred during the period of my research – a course for planning supervisors in 1996.

The mismatch between saying and doing sometimes resulted in conflicting priorities. Staff in AYTAG were faced with a number of conflicting priorities during the first three years of the organisation.

The Options Team were aware that these could arise and acknowledged it in their second report. I repeat a section of the report previously quoted in Chapter 7. Referring to the principles they followed when devising a structure for AYTAG they stated *"constructive tension – where objectives conflict institutionalising that conflict in the organisational structure will free staff from the need to resolve it internally"*

Conflict of priorities arose most frequently between policy advisers and the regions. A report from consultants following a five day training course for senior policy advisers in March 1998 illustrates this. *"When central government asks AYTAG Head Office to put through a particular strategy the policy advisers find that not all the Regional Directors are willing to release resources to enable*

this.Ministerial Questions are a priority for Head Office. A very low priority for the regions who are trying to do their operational work”

The report continued

“It seems to me that there may be structural issues which result in an ambiguous situation regarding the development of national policy within AYTAG. Headquarters staff are charged with the responsibility of delivering “national” policies without apparently being in a position of being able to implement and deliver these policies. It appears that staff work in an ambiguous “no-mans land” where they try to deliver national policies without the necessary organisational authorisation. There is a sense of frustration on the programme as participants appear to feel that no amount of improved “skills” or “understanding” can help resolve a fundamental structural issue of responsibility and authority.

This conflict of priorities continued and was expressed on a Management Development Review Day in July 1999 as a *“hiatus between policy and implementation”*.

Similar tensions appeared when regional staff had to attend centrally organised training courses. In the 1998/1999 financial year the environment protection teams had targets imposed on them by the AYTAG Planning Team. At the same time environment protection staff were told they would need to attend training courses to promote multiskilling. Some teams faced a high level of work to meet targets as a result of staff shortages. This meant they could not give staff time to attend training courses and build up expertise to undertake work more efficiently. Although multiskilling was considered essential for efficient working of the teams, managers were not required to ensure staff had the required skills to do it.

The CMT recognised that staff faced conflicting priorities when they spent two days away with consultants running the Management Development Programme on 3 and 4 March 1999. These were addressed as boundary management issues and were the key issues identified during the two days. Problems occurred at the boundary between delivering the business and investing in staff development to improve the effectiveness of the organisation and at the boundary between people both hierarchically and laterally. The consultants proposed talking about the issues further but there were no more meetings.

Conclusion

The examples used in each of these themes are representative of the many incidences and conversations that occurred. Each of them contributed to preventing AYTAG reaching a steady state. The variety of the disequilibrium incidents was considerable. They ranged from restructuring large parts of the organisation to the uneven spread of training programmes. They affected every employee in some way during the period of the research. Employees could find themselves working long hours because of recruitment shortages, reporting to different line managers with different ways of working on a regular basis and carrying out tasks that they were told were important only to find that their work came to nothing. They could find themselves prevented from receiving training or spending too much time on training courses as a result large and sudden fluctuations in budgets. By August 1999 many of those who had been enthusiastic in 1996 had seen their enthusiasm replaced with cynicism and frustration. This was brought about by a sense of a lack of direction resulting from the disequilibrium causing events and actions over the three and a half years.

I will now move on to my next chapter which describes the feedback processes in AYTAG that worked towards and away from the equilibrium the organisation was attempting to reach.

Chapter Nine

Negative and Positive Feedback Processes

In my chapter on complexity theory I discussed the application of negative and positive feedback to different types of systems. Negative feedback is dampening and stabilising. Positive feedback is amplifying and destabilising. It does not cancel out deviations, it reinforces them. It moves systems away from equilibrium. In mechanical systems negative feedback is emphasised. In complex adaptive systems both positive and negative feedback processes are highlighted. Complex adaptive systems such as organisations are driven by positive and negative feedback.

In order to identify sources of negative and positive feedback I needed to collect data from events, decisions and actions at the organisational and individual level which might indicate moves towards retaining or moving away from old patterns of behaviours. The areas I thought could be productive indicators of pattern development were; the way resources were used, staff communication methods, continuation of or change in working practices and decisions taken during the implementation of change initiatives. Official documents such as business plans and personnel policies proved useful as well as reports from workshop facilitators and my diary. The latter two were particularly helpful for looking the process issues and for identifying covert behaviours.

AYTAG was seeking to establish a new equilibrium. The organisation had articulated its vision, where it wanted to be. It began to work towards this new equilibrium position as soon as the Board was formed in 1995. The organisational vision described a flat structure, empowered managers, professionals with broad skill bases operating to regulate and influence behaviour in the field of environment protection. Negative feedback would operate to take AYTAG towards its goal and positive feedback processes would

take it away from this goal. Trying to determine whether feedback processes were negative or positive proved to be quite complex. The feedback that was positive at one level for example at the level of the individual appeared to be negative when viewed at a higher level such as the level of the organisation.

In this chapter to overcome this problem I have referred to processes in AYTAG that appeared to support the move towards its goals as “actions that facilitated change” away from the initial conditions towards the new order that AYTAG publicly stated it desired. At an organisational level these actions could be perceived as negative feedback, keeping the organisation on track in the direction it wanted to go. For individual employees they had the opposite effect, as they were required to change their behaviour. They had to move away from the way they had done things in their previous organisations.

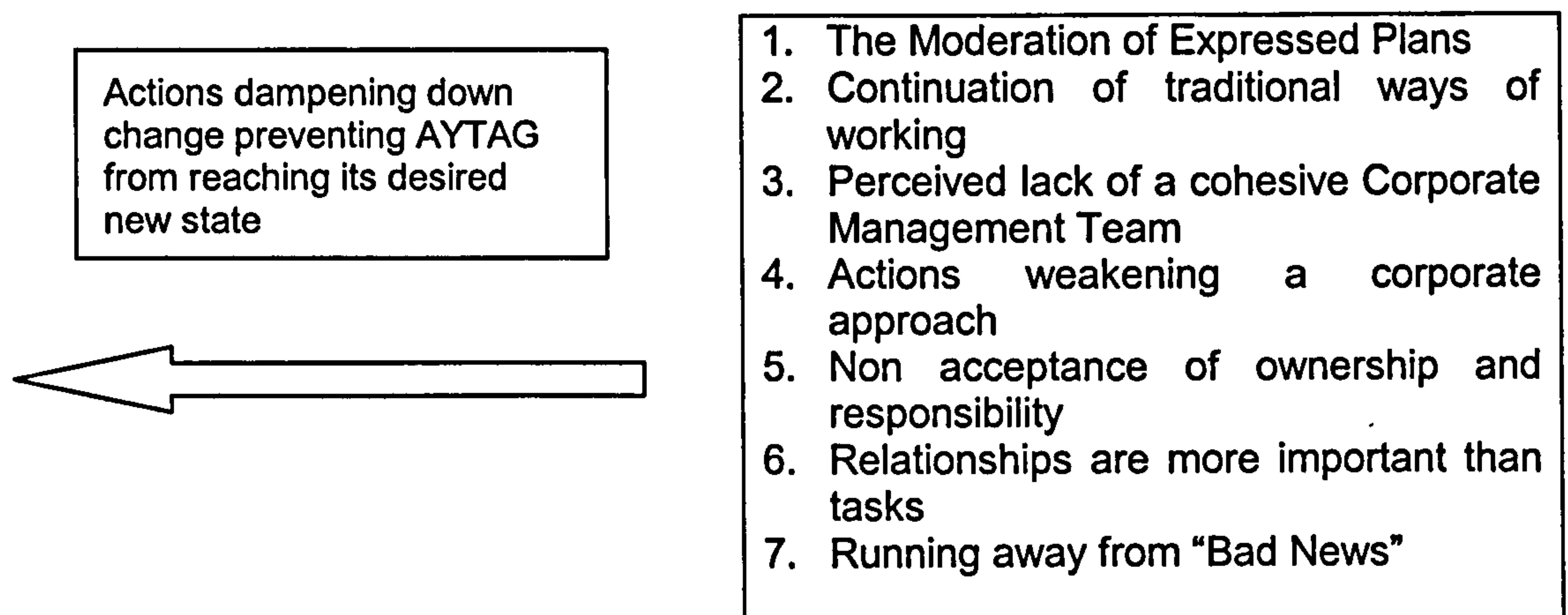
Actions that prevented AYTAG working towards its publicly stated goals I have called “actions that dampened down change”, although in effect they were positive feedback actions when viewed at the level of the organisation. They took AYTAG away from where it wanted to be. Such “dampening down change” actions were negative feedback at individual level. They were often the result of individuals continuing to act in ways that were familiar to them from their old organisations. This issue level of dependency when viewing feedback as negative or positive is revisited in the next chapter and in chapter 13. The concept of feedback is given greater attention than the other concepts I have used as it appears to offer the most intriguing avenue for discussion.

In keeping with the complexity theory concepts described so far in the previous two chapters I used grounded theory principles to build theory from the data (Glaser and Strauss, 1967). In this chapter I illustrate my theory of feedback in AYTAG with characteristic examples derived from the data I gathered. With the help of mind mapping and process mapping I built “rich pictures” of the feedback processes (Checkland and Scholes, 1999).

I will now move on to describe the feedback processes operating in AYTAG between April 1996 and August 1999 the period of this research. The establishment of AYTAG meant changed ways of working ranging from central government requirements to introduce performance relate pay to taking on new regulatory work as a result of new European directives. Some of the actions that occurred in the organisation acted to dampen down the change, others to facilitate it.

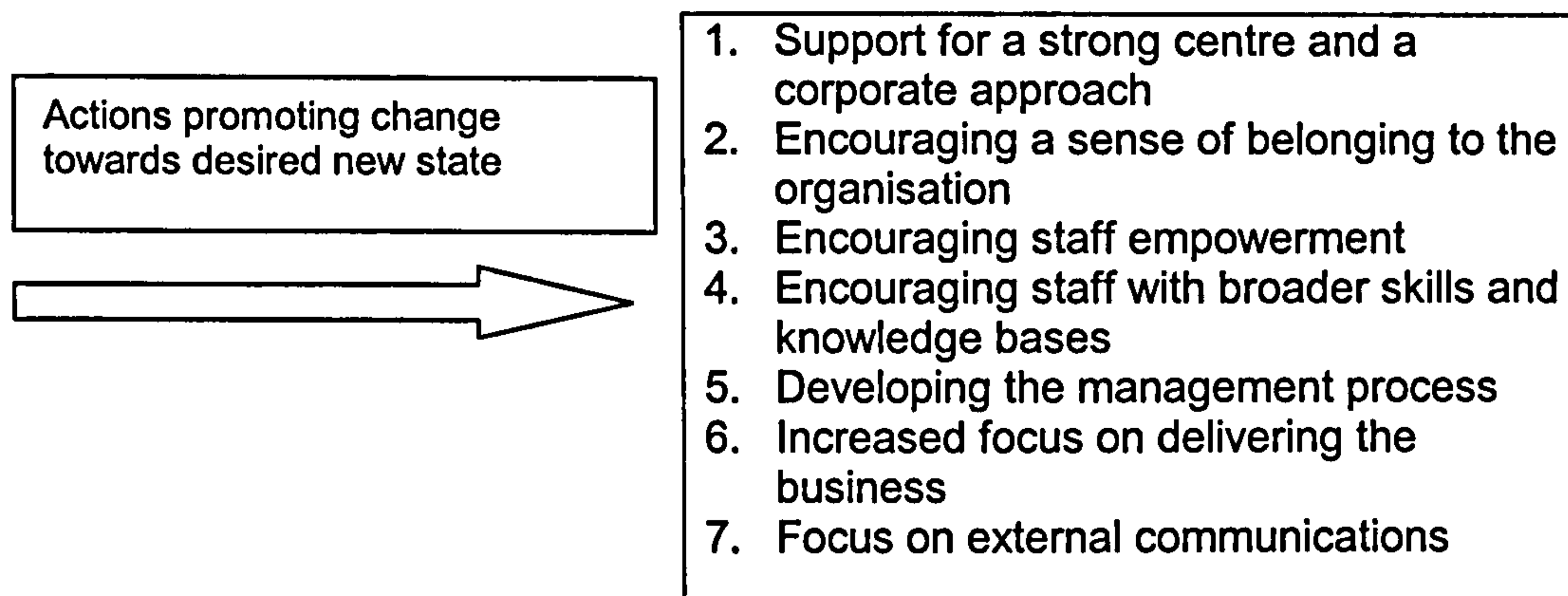
The events and actions I identified which dampened down change I have grouped into seven themes. These are listed in figure 9.1.

Figure 9.1 feedback processes acting against achieving the desired new state



When I looked at the actions which promoted change I identified seven themes and these are listed over the page in Figure 9.2.

Figure 9.2 Feedback processes working towards achieving the desired new state



I will now describe each of these themes in more detail using examples from the data I collected to illustrate them.

Activities Dampening Down Change

1. The Moderation of Expressed Plans

Some initiatives introduced in AYTAG failed to be implemented in full, the impetus to achieve them tended to die away. This type of situation acted as positive feedback at the organisational level as it took AYTAG away from the new equilibrium it sought to achieve.

Examples are

1. West Region Management Team agreed a training policy and programme on 25.3.98. They agreed this was required as they were *“not convinced that the existing arrangements for managing training and development are effective.”* (Management Development Away Day Report, 9 March 1998) One divisional manager was given the responsibility for ensuring that progress was made in multiskilling. This was an initiative not wholly

supported by senior managers. I produced a joint report with him to be presented to his management team for their agreement. Over the spring and summer he agreed to present it to the team and on three occasions gave reasons why the particular meeting was inappropriate. The report was dropped and its recommendations were never implemented.

This West Region example is one of several relating to multiskilling. The Corporate Management Team who initially said that multiskilling was the way forward in 1996 were instrumental in delaying the training to support its introduction. The training budget for multiskilling was suspended in 1997 and reintroduced in 1998. The CMT agreed that an environmental protection officer would be seconded to manage the training project. At the same time they agreed that she could not be released from her current job for four months because of work targets. Once the pilot courses had finished in March 1999 they removed the compulsory course attendance requirement and team leaders were then able to introduce multiskilling “*as and when they felt it to be appropriate.*” (dairy 27.4.99)

In May 1999, Regional Directors said they wanted technical courses run in their regions and greater use made of external courses. The Director of Finance who had taken over responsibility for Personnel indicated in his report on the restructuring of Personnel in July 1999, “*the approach on professional diversification has changed significantly*”. This meant that corporate multiskilling courses ceased in August 1999 and the concept of multiskilling staff became less important.

2. The management development programme began as a programme to develop the management process in AYTAG so that managers could take on more authority and responsibility and operate across AYTAG in working groups and project teams. Once the programme began the CMT and members of the management development project board began to express their reservations.

Diary extract 25.10.98

“The CMT agreed to meet M and M (the consultants running the management development programme) on 21 October 1998 to discuss the two training courses. When asked what sort of managers they wanted - leaders who could innovate and take initiative or managers who could operate within clearly defined parameters the directors said they wanted the latter. One of the directors on the project team was concerned that the programme would raise expectations which would then have to be managed”.

Diary extract after the management development project board meeting 12.12.98.

“W (East Region director) “not everyone in the management team thinks change is necessary” R (Head of Personnel) said that we could knock the changes out of managers soon enough.”

The project board took the decision at its Dec 1998 meeting to modify the management development programme. The part that related to manager self development groups would not be undertaken. Some managers were meeting in informal groups to continue the work they had started on the first part of the programme. It was felt that these should be allowed to continue. Managers who did not wish to meet in self learning groups should not need to do so. When it was first planned, the programme was to have continued beyond its first year with more focused development for managers identified as future leaders. This part of the programme was also dropped. In the second year managers were offered a menu of training courses which they could attend on a voluntary basis. This was described by the Finance Director who took responsibility for Personnel from November 1998 as *“giving directors what they wanted.”* (diary entry 15.3.99)

Both multiskilling and management development were critical to AYTAG in order for it to work towards its vision of a flat structure with managers comfortable managing multifunctional teams of broad based professionals. The fading out of these two programmes limited the opportunities for managers and environmental protection officers to gain the skills and knowledge they needed to take the organisation forward in this direction. Responsibility for compiling the lists of courses was given to a junior member of the personnel staff in August 1999 and the organisation lost the ability to use training as a strategic tool.

2. Continuation of Traditional Ways of Working

There were decisions taken and actions left unchallenged that indicated to employees both overtly and covertly that they could maintain their old ways of doing things. These decisions and actions prevented AYTAG from moving to new ways of working. This situation can be summed up by a comment made by the consultants running the management development programme in their interim report to the Corporate Management Team in January 1999. In it they stated that *“there is an over reliance on tried and trusted ways of working rather than welcoming experimentation”*.

I will now list further examples to illustrate how traditional ways of working remained in many areas of the organisation's decisions, procedures and practices

1. The recommendation made by the Options Team in their second report on where structural changes should be. *“We envisage most change in management chains, policy makers and admin support, laboratory staff largely unchanged and a small degree of change in inspection teams in early stages.. ... Change need not be completed by April 1996 it can be phased in”*.

This recommendation was accepted by AYTAG's Board in September 1995. It meant that the science staff retained their long hierarchical structures and continued working as before.

2. The Options Team Report also made other recommendations on the organisation's structure as well as its the location of its staff. *".....an organisation structure with three Regions based on catchment areas, there is to be no splitting up of the existing WQB areas. The day to day operational business of AYTAG is carried out in these three Regions"*.

The effect of this recommendation was that the majority of staff working in the regions remained in the offices they had been in when they had been water quality board employees. As a result they felt that little had changed. As I have previously highlighted one regional director remained in the office he occupied as an WQB director. He kept the plaque on the building which stated it was the head office of the WQB.

3. One of the requirements that AYTAG saw as being necessary for the empowerment of managers was the devolvement of budgets to the lowest level. Managers attended training in devolved budgeting in April 1997. They were unable to put that training into practice. The budget crisis in 1997 was used as a reason not to devolve budgets. I recorded in my diary 29.4.01 *"D (North Region Director) said that because of the budget crisis budgets will stay at divisional manager level and not go to team leaders."* When the crisis was over in 1998 this initiative was not reinstated.
4. The budget cuts to research and training meant that development programmes for pollution prevention and control staff and managers were delayed by at least a year. This helped entrench older ways of working. The crisis also meant that development work for the programmes had to be done with minimal input from managers. This made it more difficult to gain acceptance when the programmes were introduced. An extract from my diary

14.05.97 relating to the development of management competencies states *“we can’t involve managers. We’ve been told to keep a low profile”* Head of Personnel forcefully - Director of Corporate Services weakly *“therefore we have to develop something without them”*.

5. Respect for professional expertise meant that personnel policies and procedures relating to career and pay progression favoured traditional practices. Support and encouragement was given to employees wanting to become members of professional bodies. This took the form of funding for further qualifications and workshops to prepare portfolios for application for corporate membership. The professional bodies that AYTAG acknowledged were primarily single discipline bodies. Their entry requirements favoured in depth experience in one particular area over breadth of experience. The pay structures which AYTAG introduced in 1998 created salary bars for staff without corporate membership of a profession body. This reinforced the requirement for membership. To prepare for membership employees wanted work in areas where they could gain in-depth expertise, rather than broad based expertise which was required by the organisation if it was to reach its vision.

3. Perceived Lack of a Cohesive Corporate Management Team

In order to drive its vision for AYTAG, the Corporate Management Team all had to be seen to be supporting it. When management teams are not united the messages they convey to staff are unhelpful and work against taking an organisation forward in the intended direction. One of the themes that continued throughout this research was employees’ views of the corporate management team. The CMT were seen as not working as a team, having disparate views, each member working to their own agenda.

I illustrate that with the following extracts from interviews and diary notes and consultant reports.

1. AYTAG Introduction Programme. Extract from the interim report produced by the external facilitator 17.10.96

“There are some bigger but harder to define issues coming out Lack of faith/trust in senior management (divisional manager upwards). There is a perception that not all of them support the idea of AYTAG and operate on hidden agendas.”

2. AYTAG Introduction Programme. Extract from the final report produced by the external facilitator 7.01.97

“People see the different regions “doing their own thing” as signs that the management team is disparate. The overall impression is that AYTAG’s managers are not providing the necessary direction for the organisation to achieve its aims and objectives. With the senior management team, this is seen as being due to them not functioning properly as a team”

3. During my interview with ex Corporate Services Director on 25.9.97 he gave his views on the CMT. *“D. and W. have lost autonomy, they need to grow into the areas they know less about – out of the safe zone. The chief executive runs it (AYTAG) as if he is in the Civil Service where you have large numbers of staff. Even the auditors say they can’t understand why A. (the chief executive) is so weak and lets the regional directors operate the way they do. T. will get whacked, she’s started getting dangerous she’s brought her consultant’s baggage. J. says the right things but he can’t follow it up as he hasn’t any clout on the water side. We don’t drive the vision. In reality the CMT spends its time wondering where files should be kept”.*

4. In April 1997 Managers attended a 2 day management skills course. They began the course working in groups to produce a drawing of their impression of AYTAG. Fifteen drawings were produced, five contained a version of a signpost pointing in different directions, two had figures surrounded by question marks and three had trains entering dark tunnels all an indication of a lack of direction and guidance.
5. In the minutes of the CMT meeting 23.7.97 agreeing to break up Corporate Services it was noted, *“the principle concern was that the “structure” was complex. To ensure success of the plan would entail high and integrated performance from the Management Team. It was explained that once commitment was obtained to the plan then attention would turn to this. Effective team working was essential to success. The plan was accepted and Directors committed themselves to making it successful”*. The CMT were making the point that they wanted to be seen as working together.
6. In my diary extract 11.2.98 I recorded what I felt was rivalry between two of the directors. One who chaired the Agency Planning Team with responsibility for operational planning had taken a lead role in the management development programme which was technically the responsibility of the Organisation Development Team chaired by a different director.

“I went to the Organisation Development Team meeting earlier this week. D. (North Region Director and Chair) posed the question should we back off multiskilling and propose a wholesale structural review. He had been chatting over lunch with J. (new Finance Director) nodding in agreement how important it was for the ODT to have these sorts of things in its remit. I sensed a certain rivalry in the situation between him and W (East Region Director). W. producing the Management Development paper. D using multiskilling as an excuse to promote a structural review of how environmental protection services and science are delivered”.

7. In my diary extract 9.3.98 I recorded what I felt was friction between the different members of the CMT

“There does seem to have been friction at the CMT meeting may be that’s why last Friday was so awful. W (East Region Director) doesn’t refer to J (Finance Director) by his real name, he comes into Personnel and calls him Jiffy and it’s catching on – he’s not very polite about J.”

8. During the management development programme, six senior managers attended a workshop to develop the content on 17.9.98. In it they put forward their ideas for change. One of the “*stop doing*” items for directors was “*criticising each other and managers in general*”. There were further instances in the programme of the CMT disagreeing with each other.

Diary extract 25 October 1998

“The CMT agreed with M and M (the consultants running the management development programme) that they would meet them on 21 October 1998 to discuss the two training courses. The consultants noted that the directors “did not agree much with each other.”

At the end of the programme there were Review Days for the managers to evaluate its success. Managers were still making comments that reflected their thoughts on the disparate nature of the CMT “*lack of transparency*”, “*dictatorial management attitudes at senior level*”, “*not all staff get the same slant on what was said at the CMT,*” “*the CMT argue less in public – good or bad?*” “*Frequent absence of leadership.*” “*No joined up thinking*” were among the comments.

Throughout the period of the research there was a continuing impression that the corporate management team did not work well together and that they held

different views on the way forward for the organisation. They did not appear at any time to be united behind one shared vision.

4. Actions Weakening a Corporate Approach

AYTAG required a strong corporate approach if it was to become the organisation it said it wanted to be. Regional Directorates were heavily dominated by staff who had transferred into them from water quality boards (WQB's). Two Regional Directors had been directors of them and each regional management team had a majority of ex-WQB staff. Each of the WQB's had much more autonomy prior to AYTAG and many regional staff including one director expressed dislike of Head Office functions and resented what they saw as interference in operational issues.

Opposition to Head Office began early. During the Introduction Programme there were discussions about the role of the head office and the regions. The Introduction Programme facilitator's interim report on 17.10.96 reported *"Head Office v Regions the perception that head office is not needed, overstaffed and restricting/obstructing the activities of the regions. This perception is not helped by the overt hostility towards Head Office that staff expressed that they see from their managers,"* Some West and East Region employees not based at their regional headquarters said during the programme they felt that they were becoming part of a former Water Quality Board rather than becoming part of AYTAG. A humorous comment coming from the Introduction Programme was *"the main function of Head Office is foreign policy, because everything they do is ??? foreign to us"*.

During the period of the research there were actions which helped to strengthen the Regions at the expense of the Corporate Centre. These are briefly listed overleaf.

1. The budget crisis which led to the removal of the Director of Corporate Services and his temporary replacement by the Director for East Region. Spring 1997
2. The break up of Corporate Services with its departments distributed amongst the remaining directors. Autumn 1997
3. The Creation of the AYTAG Planning Team chaired by the East Region Director with a corporate planner reporting to him. Autumn 1997
4. The creation of the Organisation Development Team chaired by the North Region Director. Autumn 1997
5. No new Information technology staff to the Corporate IT department resulting in new IT initiatives being shared amongst the regional IT sections who operated independently. I noted a comment on this in my diary on 7.5.97. *"Discussion with R (temporary systems analyst) on computer systems in AYTAG. "We have wasted time and effort with each region doing their own thing in everything rather than different regions taking the lead on different things and then putting them in place across the organisations"*.
6. Unpopular /poorly implemented central personnel initiatives such as job evaluation leading to Personnel Department being seen as incompetent throughout 1998
7. Corporate Management Team not accepting the recommendations of the Science Review Group that Regional Scientists should be replaced with a Director of Science. November 1998
8. East Region and then West Region implementing structural changes without the involvement of Personnel. Spring/Summer 1999
9. Decision by Director of Finance who took over responsibility for Personnel in November 1998 to discontinue large corporate training and development initiatives. Training became menu driven and based within Regions from Autumn 1999.

Without a strong centre to drive a corporate approach individual managers were freer to work in the way they wanted to. They did not need to pay attention to or subscribe to the original organisational vision.

5. Non Acceptance of Ownership and Responsibility

The Introduction Programme run in 1996 highlighted concerns relating to lack of trust, ownership of issues and an inability to take action through a perceived lack of authority. These themes continued to be raised throughout the period of this research indicating that employees did not accept the publicly stated aims for the organisation.

I list some examples to illustrate this finding

1. Extract from Introduction Programme Final Report 17.01.97 – produced by external facilitator

“At present the mentality is very much that everything is someone else’s fault or responsibility. There is a genuine belief that they are powerless to make a difference. ... in my opinion the biggest single issue facing AYTAG with regard to the development of the organisation is that of trust. So many of the perceptions that people have and the issues they feel are facing AYTAG are the result of lack of trust. The issue of trust is important in people expressing their opinion. At the moment people do not feel that they can express opinions without fear of persecution or without damaging their future within the organisation. AYTAG’s employees need to be made more aware of the impact they can have and that they have a responsibility in producing an organisation that they want to be part of.”

2. During the development of the multiskilling programme there were frequent requests to the Corporate Management Team asking them to clarify what they

meant by multiskilling. There was a continuing reluctance on the part of some managers to make clear their commitment to it. This reluctance first appeared in the Introduction Workshops. In order to overcome it I took an action research approach to the development of the concept. I involved managers and front line staff in the development of an agreed model of the tasks, duties, skills and knowledge of a multiskilled environmental protection officer as a way of helping managers and staff to take ownership of the concept. The model was accepted by the CMT. I undertook training needs analysis meetings based around the model with environment protection team leaders in November and December 1998 and pilot courses were developed. They were delivered in March 1999 and an evaluation of their usefulness was undertaken by an external organisation in May 1999. The lack of commitment to multiskilling continued, expressed in the familiar complaint that what was meant by multiskilling had not been made clear. One of the conclusions in the report was *“it is essential that a clear message is sent from management to all staff on the objectives of the Professional Diversification Programme and AYTAG’s aims. It is not AYTAG’s aim to train all staff to be experts in all media, rather that staff should maintain their existing area of expertise whilst developing a broader view of AYTAG’s duties and responsibilities”*.

3. Project managers sometimes found it difficult to gain commitment of project team members to decisions on the way forward. One example of this from my diary is a comment made by the project manager of the Job Evaluation Project Board after a board meeting on 13.10.97. *“I think each one thought they knew what they were talking about, what they meant, but it was left to me to make sense of it all. I have to produce the report for the management team.”*
4. The management development programme in 1999 highlighted similar issues to those found in the Introduction Programme. The following are examples issues relating to taking responsibility and ownership that appeared during the programme.

Diary note. Comments made by members of the Project Board at their meeting on 21 July 1998.

"We need to get them (the managers) round up and facing the front Reply - Its rather like iron filings and a magnet

They (the managers) are afraid of being blamed."

In September 1998 the consultants running the programme met with groups of managers so that their requirements could be incorporated into the programme. The managers produced some ideas for change including items they wanted to stop or start doing. Senior managers said they wanted to *"stop blaming and distancing themselves from directors and start taking ownership of targets"*. Junior managers said they wanted to stop *"blaming upwards and buck passing and take ownership and challenge muddled decisions"*. They wanted to stop waiting for the *"big mistake"*.

The programme had four high profile launches in September 19998 one at head office and one in each of the regions. Key words or phrases were captured at each launch these were

Head Office *Trust*

East Region *Trust*

West Region *Ownership*

North Region *We shouldn't think we are all bad*

The final session of each launch was a large discussion which often produced opposing view points from the individuals present. Some staff present found the conflict this created uncomfortable and said so on their review forms. Others said there was too much "complaining" and wrote letters to say so to the Head of Personnel and myself.

In a note of a meeting I held with the consultants running the management development programme on 11.1.99 I recorded *“there is confusion over how much authority and freedom more junior and middle levels have to act – particularly laterally. Managers behave as though they have limited freedom to act. At one level they behave as though they are confused, at another level as though they are avoiding things and the third level behaves as though it is running away from something.”*

All these examples are evidence of the continuing presence of a lack of ownership and responsibility. AYTAG’s managers throughout the period of the research never settled into a position where they felt sufficiently secure to accept the responsibility required to empower them. This prevented the organisation from moving in the direction required to reach the desired new equilibrium.

6. Relationships are More Important than Tasks

This issue was surfaced in AYTAG by the consultants who were running the 1998–1999 management development programme. They described it as the maintenance of relationships between people being more important than carrying out tasks required by the organisation. If AYTAG was to develop in the way it indicated it wanted to in 1996, this situation would need to change. They brought it to the attention of the Corporate Management Team when they discussed feedback from programme participants with them on 3 and 4 March 1999. In their report prepared for the meeting they wrote *“that currently in AYTAG relationship issues outweigh task delivery and there is a dislike of disagreement or implied criticism”*. The report however did not give any specific examples. The consultants offered to meet with the CMT again to discuss the issue but the CMT did not take up the offer.

From my own data collection I found specific examples, two of them are given below.

1. The development of corporate information technology systems for providing business data was very slow. Each water quality board had its own systems for capturing scientific data and for registering licenses. These systems had been developed by their own staff rather than bought in from an external supplier. The managers who had developed them were proud of them and employees were familiar with them. There was a reluctance to stop using them and move on to systems that were accessible from anywhere in the organisation. As I explained earlier the information technology strategy to replace them was agreed in March 1997 and then dropped. In August 1997 the information technology managers became a self directed team with responsibility for implementing organisation wide systems. They focussed their work on new corporate databases required for the implementation of new environmental regulations and made slow progress with replacing the older ones. As of August 1999 the databases for AYTAG's original work outlined as priorities in 1996 were still to be rolled out to AYTAG staff.
2. The organisations which came together to make up AYTAG had clearly defined career development paths for their staff. In order to have a professional career in them an employee needed membership of a professional body. As I have explained earlier in this chapter, membership required an in depth knowledge of a single discipline such as biology, chemistry, water pollution or waste regulation. AYTAG wanted multiskilled professionals and this did not fit with the requirements for professional body membership. Managers already had membership and were reluctant to prevent employees from becoming members. They provided their staff with the relevant work opportunities to enable them to achieve membership. This resulted in a continuation of single discipline working and worked against the introduction of multiskilling and the more effective use of environment protection employees.

As these two examples indicate there was a dislike of “upsetting “ people. This would have been necessary if the changes AYTAG wanted to achieve were actually to happen.

7. Running Away from “Bad News”

On a number of occasions “bad” news had to be given. This news ranged from telling staff of a crisis in the organisation to informing them of changes that were being implemented. When this happened the “giver of the news” distanced themselves from it either by taking leave or by arranging for more junior staff to inform others. Examples are listed below

1. During the Introduction Workshops in 1996 some employees were highly critical of managers when they were raising issues of concern. They made requests to the facilitator to take their criticisms to the Corporate Management Team because they felt he would be listened to. They did not want to be the bearers of criticism themselves.
2. The Budget Crisis, Spring 1997 – The chief executive went on holiday for two weeks in April after sending all staff an e-mail announcing the size of the debt to staff. The Director of Corporate Services and the Head of Personnel each took a few days leave.
3. The job evaluation results were announced on 4 May 1998 and many staff were hostile to their job grading. That day the project manager took a day’s leave.
4. An inexperienced member of the personnel team was given responsibility for recruitment in November 1998. She took Fridays as a flexiday. Job vacancies were advertised in the newspapers on Fridays and applicants

telephoned for application packs. Some would ask detailed questions about the job which the recruitment officer was unable to answer.

5. In March 1999, the performance related pay scheme was introduced without agreement with the unions. Personnel staff not involved in the design of the scheme were required to publicise it to staff through presentations in Regional Offices.
6. The West Region Director announced a restructuring in Spring 1999 without involving his management team in its design. His managers were angry and the director stayed away from his office for nearly two weeks saying he was in "meetings".

The chief executive set the first example of how "bad news" could be dealt with and this way of handling it was picked up by others at different times and at different levels.

In this section I have used examples that span the period of the research to show that actions to dampen down change continued throughout the whole period. At the level of the individual, the examples given for each of the themes acted as negative feedback. They reinforced tried and tested forms of behaviour that were the operating styles of AYTAG's predecessor organisations. However at the level of the organisation they were positive feedback actions which took AYTAG in a different direction from the one it had publicly stated it wanted to go.

Activities accelerating change

There were many actions taking place in AYTAG which encouraged the organisation to move forward to new ways of working. I will now describe in more detail those that I found during the period of this research.

1. Support for a Strong Centre and a Corporate Approach

In addition to taking over the operational activities of predecessor organisations AYTAG was to give a strategic approach to the regulation of the Scottish environment. This involved the production of information such as the State of the Environment Report and the development and implementation of strategies such as the National Waste Strategy. Regulatory activities had to be standardised and new environmental regulations introduced on a national basis. This required a cohesive organisation with a central approach to ensure consistent regulation of the environment.

I repeat here the framework for AYTAG's structure proposed by the Options Team and accepted by the Board.

- a strong centre to knit the business together in a single culture/organisation out of AYTAG's predecessors
- a national policy making framework with more local tailoring of policy at regional level
- a strong and centralised administrative support

The initial structure of AYTAG reflected these recommendations with its two central directorates, one controlling administration and the second directing strategy and policy formulation and implementation.

The organisation also developed

- central systems for finance eg invoice payments, purchase orders, issuing of tender documents.
- a centralised public relations unit issuing press statements, brochures, information leaflets etc.
- a centralised system for recruitment of new staff.
- a corporate approach to training and development which included a central budget and organisation wide development programmes.

The corporate approach to staff development was highlighted in AYTAG's Corporate Plan for 1997/98. Para 6.9 stated *"our staff are our most important asset. A strategy for developing and using that resource is crucial to our success. AYTAG's plans for developing members of staff must reflect the needs of both AYTAG and the individual."* In 1998 Management Competency Statements for the AYTAG Manager were agreed. The first of the statements was *"takes a corporate view of AYTAG's business."* The effective manager has *"a clear understanding of the strategic direction of AYTAG and the ability to interpret this for staff."* The tender documentation that went to consultants bidding to deliver the management development programme emphasised the corporate approach. *"The programme will encourage the development of personal/group learning plans which are aligned to AYTAG's corporate objectives."* Coming out of the programme in July 1999 managers reported they had a *"better focus on core objectives"*, and that *"interdivisional co-operation is now occurring to produced better or balanced strategic planning"*, *"improved corporate planning delivery,"* *"regional barriers beginning to crumble"*. (taken from the programme evaluation questionnaires)

2. Encouraging a Sense of Belonging to the Organisation

One of the major initial concerns was to ensure that staff felt they belonged to the organisation. One of the aims of the Introduction Programme was to act as a unifying influence to help staff feel part of the new organisation. In the facilitator's report at the end of the programme he said *"the people who work for AYTAG show a genuine desire for the organisation to succeed in achieving its aim of improving the environment... The way in which the participants interacted on the workshops demonstrated a genuine desire to come together as one organisation Staff's perceptions about AYTAG are generally positive"*.

AYTAG strived to ensure that good communication systems were available to all its staff. All employees including those who worked on boats were linked by e-mail by December 1996 and had access to AYTAG's Intranet by December 1998. AYTAG News was distributed to staff on a monthly basis. It contained information on the progress of operational, policy and human resource initiatives as well as personal stories of staff. All employees received copies of important AYTAG documents such as corporate plans, the State of the Environment Report, the Environmental Strategy and the Waste Strategy. Sports and recreation clubs were set up such as the AYTAG Hill Walking Club and there were an annual sporting events. Annual Christmas dinner dances were well attended with staff from Head Office invited to regional functions and vice versa.

The management development programme also encouraged this sense of belonging. The consultants ran planning workshop on 17.9.98 for a group of managers to determine what was required from the programme. The managers said a *"shared sense of purpose across the organisation"*. The Review Days held in July 1999 gave managers the opportunity to state what they had got out of the programme. Examples of feedback included *"more managers and other staff feel part of AYTAG, understand aims etc"*, *"more identification with*

AYTAG”, “ committed to achieving together – accepting that I am part of the problems – networking to find solutions/improvements” and “ we are all responsible for creating success and failure”. These comments reveal a greater sense of belonging to the organisation as a result of the programme.

3. Encouraging Staff Empowerment

Throughout the period of this research there were actions and events which encouraged staff to communicate their ideas and opinions, to take on more responsibility through participating in working groups, project teams and attending corporate training and development events.

Some examples are

1. When the structure of the organisation was decided it was based on recommendations from the Options Team. This team recommended
 - *a lean organisation with wide spans of control,*
 - *delegation to the lowest point possible*

The initial structure of AYTAG reflected this recommendation. The Environmental Strategy Directorate had the flattest structure – Director ⇒ Head of Policy ⇒ policy adviser. Corporate Services had an additional layer of management - Director ⇒ Service Head⇒section manager⇒frontline staff. In the regional directorates the chain of command varied. Science divisions contained the most layers retaining structures they had in the river purification boards. The environmental protection divisions were flatter with divisional manager⇒ team leader ⇒ front line staff.

Delegated financial authority varied and was formalised after the 1997 budget crisis. Senior managers were given authority to delegate budgets

and allow their staff to sign for expenditure to an agreed level. Financial authority could be delegated to front line staff provided line managers gave their permission.

2. The first significant new legislation that AYTAG implemented was the Producer Responsibility Regulations. A working group was established with individuals from the regions and the environmental strategy directorate. One of the waste policy advisers chaired the group. The group developed its understanding of the regulations and what was required to produce policies and procedures. All the staff of the environmental protection teams needed to be aware of the regulations. Some environmental protection officers (EPO) would be required to have sufficient knowledge to give advice to companies. In order to do this I ran a train the trainer course for members of the working group and then worked with them to develop two training courses one short for environmental protection team administrators and pollution control assistants and a longer one for EPO's. The newly trained trainers delivered them in their Regions. The courses were a great success. In addition to providing cost effective training the staff who delivered the courses provided a body of expertise on the regulations which AYTAG would not otherwise have had. Working group members reported that delivering the courses had been empowering as they had not experienced this method of knowledge and skills acquisition previously. The method was used for implementing other legislation during 1997/98. Becoming involved in cascade training initiatives came to be seen as a personal development opportunity and was viewed very positively by staff.
3. During the period of the research the Corporate Management Team continued to agree large budgets for development programmes (except in 1997) which led to staff and managers feeling more empowered. These included budgets for the Introduction Programme in 1996 (£110,000) which brought all staff together, the Management Development Programme (£150,000) for over 150 managers in 1998/1999 and Multiskilling training

(£53,000) in the same year. As well as agreeing budgets for development programmes the CMT also sanctioned the empowering content of these initiatives. The Introduction Programme and the Management Development Programme had workshop formats and encouraged their participants to discuss issues and put forward their ideas. Each workshop on both programmes had staff from different disciplines, different levels and from different parts of the organisation. Work on multiskilling prior to the training courses gave staff the opportunity to influence the development of the concept and the extent to which multiskilling was feasible. They did this through workshops, team meetings and commenting on draft proposals as documents were posted on the organisation's Intranet.

4. The Management Development Programme was based on work done by the CMT at a workshop on 9.12.96. In that workshop they outlined the management style they wanted to see in their managers. This style included *“strongly empower within a clear framework.”* The management style outline was eventually developed into competency statements. One of the competencies a manager required was self motivation with the ability to *“encourage and support others to take responsibility”*. An effective AYTAG manager would *“listen to staff, empower them giving them authority to make changes within managed guidelines”*. In the programme planning workshop run on 17.9.98 the managers present said they wanted the *“empowerment of managers to prioritise and plan.”* The first training course was structured to allow an element of empowerment. The first two days were spent on looking at issues at an organisation and team level. The third day allowed participants to choose individual topics they wanted to explore further. The recorded outputs from the Review Days showed that managers were feeling more empowered. Comments from managers included *“staff are more proactive,” “my self awareness has changed / more empowered,” “the positive empowerment – working group involvement,” “higher level of trust allowing the sharing of empowerment”* and *“cascading of responsibility into teams.”*

4. Encouraging Staff with Broader Skills and Knowledge Bases

The need to change skill bases was recognised very early. The changes required related to the technical skills of environmental protection staff and scientists all of whom had previously worked only in one environmental medium. Changes in the skill bases of managers were also required to; enable them to take on more strategic roles, manage multifunctional teams and chair corporate working groups and project teams. I list examples of documents, decisions taken and situations which helped AYTAG develop employees with broader skill bases.

1. The second Options Team report approved by the Chairman of AYTAG in September 1995 made comments on the need for changes in the way managers operated and the need for multiskilling environment protection officers. The team made a strong case for multiskilling.

“The feasibility of multiskilling is evident at the most junior level (ie sampling and straightforward checks); but the experience of HMIPi (which has for a long time had a successful policy of multiskilling, even between the complex areas of major conventional industrial plant and the management of radioactive substances) shows that it is feasible at the most sophisticated levels of Inspectorate activity. We believe that the balance of merit is so far in favour of multiskilling that in the longer term AYTAG should seek it in the highest degree possible. There appears to be a widespread feeling among inspectors in HMIPi, water quality boards and local authorities that a considerable degree of multiskilling is feasible, although we learned on a visit to one local authority that this is not universal; certainly it will be necessary to proceed towards multiskilling carefully and not to anticipate what is possible until it is within grasp.”

2. The Corporate Management Team supported the requirement for changing skills bases and allocated budgets to initiatives which were aimed at achieving this. The budget that the CMT agreed for multiskilling in 1998 was strong evidence that they regarded it as important. The CMT also agreed the secondment of a senior environmental protection officer to help develop training courses for multiskilling.
3. Comments coming from the Introduction Programme and from the workshops held in October 1996 on multiskilling highlighted that the term was generally disliked. The suggestion of one team leader was taken up and the term was dropped in favour of the phrase "*professional diversification*". Describing multiskilling as professional diversification was more satisfactory. By 1999 it had become an accepted term in AYTAG. It described any change to an individual's professional skill base. This included taking on new work as new environmental legislation was introduced as well as taking on work previously carried out by colleagues with a different technical background.
4. Budget restrictions and staff shortages encouraged some environmental protection teams to develop new ways of working. In 1997 they had to consider how they could deal with reduced travel budgets and maintain levels of service – multiskilling came to be seen as a possible option. Many teams particularly rural ones suffered staff shortages from the start of AYTAG primarily in relation to waste regulation. This led teams to look at the multiskilling option with "water" staff taking on "waste" work such as sample collection. By November 1998 many of the teams were working in ways that were different from what they were doing in 1996. The training needs analysis interviews with team leaders carried out in November 1998 produced the following comments,

“we’ve been able to broaden the skills and knowledge base of the members of the team and diversify the work that each member undertakes”

“professional diversification is well progressed within the team due to skills gaps that opened up”

“there is some multiskilling in the team already”

“My team has functioned on a multiskilled basis since AYTAG’s inception out of necessity. It has worked reasonably successfully”

“I have reorganised the team into geographical areas and the relevant member of staff will be responsible for all the environmental protection functions within that area. Each officer will also have a “lead” topic in which they will act as the team expert.”

5. New job descriptions for all AYTAG staff were developed in 1997. They were accepted by the unions in March 1998. The biggest change was that all environment protection officers regardless of the medium they worked in had one job description. The same applied to science staff, they all had the same job description even though they worked in the different areas of chemistry, biology and hydrology. The new job descriptions meant that jobs were no longer directly linked to one particular medium allowing staff to switch freely between the different media dealt with in their teams. The job purpose of the environmental protection officer was defined as *“to undertake standard cases in the regulation and enforcement of the legislation controlling discharges to the aqueous environment; emissions to the air from prescribed industrial processes; the storage, treatment, transfer and disposal of waste (other than radioactive); and the use and keeping of “sealed” radioactive sources”*.
6. A number of awareness raising programmes were run for staff in AYTAG in 1997 and 1998. Their purpose was to allow staff working in one area to become more knowledgeable about the work of others.

Environmental protection staff had complained they didn't know what science staff did; science staff said they could offer greater support to them if they had a better understanding of their work. Administrative staff also wanted greater understanding of environmental protection work as they were often the first to take calls from the public. They wanted to be able to direct them accurately. Three programmes were undertaken. The first in 1997 were "Media" days for environmental strategy and corporate services staff. Each day consisted of presentations by EPO's on their work in a particular environmental medium followed by visits to regulated sites. On the "waste" day for example the participants visited a landfill site. The second programme also in 1997 was specifically for Environmental Strategy staff. Each person spent one week in an environment protection team shadowing the work of the team members. The third programme in 1998 consisted of "Integration" workshops for science and pollution prevention and control staff; their purpose was to make each group more informed about the work of the other. The aims and objectives for the Integration workshops were

- *"To improve mutual understanding and co-operation between science and environment protection"*
- *To aid in effective deployment of resources*
- *To generate ideas with regard to future co-operative working"*

By becoming more knowledgeable of each other's work they could use each other's services more effectively. An example of this from my diary for 13.11.98 *"Wednesday was another integration workshop. Two team leaders there and one learned something useful which might solve a major problem on where sewage is coming from on a local beach."*

5. Developing the Management Process

The majority of AYTAG's managers had come from small organisations in which they had had a supervisory role managing others with the same technical skills as themselves. Once AYTAG was operating they were increasingly required to act differently. Team leaders managed multifunctional teams. Two found it difficult and left shortly after AYTAG was set up.

AYTAG had to develop new systems and common ways of working to bring consistency to inherited working practices and to implement new work that came to the organisation. In order to do this working groups such as the waste strategy group, project teams such as the performance related pay group and steering groups such as the science steering group were set up. These were chaired by managers and contained a mix of staff from different directorates. Managers had to get used to dividing their time between their operational work and contributing to the corporate development of the organisation.

The competency statements developed for managers reflected their dual role. As an effective AYTAG manager *"you strike a balance between maintaining the operational functioning of your group and the development of AYTAG through wider strategic issues."*

The tender documentation for the 1998/99 Management Development Programme that went to consultants in May 1998 emphasised the need to develop managers who could take the organisation forward. *"We require a corporate management development programme to enable our managers to give the leadership and direction staff look for. We have to look at the core requirements of management and build a cohesive and integrated development process, which will develop people capable of developing the organisation and delivering the services that AYTAG provides"*. The programme focused on "hard" and "soft" management issues. In one of the courses managers spent time learning about financial processes in AYTAG and how they could provide

and make better use of management information for business planning. The softer side was covered in the course Strategy, Change and the Role of the Manager. It enabled managers to learn more about the “people” side of management – working with people as individuals and in teams.

As the programme continued in 1999 managers began talking about changes they were making. There were more “lateral” meetings with their colleagues. For example divisional managers had begun to have meeting to plan specific approaches to dealing with aspects of their work. Small groups formed on the courses and continued as self-development groups meeting to “problem solve” with each other. One group called itself the “chaos group” they were particularly interested in chaos theory and met to discuss its application. On the Review Days in July 1999, managers were asked what had changed. They reported “*clearer understanding of the role*”, “*better focus on core objectives*”, “*I now talk to scientists*,” “*shared management vocabulary*”.

6. Increased Focus on Delivering the Business

When AYTAG began there were very limited measurement systems in place for work carried out by operational and support teams. External communication systems were very limited. External communication and the lack of understanding by the public of AYTAG’s work were commonly raised issues at the Introduction Workshops. Throughout the period of this research AYTAG became much more business focussed through its corporate and business planning systems, through target setting, through its staff appraisal schemes and through its external communications. The communication of its work to industry and to the public at large continued to expand. High quality external communications were considered essential to its business.

The AYTAG Planning Team was set up in July 1997 to “*provide a corporate perspective, ensuring consistency throughout AYTAG with regard to planning*”

and change. It will also review and implement option appraisals, and recommend to the CMT the prioritisation of projects to be carried out. It will provide information, costings, data gathering and feasibility studies which are necessary for the CMT to make their decisions/approve options. Output of the APT will include long term plans for AYTAG, Corporate Plans, budgets and reviews of business plans” (from Changes to Corporate Functions document October 1997). The first full impact of the work of the APT was felt in March 1998 when all environmental protection teams were given targets for sampling and inspections for the 1998/99 financial year. Managers were angry at the targets set for them and complained that they would not be able to meet them because of staff shortages. Staff worked overtime and managers stopped sending staff to training courses and to project teams to cope with the workload. The memo I sent to divisional managers on 18.12.98 about the professional diversification training shows how targets affected the timing of these courses. *“The difficulty of taking staff away from their posts at a time crucial to meeting performance targets is appreciated. For this reason we intend only to run the pilot courses prior to April 1999 with all subsequent training being offered from April onwards.”* Managers ensured they had staff on the pilot courses and targets were achieved.

Each year AYTAG produced an annual report in which it recorded its successes and challenges. The first annual report covered the period from October 1995 to March 1997. It recorded that AYTAG had achieved its main task of integrating the delivery of its regulatory functions and established multidisciplinary pollution control and licensing teams. It had established *“the correct structure to ensure a sound approach to running its business and protecting the Environment”*. The report covering 1997/1998 financial year, a year of significant financial constraint, reveals that there had been considerable advances in water pollution control and emission reductions. The regulation of waste management and the control of radioactive substances were more effective and consistent. The report stated that not all targets and service levels had been met. In contrast, AYTAG's third annual report covering the

1998/1999 financial year was much more positive. It focused on the progress made in reducing environmental pollution by, for example, reducing air emissions and improving water quality. The press release on 21.10.99 for the production of its third annual report stated *“last year we achieved a great deal. The benefits of a single national public body responsible for environmental improvement are being realised. AYTAG’s efforts are now demonstrably improving the performance of regulated sectors, resulting in significant environmental gains”*.

In the first two years of AYTAG the production of business plans was somewhat haphazard. Each Region and the Environmental Strategy Directorate had one for the whole directorate. Beyond this it very much depended on the individual line manager as to whether a particular unit produced a business plan. The formation of the APT formalised the business planning process. Each Region and Directorate as well as Personnel, Public Affairs and IT had a business plan by the start of the 1999/2000 financial year. Each plan had clear targets of what would be achieved by each section. The 1999/2000 Corporate Plan was much more specific about providing the means for measuring the organisation’s success against previously set targets and against strategies and policies published in previous plans.

The first appraisal system for staff was introduced in March 1997. Called the AYTAG Appraisal and Development Scheme it was based on management by objectives. As well as agreeing tasks for the following year the training and development needs of staff were identified. Copies of the appraisal documents were sent to the personnel department so that a training needs analysis could be undertaken and business focussed training delivered. The small training budget for that year meant that these needs could not be met through the delivery of courses. Managers were asked to try to find less expensive ways of developing their staff. The performance related pay scheme introduced in 1999 further focussed all employees on meeting performance targets in order to improve their take home pay.

7. Focus on External Communications

AYTAG continually strived to improve its communication with external organisations. These included educational and environmental bodies from the public and voluntary sector as well as licence holders. The Corporate Public Relations Unit handled all publicity material, issued press statements and gave guidance to staff who appeared on television or radio. The organisation took stands at events such as agricultural shows. Individuals gave presentations at a range of events from international conferences to primary school lessons. The number of brochures and fact sheets on AYTAG's regulatory and non-regulatory work such as sustainable development continually increased. They were readily available to members of the public. Its website began unofficially in 1997 when some of the more remotely based environment protection officers began to post information about the organisation on the Internet. This resulted in an in-house team developing an official site which they continued to maintain and expand. The site contained information of interest to a broad range of stakeholders from educationalists to license holders to researchers.

Conclusion

The feedback processes in AYTAG were many and varied. There were times in the organisation when those that pushed the organisation in the direction it had initially said it wanted to go dominated. These were for example times when the organisation was putting in specific programmes such as the Introduction Programme in 1996 and the Management Development and Multiskilling Programmes in 1998 and 1999. As I have indicated earlier in the chapter they brought about feedback that was positive at an individual level as these programmes caused individual employees to do things differently. At an organisational level these programmes took AYTAG in the direction it said it

wanted to go, towards an outcome of empowered managers and employees with broader skill bases.

Other feedback processes were the opposite. For example the retention of behaviours that dominated in the predecessor organisations and actions taken to weaken a corporate approach worked against the organisation getting closer to its vision. Similarly the feedback created appeared to be different when viewed at different levels. The individual actions of managers which allowed them to continue old routines were negative feedback actions. They dampened down change. Collectively these actions appeared as positive feedback as they had the effect of preventing the organisation reaching towards its vision.

Now that I have describes AYTAG's initial conditions, the disequilibrium causing actions and events and the feedback processes I would like to move on to describe how these interlink to produce emergent order.

Chapter Ten

Strategic Development - Order Emerging in AYTAG

In complex adaptive systems non linear interaction occurs. This results in system elements self organising to produce emergent order. From a complexity theory perspective, organisations are complex adaptive systems made up of sub-systems. A subsystem is part of the whole as well as being a whole in its own right. Organisations consist of many subsystems. The formal rules and structures can be regarded as one system described by Egan (1994) as the “legitimate” system. Organisations also have a “shadow system” which is made up of covert actions and un-discussed behavioural norms. Each individual employee can be considered a subsystem; all together they make up the system that is the organisation.

In the early stages of this research AYTAG issued statements relating to what it wanted to achieve and the type of organisation it wanted to be in order to achieve its aims. They are described in this chapter. I used these as indicators of its preferred emergent order. These statements gave me direction when it came to collecting and sorting data. In initially I relied heavily on official documents to extract data on how AYTAG viewed its future. Such documents included the Corporate Plan, the Options Team reports and minutes of meetings. It was in these documents that AYTAG’s initial view of its future was expressed. Here too, I adopted a grounded theory approach allowing the theory to emerge from the data (Glaser and Strauss, 1967).

As I have indicated in earlier chapters, when AYTAG was formed there was a strong vision for the organisation expressed in strategic objectives and a mission statement. Prior to it becoming operational in April 1996 much work had been undertaken to devise an organisational structure that would allow the

organisation to work towards that vision. Or expressed in complexity theory terms to produce its desired emergent order. During the research period various staff development programmes supported movement towards it. However after three and a half years what emerged was something rather different from that which was originally envisaged. Rather than becoming a flexible influencing organisation with broad based professionals and empowered managers, it developed into a bureaucratic regulatory organisation retaining traditional professional specialisms

I begin this chapter by describing AYTAG's initial vision and the work done to make it operationally meaningful. Then, using examples from AYTAG's corporate plans and annual reports, I illustrate how it appeared to move away from that vision. The main section of the chapter is a detailed description of the characteristics of the order that had emerged by August 1999. In order to link my thoughts on the order I perceived that AYTAG had said it desired with the other complexity theory concepts I was using, I had to weave backwards and forwards between the mind and process maps I had created for the desired order, the initial conditions, disequilibrium and feedback as well as those I had created for the order that I perceived had actually emerged. At the same time I had to check back to the original sources of the data. This process allowed me to show how initial conditions, disequilibrium and feedback processes influenced the nature of that order.

The Vision for the Organisation

In April 1996 AYTAG had eight strategic objectives. I have listed these in Chapter 7. Seven of them were produced for the Agency prior to it becoming operational. They formed part of the central government Management Statement for the development of AYTAG. The Corporate Management Team devised AYTAG's mission statement and the eighth objective that focuses on AYTAG as an employer.

AYTAG's Mission Statement

“AYTAG seeks to prevent, minimise, or reduce pollution and aims to contribute to the steady improvement of the environment at a pace that society can afford. It will encourage sustainable development wherever possible and will provide an efficient, even-handed and integrated approach to pollution prevention and control for the benefit of the environment, those whom it regulates and the people. AYTAG will operate to high professional standards based on sound science and best possible information and will provide value for money in the way it operates. The Agency is committed to providing staff with both the necessary training and a challenging working environment to encourage excellence and enable staff to realise their full potential.”

The structure AYTAG adopted in order to provide its services in a way that reflected its mission statement was in line with the Options Team's recommendations. The two central directorates, Corporate Services and Environmental Strategy, provided the basis of a strong centre for administration and policy making. The environmental protection staff were in multifunctional teams headed by a team leader. Few changes however were made to science sections. Long chains of command remained and many people were retained in specialist roles.

The Options Team in their second report in September 1995 had said that structure might not matter that much. *“Some organisation theories emphasise process more than structure eg use of IT for dissemination of information, culture change through strict accountability, and by training etc.”* As I have quoted earlier the Team stated *“change need not be completed by April 1996. It can be phased in.”* In AYTAG's initial phase they envisaged most change in management chains, policy makers and administration support. They envisaged laboratory staff remaining largely unchanged and little change in inspection teams.

The Options Team proposals were inconsistent as to where and at what speed change would occur for different groups of staff. Their proposed flat structure with a high degree of delegation was partly implemented. There is no evidence in the report that they had thought through the implications of their statement that *“structure might not matter much”* or that this was discussed by the Board. It does not appear in the minutes of Board meetings. Neither the Options Team nor the Board made reference to structures and operating styles existing in the predecessor organisations. They did not consider what influence these could have on the acceptance of flat flexible structures and new ways of working.

Early Actions to Implant the Strategic Vision

To initiate the strategic development of AYTAG, two major initiatives were undertaken. One focussed on the people in AYTAG and the second on the organisation's major tasks. These initiatives were the Introduction Programme for all Staff and the production of the State of the Environment Report.

The Introduction Programme

Between August and December 1996 all staff attended the Introduction Programme designed to

- *“act as a unifying influence to help staff feel part of the new organisation*
- *help staff get to know each other and to learn about each others jobs*
- *act as a communication tool to enable staff to learn what personnel issues were being addressed; for example job evaluation and conditions of service.*
- *help learn the extent of AYTAG's remit and the environmental strategies it had to develop”.*

The strategic objectives and the mission statement were discussed in the Introduction Workshops and in subsequent induction courses. Staff were asked what each objective meant for AYTAG and what needed to be done in order to work towards achieving it. There was some cynicism about the objectives as they had not been developed by the organisation itself. Individual level positive feedback was created as participants debated issues they thought were specifically important to the development of AYTAG such as the changes required to current working practices. AYTAG News in November 1996 reported that *“primarily intended as a means of introducing AYTAG’s main aims and objectives to staff, the workshops have developed to take on other significant functions. Not only have they allowed employees to feed their concerns directly back to the Chief Executive and the Management Team they have also provided a unique opportunity for staff from different backgrounds to meet and share ideas, concerns and hopes for the future”*.

The State of the Environment Report

Prior to April 1996 the activities of AYTAG had been carried out by over 50 different organisations. When AYTAG became operational there was no overall understanding of how far these organisations implemented existing legislation. Along with its inherited duties AYTAG was given a range of new powers for a national, integrated approach to environmental protection. AYTAG quickly gathered information on the work of predecessor bodies and assessed the environmental quality as a whole. This work was published in *“The State of the Environment”* report launched on 13 November 1996. Producing this report enabled the organisation to see the gaps in its knowledge of how human activity impacted on the environment. The State of the Environment Report formed the base line for AYTAG’s activities. It identified areas where more information was needed and committed AYTAG to closing the knowledge gaps where they were perceived to be important. The report drew attention to the changing nature of concerns in the environment and more sophisticated methods of detection and monitoring for pollutants. Key areas were seen as the UK National Air Quality

Strategy, new responsibilities relating to contaminated land and waste minimisation and AYTAG's belief that more controls were needed over the abstraction of surface and groundwater. The report emphasised the role of AYTAG in supporting the achievement of the UK government's objective of making future development sustainable.

Corporate Management Team Actions to Develop the Strategic Vision

During the second half of 1996 The Corporate Management Team (CMT) began the process of quantifying the strategic objectives, what was required in terms of activities, organisational culture, skill profiles and management styles. In December the CMT had a facilitated Strategy Day. Outcomes from the day included; strategy milestones (see Figure 10.1), statements about management style and how the CMT should refocus its meetings to take a more strategic approach. A shorter mission statement was developed stating that AYTAG would be *"A strong protector of the environment and the lead player in influencing the pace and direction of environmental improvement."*

Figure 10.1 Strategy Milestones

Now	Complete integration of organisation and deliver all promised results to stakeholder to build "reliable" reputation
2 Years	Radical changes in organisation thinking and approach led by top teams completed
5 Years	The environment agenda in Scotland now set and managed by AYTAG
10 Years	A total integrated approach to tackling the environment including legislation in place

The CMT also agreed at their December 1996 Strategy Day that AYTAG would move from an organisation that “*monitored and controlled*” the environment to an organisation that “*influenced*” the environment. The members of the CMT agreed that the monitor and control approach was the first and a continuing step in the development of the new approach. They acknowledged that developing the role of managers was critical to making the change. The CMT began the process of defining the type of manager (figure 10.2) they thought was required in AYTAG and the organisational culture they would like to see in the organisation.

Figure 10.2 Statement of Management Style December 1996

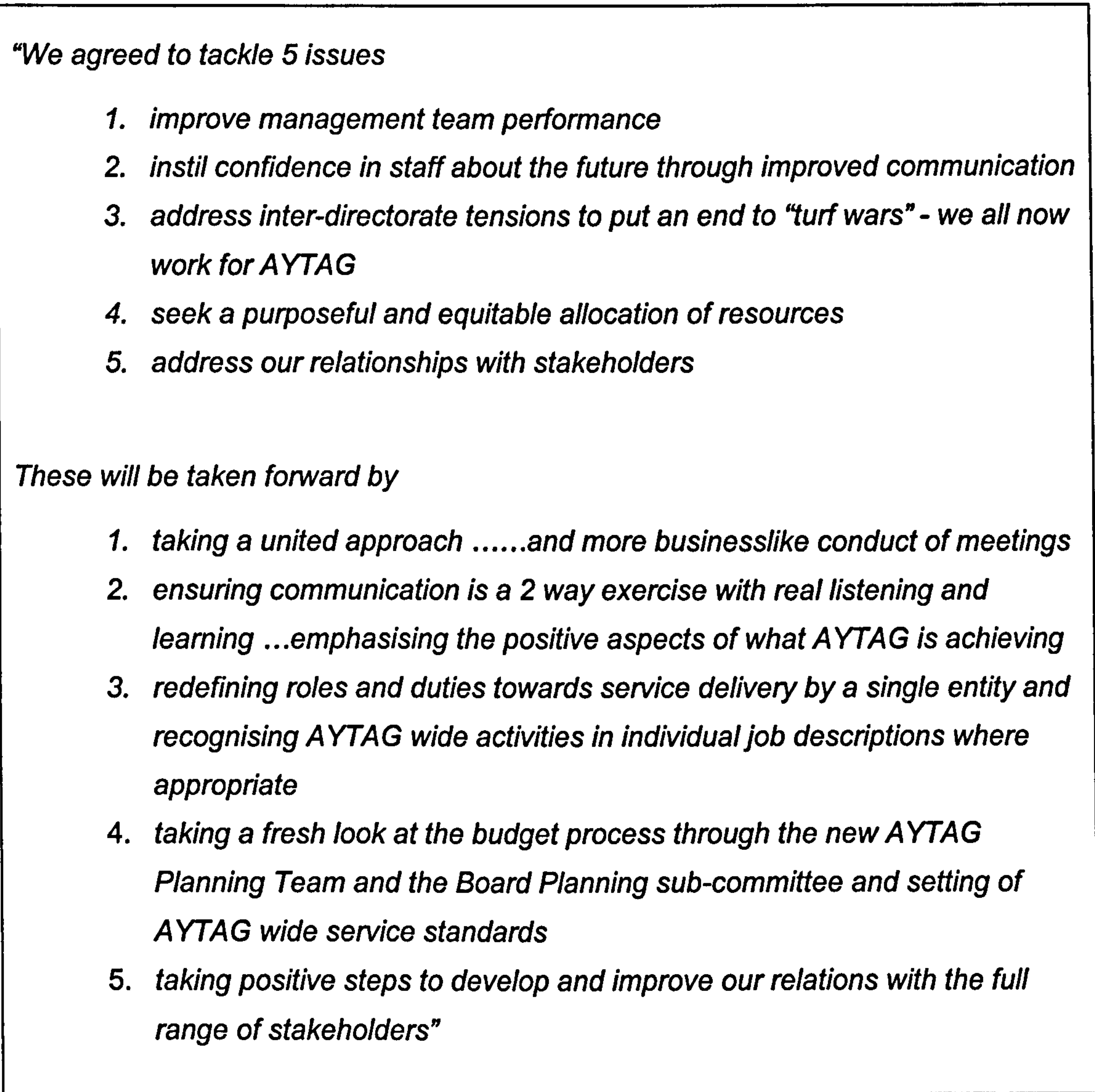
- set high expectations for performance
- strongly empower within a clear framework
- coach/mentor/support their reports to help achieve
- encourage managing upwards, but retaining responsibility at the lower level
- provide strong feedback - negative and positive
- establish climate that we “will do what we say”
- make it acceptable to weed out the weak performers
- act the behaviours we seek

The directors saw managers as those who should take the decisions on what needed to be done and would delegate implementation to others. They saw managers as group leaders identifying and evaluating problems and agreeing courses of action. Managers needed to communicate and share information and ideas and act as representatives of the organisation. Managers were also seen as trainers to promote multiskilling and continuous professional development.

The CMT’s next “Away Day” was at the beginning of September 1997. The management style and organisational culture were once again discussed, as were issues relating to the performance of the CMT and the organisation as a whole. The statements produced for staff on the work the CMT had done gave the first public indicators that there was disagreement between its members.

After the "Away Day" the Chief Executive issued a report to staff on what the CMT had agreed. Figure 10.3 gives the main points of this report.

Figure 10.3 Corporate Management Team Actions



A statement of culture the CMT wished to encourage across the organisation was published in AYTAG News in October 1997. This description of the desired AYTAG culture is described overleaf in Figure 10.4.

Figure 10.4 AYTAG Culture

The AYTAG culture will

- provide strong vision of where the organisation is going, clear goals and total commitment from senior management
- promote and enable participation by all staff in the business of AYTAG
- allow delegated control and responsibility to be moved downwards in the organisation
- use teams as the central focus of improving the quality of service
- encourage the organisation to become a “learning one” remembering that teams learn better than individuals
- encourage cross-organisation co-ordination to function and recognise the joint and separate interests of directorates
- harness staff interest, energy and vitality along with the interdependence of directorates to allow operations within clear boundaries set by management
- build towards this through a series of small continuous improvements

The statements produced by the CMT during their “Away Days” in 1996 and 1997 formed the foundation of the management competency statements that in turn formed the basis of AYTAG’s Management Development Programme in 1998 and 1999.

These statements are shown in Figure 10.5 on the next page

Figure 10.5 The AYTAG Manager

The AYTAG Manager - Competency Statements

1. Takes a corporate view of AYTAG's business
2. Understands that managing people and projects is integral to the development of AYTAG
3. Is self motivated and encourages and supports others to take responsibility
4. Manages for high standards of performance
5. Focuses of service development and delivery

During the first fifteen months the corporate management team clarified the type of organisation they wanted in order to deliver AYTAG's services. As well as ensuring compliance with environmental legislation the organisation sought to influence and educate others. Early actions taken by the CMT included the Introduction Programme which helped unify the organisation and increase communication between staff and the State of the Environment Report which provided the basis for AYTAG to progressively improve its operational activities. There was a consistency between these early actions and the statements the CMT made about the style of organisation they sought to develop. However at this stage AYTAG still had a long way to go. Many employees were not convinced that the CMT could drive the organisation forward. Members of the CMT also expressed doubts. I repeat the comment made by the ex-Corporate Services director in September 1997. *"We don't drive the vision – in reality the management team spends its time wondering where the files should be kept."*

Changes to the Mission Statement and Strategic Objectives

During the period of this research changes were made on a number of occasions to statements relating to strategic objectives. The original strategic

objectives appeared in the main text of the 1996/97 Corporate Plan. The activities of AYTAG were built around them. They were in an annex of the 1997/98 Plan and not mentioned in the 1998/99 Corporate Plan. The mission statement drafted by the CMT in December 1996 did not appear in the corporate plan for 1997/98. The original mission statement was retained for that plan but dropped from the Corporate Plan in 1998/1999 in favour of a statement describing the main aim of the organisation.

“To provide an efficient and integrated environmental protection system which will both improve the environment and contribute to the Government’s goal of sustainable development”

On 11 December 1998 the chief executive issued strategic management guidance to all staff. Its purpose was to provide internal guidance on the *“overarching direction and context against which all present and potential future activities of AYTAG can be measured and harnessed to contribute to the main aim of AYTAG”*. The paper re-stated AYTAG’s main aim and its Primary Objective was given as *“through regulation, guidance and education to improve the quality of the Scottish environment ensuring that any economic and social costs are in keeping with the benefits made”*.

The main aim was repeated in the 1999/2000 Plan. The primary objective given in the strategic guidance had become one of four overarching management objectives for the organisation. The other three were

“To manage financial resources effectively so that the maximum proportion can be invested in environmental protection and improvement.

To ensure that AYTAG has appropriately trained, qualified and motivated staff to deliver its business at a local level

To establish AYTAG as an authoritative and reliable source of information on the environment, to be responsive to stakeholders and to explain the reasons for AYTAG’s work”.

The 1999/2000 plan was published April 1999. Its main emphasis was target setting with current year targets set and future targets identified for pollution control. Research and development activities were identified but no mention was made of AYTAG's role as an influencer or its activities in non-regulatory areas such as sustainable development. The original eight strategic objectives reappeared in an annex to 1999/2000 Plan but were not linked to its content. The changes in the corporate plan reflect the changes to the planning process introduced in AYTAG in 1997 when the AYTAG Planning Team became responsible for it. Their primary concern was the setting and meeting of inspection targets for environment protection teams.

The Emergent Organisation

The conditions that existed when AYTAG became operational are a snapshot of the processes influencing the organisation at that time. Over time, disequilibrium creating actions occurred as positive and negative feedback processes operated. Together they nurtured the state of the organisation in August 1999 when this research ended. This process was described diagrammatically at the beginning of Chapter 7. Statements made and actions taken when AYTAG was formed tell us about an organisation that had decided it needed a strong centre to unite its members and drive it forward. It was one that wished to be internally flexible and empowering while seeking to influence externally as well as regulate. Early actions taken to promote this way of working were; the development of the central directorates and the pollution prevention and control divisions, the Introduction Programme and the work the CMT did in thinking through the culture and style they wanted in the organisation. The subsequent development of management competences, the management development programme and multiskilling training helped take the organisation in this direction. Over three and a half years the changes these

initiatives were meant to bring about did not take root and what emerged was a traditional organisation that resembled its predecessors.

As I indicated in earlier chapters, trying to describe the feedback processes in AYTAG proved more difficult than I first realised. Before continuing with this chapter I want to highlight this again. To work towards a desired future state different from its previous state, the organisation needed to steer a course that would take it towards its vision. This required feedback processes that would keep the organisation on track and push it in the direction it wanted to go. Negative feedback needed to dominate at the organisational level. To achieve this however, individuals had to change their working practices. At the individual level, positive rather than negative feedback needed to operate so that employees did not hold onto tried and tested ways of working. When they used these tried and tested ways, individual negative feedback was created which took AYTAG away from achieving its desired future state. The culmination of individual negative feedback is the appearance of organisational level positive feedback. The organisation moves away from its goal. These feedback requirements are shown in Figure 10.6.

Figure 10.6 Levels and types of feedback required to create desired new order

	Creation of desired new order	Creation of other order or Prevention of desired new order
Individual level feedback required	Positive (creative, change minded)	Negative (anxious, protective entrenched)
Organisation level feedback required	Negative (on course, heading in the desired direction)	Positive (not conforming to espoused future)

I have given this detailed description of feedback to aid understanding of how it operated in AYTAG. The operation of different types of feedback in social systems appears to require more in depth analysis than the other key complexity theory concepts I have used. However this is not to say that at this stage that it should receive greater attention or be considered more relevant than sensitivity to initial conditions or disequilibrium in our understanding of emergent order.

For the remainder of this chapter, I describe each feature of the future order desired by AYTAG when it became operational in April 1996. For each of them I give the initial conditions, the attempts to create disequilibrium and the positive and negative feedback processes that operated, all influencing the order that emerged three and a half years later.

The features of AYTAG's emergent order are listed in Table 10.7 below.

Table 10.7 Emergent Order in AYTAG

April 1996 –desired future state	Actual Future State - August 1999 The order emerging
1. Wide spans of control	1. Hierarchical organisation
2. Emphasis on employee flexibility	2. Emphasis on traditional professional specialisms
3. Empowered managers, delegation to its lowest point	3. Increasingly restricted managers, increase in bureaucratic procedures
4. Emphasis on value for money	4. Emphasis on cost reduction
5. Strong centre	5. Regional independence
6. Influencer and Regulator	6. Regulator - Target driven

1. From Wide Spans of Control to Hierarchical Organisation

Using complexity theory concepts, Figure 10.8 on the next page relates what happened in AYTAG to the strategic goal of wide spans of control.

Figure 10.8 Key concepts in relation to the continuation of wide spans of control

	Creation of desired new order Wide spans of Control	Prevention of desired new order Hierarchy
Initial conditions	<p style="text-align: center;">Hierarchy</p> <p style="text-align: center;">Parental operating styles – limited freedom to take decisions Manager all from predecessor organisations, unfamiliar with other ways of working</p> <p style="text-align: center;">Flat structure for operational and policy teams Lack of policies and procedures</p>	
Disequilibrium	<p style="text-align: center;">Flat structure for operational and policy teams Multifunctional operational teams Training schemes Reviews of Science function</p>	
Individual level feedback	-	<p style="text-align: center;">Informal hierarchy Passing decisions up the line</p>
Organisation level feedback	<p style="text-align: center;">New job descriptions Appraisal and development processes</p>	<p style="text-align: center;">Incremental structure changes CMT decision taking style Non implementation of science review recommendations</p>
Emergent order	Hierarchy –desired new order not created	

Looking at AYTAG’s initial conditions, we see that the small organisations and the local government departments coming to form AYTAG were hierarchically structured. These organisations operated with parental operating styles, managers and staff having limited freedom to take decisions. AYTAG’s managers, from directors to team leaders, all came from them and were unfamiliar with other organisational styles and ways of assigning work. The structural format suggested by the Options Team and accepted by the newly formed Board in 1995 was designed to promote flexible working in AYTAG’s operational areas. The environment protection teams were based in the regional directorates. In the original structure enjoyed a short chain of command relative to other parts of the organisation (*Environment protection officer → team leader → divisional manager → director*).

Although this structure was an initial condition, it also caused disequilibrium. It introduced many changes to traditional ways of operating. Multifunctional environmental protection teams were created. Single discipline officers, who made up a third of AYTAG's workforce, were expected to work in all three environmental media; air, water and waste. Plans were made to train staff to enable them to do this, further extending disequilibrium conditions. The team leaders, whose management experience was in managing single discipline units, found themselves managing a range of disciplines with staff whose professional expertise was different from their own.

The organisation made changes to its structure during the research period that pushed it into trying to recreate the hierarchal structures in which its managers had previously worked. The introduction in 1998 of senior environment protection officers diverted the organisation from its strategy. We may call this positive feedback at organisational level. Changes also occurred in the structure of the policy teams in the Environmental Strategy Directorate. In April 1996 this directorate had only two management layers director and heads of policy. The remaining staff; policy advisors, technical advisers, technical administrative support staff and secretaries, all reported directly to Heads of Policy.

Although on paper there was a flat structure informal hierarchical structures began to appear. At a personal level employees were perpetuating the work styles to which they had become accustomed. We can call this individual level negative feedback. Technical advisers and administrators began to work for policy advisers. Policy advisers for example took on the responsibility for appraisal, work allocation and recruitment. Structural changes occurred on an incremental basis usually when new staff were recruited. New staff did not report directly to a head of policy and the number of layers in the directorate increased. By August 1999 there was at least one additional layer of management in each policy area. The unofficial behaviour of the policy staff had now been formally adopted by AYTAG. This reversion to the old order

and diversion from the organisation's strategic direction I call organisational level positive feedback. The personnel and finance departments also had similar changes. Incremental structure changes and the recruitment of new employees were used to increase the number of layers of managers.

Another initial condition was a lack of policies and procedures to guide managers. In the absence of these and other suitable support mechanisms early in the life of the organisation, managers relied on tried and tested ways to get by. They passed decisions they could have taken to higher levels, self-limiting their personal usage of control. One effect of this was that the corporate management team spent much of its time on non strategic issues. Consequently it was perceived as not giving strong direction to the organisation. The result of the CMT addressing these issues in their meetings and not passing them back to managers was that the strategic direction was not maintained. I am calling this organisational level positive feedback. In the absence of direction managers operated as they had done before. The resultant reversion by managers to previous operating styles I call individual negative feedback.

The reviews of the science function were sources of disequilibrium as they were set up to look at the way work was carried out with a view to reducing the number of laboratories and widening the work of the staff. Proposals put forward by reviewers were aligned with the organisation's strategic direction. They had the potential to create organisational level negative feedback by reducing the layers of managers. There were seven layers of gradings between a front line scientist and the director. These initial organisational structural conditions with their long chains of command were retained for the science staff coming from the water quality boards into AYTAG. The recommendations of the science reviews were put before the CMT in 1997 and 1999 and they decided not to implement them. They endorsed individual negative feedback processes and maintained the status quo. With only a few exceptions, original workloads and work patterns remained unaltered. The job

evaluation exercise and pay structure review in 1998 were sources of disequilibrium and potential sources of organisational level negative feedback as they could have reduced these layers. However this did not happen: the hierarchical structure of the science divisions remained as it had been at the commencement of AYTAG.

Over the period of the research the organisation left in place hierarchical structures it inherited and acted to increase hierarchy in the operational and policy areas where it initially had had a flat, broad based structure. Overall, the feedback processes that dominated were those that diverted AYTAG away from being an organisation with a flat structure. The dominant feedback at the individual level was negative as employees behaved in ways that were familiar to them from their previous organisations. The dominant feedback at the organisational level was positive preventing it sustaining its direction towards a flatter structure and causing the organisation to revert in the direction of its hierarchical initial conditions.

2. From Employee Flexibility to Emphasis on Traditional Professional Specialisms

Using complexity theory concepts, Figure 10.9 on the next page relates what happened in AYTAG to the strategic goal of increasing employee flexibility.

Two important interlinked initial conditions for AYTAG were the skills and traditional career development paths of its incoming staff. These employees were skilled in well defined single media disciplines. Their career development was based on membership of single discipline professional institutes. Flexibility was dependent on multiskilling them and building the confidence and management expertise of their team leaders so that they were able to manage multiskilled professionals. The initial structure of the environmental protection teams was put in place to allow flexible working. It created disequilibrium and individual positive feedback processes were encouraged through engaging

front line staff in workshops and development activities to change their skill bases. On their own these were insufficient. Further individual positive feedback had to be generated through a willingness to change working practices on the part of team leaders and their communication of clear statements of support from the CMT. Individual negative feedback was very much in evidence. For example, multiskilling was unpopular with some staff and managers who saw it as a watering down of expertise. The multiskilling training and management development were put on hold in 1997 as a result of the budget crisis and each of these slowed down the process of developing a flexible workforce. Delaying training and development was an organisational level decision which acted as positive feedback at this level in that it took the organisation away from its goal of having a flexible workforce.

Figure 10.9 Key concepts in relation to the development of employee flexibility

	Creation of desired new order Employee flexibility	Prevention of desired new order Retention of traditional professional specialisms
Initial conditions	Employee skills Traditional career paths Hierarchy Flat structure for operational teams	
Disequilibrium	Flat structure for operational teams Multifunctional operational teams Training schemes Shortage of travel budgets and suitable employees	
Individual level feedback	Willingness of scientists to broaden skills Attendance at workshops and training courses Taking on new work as a result of staff and budget shortages	Unpopular concept Absence of early training leading to settled ways of single discipline working Desire for membership of a professional body
Organisation level feedback	Training and development programmes Generic job descriptions	Restructuring to narrow the work of environment protection teams Outcomes of science reviews Decrease in number of managers and increase in specialists Requirement for professional body membership
Emergent Order	Retention of traditional specialisms - desired new order not created	

Over the three and a half years to August 1999 work was taken from pollution prevention control (PPC) teams so that what they undertook narrowed. There was decreasing complexity and variety in employee workload. This narrowing of their work was done in two ways. Firstly, through the creation of specific posts for initiatives such as waste minimisation rather than work being allocated to the PPC teams. The holders of these new posts reported either to a divisional manager or to a director. Secondly, their work was narrowed by the creation of "super teams" which took away the more complex work from the pollution prevention and control teams. These structural changes meant that the requirement for flexibility in the PPC teams considerably decreased. This decrease in flexibility was another action that can be described as positive feedback at the organisational level.

Training and development programmes were implemented in 1998 and 1999. By this time the operation of individual negative feedback had settled the environment protection teams into fixed ways of working very similar to those existing in the initial conditions. The majority of team members continued to work within one single environmental discipline. A few of the teams had undertaken some multiskilling. Disequilibrium creating circumstances such as limited travel budgets for staff working in remote rural areas and staff shortages enabled individual positive feedback processes to operate and push four rural teams away from their initial states towards a new way of working.

Initially AYTAG envisaged extending multiskilling to science staff. This was more difficult and costly than multiskilling environment protection officers as there was no scientific expertise in media other than water and the equipment required for analysis etc was expensive. Many of the scientists were in favour of broadening their expertise and working in other media. They took the opportunity to make their feelings known in workshops and in working groups created during the second science review in 1998. Any individual positive feedback generated as a result of these activities however, was quickly dampened down by the overwhelming organisational level positive feedback

resulting from outcomes of the science reviews. AYTAG diverted from its espoused strategic direction. The science function was pushed back towards its initial conditions.

The development of new generic job descriptions and new pay scales in 1998 were potential sources of disequilibrium. The job descriptions had the potential to generate individual level positive feedback, to move the organisation away from single discipline working and should have helped workforce flexibility. There was no distinction made in the environmental protection job descriptions between the different environmental media. The job descriptions for scientists did not distinguish biologists from chemists or hydrologists. In the predecessor organisations there was a long history of career development through membership of single discipline professional institutes. By making corporate membership of a recognised institute a compulsory requirement to overcome pay bars in the new pay scales and for promoted posts within AYTAG individual level negative feedback was created as this constraint encouraged the retention of single discipline working. This requirement worked against the need for flexibility as employees concentrated on working in one medium to compile portfolios of evidence they needed for corporate membership. Many of the team leaders primarily saw themselves as professionals. This increased the strength of the negative feedback as team leaders supported their staff in their endeavours to gain institute membership.

Two career paths remained for environmental protection and scientific staff either to move into management or to become a specialist. AYTAG retained its single discipline specialists, creating more particularly when new legislative work was introduced. The requirement for managers decreased, as those who retired or resigned were largely not replaced. Their leaving was used as a restructuring opportunity. This increased the desire of staff to specialise as they saw more career opportunities available in this direction and strengthened the negative feedback that was dampening down the effects of efforts to shift skill bases and introduce flexible working practices.

Early actions that AYTAG took to broaden the skills base of its workforce such as the discussion forums it had on multiskilling did little to create and maintain disequilibrium and the positive feedback necessary to move the organisation away from its initial conditions. The negative feedback influences of traditional working practices remained strong and they were reinforced by the decisions the organisation took when it introduced its new pay and grading structures in 1998. The effects of incremental structure changes creating specialist teams, reducing the number of managers and increasing the number of single discipline specialists all acted as reinforcement for continuing traditional specialisms. Three and a half years after it became operational the skills base and working practices of its scientific and environment protection employees remained very much the same. The organisation had limited success in shifting from its initial conditions; its workforce with few exceptions did not become more flexible.

3. From Empowered Managers to Increasingly Restricted Managers

Using complexity theory concepts, Figure 10.10 on the next page relates what happened in AYTAG to the strategic goal of empowerment of managers.

As I have already described, one initial condition for AYTAG was that all its managers came from hierarchically structured predecessor bodies. The uncertainty of moving into the new organisation meant there was disequilibrium for managers. The introduction of new structures, staff and functions all acted simultaneously and in conflicting ways. Organisational level negative feedback processes were created by the work done by the CMT on their "Away Days" and by the production of the management competency statements. These reinforced the stated aim to push decision taking down the organisation. In April 1996 managers had considerable freedom to operate. The conditions for individual creativity, individual level positive feedback, existed. I have

explained earlier that most did not take advantage of this. They wanted procedural guidance. As the organisation developed, more and more procedures restricting the decision taking powers of managers were introduced. With these procedures organisational level positive feedback processes began to take over, further reducing managerial empowerment.

Figure 10.10 Key concepts in relation to the empowerment of managers

	Creation of desired new order Empowered managers	Prevention of desired new order Restricting decision taking
Initial conditions	Managers all from hierarchically structured organisations Uncertainty about the new organisation Managers' skills Early operational freedom	
Disequilibrium	Continuing uncertainty about the new organisation Requirement to work corporately as well as operationally Management development programmes 1997 budget crisis	
Individual level feedback	Early operational freedom Working with other managers on the management development programme	Restricted control of budgets Using tried and tested ways to get by Directions from Personnel on how to grade staff for PRP
Organisation level feedback	CMT strategy away days Competence statements Management development programmes	Development of procedures restricting the power of managers to take decisions Budgets not devolved Changes to the management development programme Imposition of targets Imposition of performance related pay
Emergent order	Managers with very limited autonomy - desired new order not created	

AYTAG had to introduce some procedures to ensure compliance with central government demands; for example in procurement, and to comply with employment legislation. A centralised system of purchase orders and invoice payments was introduced in 1997 which slowed the process of buying goods and services particularly for managers not based in Head Office. Choices

were removed and it became difficult for managers to buy goods and services locally. Procedures were increasingly introduced in areas where managers had operated effectively with out them. For example early in 1999 procedures relating to training were introduced; a training request procedure, a training needs analysis procedure and a training evaluation procedure. Procedures such as those for recruitment and staff appraisal became more complex each time they were reviewed.

Early in 1997 middle and first line managers attended devolved budgeting training so that budgets could be devolved. However, senior managers decided not to devolve the 1997/98 budget in the wake of the budget crisis. What should have been a move that would result in individual level positive feedback became individual negative feedback as it took freedom away from managers. Some managers such as the training manager who had had budget responsibility in AYTAG's first year of operation had their budgets taken away from them. In 1998 a new scheme of delegation was introduced which did give middle managers some budgetary control but this was less than before and managers discretion remained very restricted.

In 1998 what was seen to be required of managers began to change, moving away from the empowerment initially seen as essential by the Corporate Management Team. Organisational level positive feedback processes impacting on management development began to dominate and we can trace them through the progress of the management development programme. Until mid 1998 public statements about managers had been about creating disequilibrium through changing the management style. From that time things began to change. I recorded comments made in the management development project board meeting on 11 July. *"We need to get them (the managers) round up and facing the front"*. Reply – *"Its rather like iron filings and a magnet."* The members of the CMT began to change their views. At their meeting with the management development consultants in October 1998 the directors said they wanted managers who could operate within clearly

defined parameters rather than leaders who could take the initiative. One section of the programme focussing on empowering managers to take responsibility for their own learning was removed from the programme.

Other organisational level positive feedback was also operating. It became increasingly acceptable for the CMT to ignore the views of managers when policies, procedures and targets were implemented. In April 1998 operational managers had environmental protection targets imposed on them for the 1998/99 financial year. In March 1999 a performance related pay system was introduced without their agreement. As well as having this system imposed on them, managers were also directed as to where most of their staff should be placed on the rating scales.

Figure 10.10 shows the feedback processes that influenced the development of empowered managers. As time progressed organisational level positive feedback dominated. The managers increasingly attempted to recreate the initial conditions by using individual level negative feedback to continue to operate in ways similar to the way in which they had behaved in their previous organisations. Efforts to introduce individual positive feedback such as through management development were quickly dampened down. The desire for empowered managers lessened and managers became increasingly occupied in complying with procedures some of which had been imposed without their agreement. Many felt very frustrated, a few felt more comfortable as they had disliked the less structured environment they had found themselves in when they joined AYTAG.

4. From Value for Money to Efficiency and Cost Control

Using complexity theory concepts, Figure 10.11 on the next page relates what happened in AYTAG to the strategic goal of pursuing value for money.

Figure 10.11 Key concepts in relation to value for money

	Creation of desired new order Value for money	Prevention of desired new order Focus on cost control
Initial conditions	Stated in strategic objectives given to AYTAG	
Disequilibrium	Business Efficiency unit created Central procurement processes Requirement to comply with government requirements 1997 budget crisis	
Individual level feedback	-	Focus on individual efficiency measures and cost cutting
Organisation level feedback	Limited mention of value for money in corporate plans	Corporate plans focus on efficiency savings Contracts to the lowest bidder Cumbersome purchasing systems Confusion relating to the meaning of value for money
Emergent order	Efficiency and cost control - desired new order not created	

Although value for money was an initial condition for AYTAG (it was expressed in AYTAG's strategic objectives) in reality it was never pursued. The emphasis from the beginning was on individual negative feedback actions to increase efficiency and control costs. The 1996/1997 corporate plan makes no reference to how value for money would be achieved other than by increased efficiency. It includes the statements "AYTAG fully appreciates the need to undertake a detailed evaluation of likely efficiency gains and savings" and "over the period of this plan it will develop an extensive programme of efficiency reviews." During 1996 managers undertook individual negative feedback actions such as reporting each month on what they had done to be more efficient. Some of their actions were published in early editions of AYTAG News and included such items as doing double sided photocopying. Reference was made in the 1997/1998 corporate plan to the internal audit function. One of its aims was "to secure value for money in its co-operation with those involved in AYTAG's business development and productivity

programme.” The internal audit function had the potential to initiate value for money feedback actions but it did not do so. Subsequent corporate plans made no mention of value for money; referring only to efficiency saving targets. For example the target in the 1999/2000 financial year was a 3% savings in running costs.

In the summer of 1997 the business efficiency unit was set up to carry out staffing reviews, looking at ways in which staff were deployed to deliver services. For example, in 1998 they carried out a review of secretarial services in AYTAG. This brought about minor changes to the way administrative support services were provided in the Environmental Strategy Directorate. Also in 1998 members of the unit participated in the review of the science function looking at how science staff were deployed. Once again few changes resulted; the jobs of scientists mostly stayed the same.

The central purchasing system and the retention of central budgeting were used as individual negative feedback cost control measures. The procurement process ensured that services provided by external organisations went to the lowest bidder. This practice did not always provide managers with a satisfactory service. For example; stationery products and catering services were often inferior, causing wastage and lost time as staff responsible for these contracts had to handle complaints. The procurement procedure was long and complex with permission required from the Director of Finance before invitation to tender notices could be issued regardless of who held the budget for the goods or services being purchased.

The emphasis on cost control and efficiency remained throughout the period of the research and was confused with value for money. It is likely that in the mind of the organisation the two came to mean the same. As a government agency AYTAG had to comply with central government requirements such as the need to show efficiency savings. These requirements were put first. The focus on them was maintained in a way that worked against the organisation

pursuing value for money policies. The cost control and procurement measures put in place created organisational level positive feedback processes that prevented AYTAG looking for value for money. At the same time they contributed to preventing the empowerment of managers.

5. From a Strong Centre to Regional Independence

Using complexity theory concepts, Figure 10.12 relates what happened in AYTAG to the strategic goal of having a strong centre to drive the business.

Figure 10.12 Key concepts in relation to a strong corporate centre

	Creation of desired new order Strong Corporate Centre	Prevention of desired new order Weak Corporate centre
Initial conditions	Acceptance of the Options Team Report Central administration and strategy/policy units	
Disequilibrium	Creation of central administrative processes 1997 budget crisis Splitting up of Corporate Services Conflicts between policy advisers and operational managers	
Individual level feedback	-	Individual managers taking action on media appearances, salary offers etc bypassing central units Requests from individual policy staff ignored
Organisation level feedback	Central policy and administration units Retaining Finance as a central department	Splitting up of corporate services and giving their departments to separate directors AYTAG Planning Team chaired by regional director Highlighting operational work and downplaying Environmental strategy in corporate plans Demise of Information Systems Strategy Corporately driven training and development programmes phased out
Emergent order	Weak centre and strong operational units - desired new order not created	

An initial condition for AYTAG was the acceptance of the Options Team recommendation that the organisation should be structured with a strong centre to “knit the organisation together”. AYTAG’s “Centre” was made up of two directorates Corporate Services and Environmental Strategy. Although AYTAG developed centralised administration and policy making systems, organisational level positive feedback processes began to dominate after the budget crisis in 1997 and the centre very quickly weakened. The crisis created disequilibrium. As highlighted earlier, shortly after the size of the debt was announced the East Region director previously a director of a water quality board was appointed to temporarily head up Corporate Services. He instigated changes through the creation of organisational level positive feedback to take the organisation away from its desired future state. These changes were an attempt to return to initial conditions by giving control of central administrative departments and corporate planning to regional directors.

Prior to AYTAG the directors of water quality boards had had control of their administrative and planning functions. The new structural arrangement for corporate support functions would give back some of that control. The content of the corporate plan changed, operational activities were highlighted and the work of central support units and the Environmental Strategy Directorate was downplayed. However the central government department responsible for AYTAG took an organisational level negative feedback generating decision when it insisted that control of the finance department could not pass to a regional director. They attached a condition to the organisation receiving additional funding, the appointment of a finance director and finance remaining a central department.

Other organisational level positive feedback processes strengthened as a result of the break up of Corporate Services. The Information Systems Strategy was not implemented and the initial conditions for existing databases were largely maintained. Information on the environment and environmental

licence holders remained scattered on different regional databases making it difficult to gain a corporate picture. Gradually it was seen as the norm for the regional directorates “to do their own thing”. Some restructured without the involvement of personnel, offered salaries outside personnel guidance and increased opportunities for staff to gain qualifications. Others became involved with the media outside the central guidance given. Policy staff complained that regional staff failed to respond to their requests for information. Corporately driven development programmes stopped in the summer of 1999. They were replaced by menus of courses, many delivered on a regional basis. One major change this brought about was a considerable decrease in opportunities for managers and front line employees across the organisation to come together as many courses became regionally based. Interconnections were reduced weakening the generation of individual level positive feedback between the members of the organisation.

The dislike of head office was apparent from the setting up of AYTAG. An already quoted comment used by employees on the Introduction Programme “*at head office they make foreign policy, it’s all xxxx foreign to us*” summed up the feeling of many. The break up of Corporate Services following the 1997 budget crisis created disequilibrium. What followed was a strengthening of organisational level positive feedback processes as attempts were made to move AYTAG away from having a strong centre to drive it forward. Regional directors who had previously been independent were able to take independent actions and the regions strengthened at the expense of the organisation’s centre.

6. From Wanting to Regulate and Influence to Regulator

Using complexity theory concepts, Figure 10.13 on the next page relates what happened in AYTAG to the strategic goal of AYTAG becoming an Influencer as well as a regulator.

Figure 10.13 Key concepts in relation to wanting to regulate and influence

	Creation of desired new order Wanting to Regulate and Influence	Prevention of desired new order Focus primarily on regulation
Initial conditions	Previous experience in influencing limited – focus local level regulation Inexperience of operating at a national level Creation of “influencing section” in Strategy Directorate	
Disequilibrium	Strategy statements in 1996 and 1997 Continuing presence of “influencing section” in Strategy Directorate	
Individual level feedback	Individual employees publicise their non regulatory roles	Managers experienced regulators not influencers
Organisation level feedback	Early strategy statements emphasise influencing role Central department within Environmental Strategy Directorate	Refusal to create education officer Downgrading jobs of “influencing” staff Decreasing emphasis on influencing in successive corporate plans and annual reports Resources not reallocated to support influencing role
Emergent Order	Limited influencing role - desired new order not created	

The predecessor bodies making up AYTAG were experienced in working locally in regulatory activities. An initial condition for AYTAG was managerial inexperience of operating at a national level in an influencing rather than a regulatory role. Early strategy statements introduced organisational level negative feedback processes by stressing the importance of AYTAG developing its non-regulatory functions alongside its regulatory ones. Non-regulatory matters were drawn together into one policy section in the Environmental Strategy Directorate with an environmental issues manager, an environmental economist and policy staff looking at biodiversity and sustainable development. That directorate had the capacity to create disequilibrium in the organisation through the introduction of influencing actions. However organisational level positive feedback actions soon began to appear. In 1996 requests to appoint an education officer were turned down as education was considered “part of everybody’s job”. As a result of the 1998 job evaluation exercise the jobs of the employees in this section were

downgraded in relation to policy sections covering regulatory functions. The staff became technical advisers rather than policy advisers. The employees in the section attempted individual positive feedback actions to heighten awareness by producing news sheets for other staff, creating special interest sites on AYTAG's intranet and website and by taking part in publicity activities such as visiting schools. But these activities tended to be short lived.

Reference to AYTAG's influencing role was made in corporate plans which offered the possibility of organisational level negative feedback processes taking hold. For example in the 1996/1997 plan a key strategic measure was *"the degree to which AYTAG is able to influence the sustainability of developments nationally"*. Reference was made to improving the environment and enhancing biodiversity *"through education and promotion of the sustainable use of natural resources"*. The 1997/1998 Plan had as one of its corporate objectives to *"develop and implement policies to influence the approach of others to sustainable development"*. By the time the 1998/1999 plan was produced there was evidence of effect of organisational level positive feedback operating. The reference to its influencing role had become *"AYTAG is also increasingly seeking to develop policies to influence the approach of others to sustainable development"* implying that no development had occurred during the previous financial year. As already mentioned in August 1997 the responsibility for corporate planning passed to the AYTAG Planning Team chaired by an operational director changing the emphasis of the corporate planning process creating further organisational level positive feedback in relation to AYTAG's influencing role. The 1998/99 and 1999/2000 plans both placed a much stronger emphasis on target setting than previous plans. Targets for the current year were set and future targets identified for pollution control. In the 1998/99 plan brief mention was made of AYTAG's role as an influencer. When the 1999/2000 plan was published there was no mention made of AYTAG's role as an influencer or its activities in non-regulatory areas such as sustainable development.

Annual reports followed the same pattern as the corporate plans showing evidence of organisational level positive feedback processes operating. Each year there was less emphasis on reporting AYTAG's educating and influencing role. This research ended at the end of the four year term of the first chairman. During that financial year AYTAG gained a new chairman and chief executive and in the 1999/2000 annual report the incoming chief executive made reference to AYTAG educating and influencing role in her introductory statement indicating a possible change in the balance of feedback processes.

The way in which AYTAG was funded made it difficult to increase spending on non-regulatory issues and created possible difficulties in moving away from its initial conditions. New regulatory work came to AYTAG. The employment costs to meet this new work were met through charging schemes. Increased grant in aid was not available to fund non regulatory activities so they had to be met by reorganising and reprioritising other activities. AYTAG did not do this. This lack of support for this aspect of its role increased the organisational level positive feedback taking AYTAG away from increasing its role as an influencer.

During the three and a half years of this research AYTAG did not shift significantly away from its initial regulatory condition – it remained primarily a regulator with its influencing role underdeveloped. The effects of organisational level positive feedback processes outweighed attempts to introduce negative organisation level feedback necessary if AYTAG was to be successful in taking on this new and untried aspect of its role. These positive organisational level feedback processes were strengthened after the organisation's financial crisis in 1997 further hindering implementation of this influencing role.

Conclusion

In brief conclusion, AYTAG failed to develop in ways in which it had said it wanted when it became operational in April 1996. Its aim - to be a flat structured, influencing organisation with a flexible workforce and managers empowered to act and deliver services effectively - was not realised. The former director of Corporate Services said in an interview with me in September 1997 after the structural changes following the budget crisis *“the window of opportunity is shutting; our niche will be regulation. AYTAG’s an immature organisation. When it settles it may be very stodgy.”* AYTAG worked towards retaining its initial conditions, it became a traditional bureaucracy focussed on regulation with employees largely retaining their traditional professional skill bases.

I will now move on to consider the issues involved in using the key concepts of complexity theory to describe the development of AYTAG. Chapter 11 sets the scene by exploring the underlying dynamic of anxiety and its possible effects on the order emerging in AYTAG. Subsequent chapters discuss organisational legitimate and shadow systems and order emerging at their boundary; feedback and its links to connectivity, initial conditions and disequilibrium. In my final chapter I examine the problems and limitations I found using complexity theory concepts to examine the development of AYTAG. I conclude with a view that for complexity theory to be useful to our understanding of human systems it has to be informed by our understanding of the dynamics of human behaviour in order to take account of socially constructed rules.

Chapter Eleven

Anxiety reduction activity in AYTAG

The formation of AYTAG was a major change for many who had been long standing employees of previously stable organisations. Most of AYTAG's senior managers came from predecessor organisations where they had managed single disciplines. As senior managers they had significant control in their organisations. The smaller water quality boards had undifferentiated structures. They were unfamiliar with centralised administrative systems and the separation of strategy and policy decisions from operational ones. They came into a very different environment - a much larger organisation with corporate departments for finance, personnel, public relations, strategy formulation and corporate planning. For some the move to AYTAG was exciting, for others it was an anxiety inducing experience. Individuals took action to attempt to reduce the anxiety they felt. The anxiety reducing measures taken had two strands; firstly they were actions taken in order to feel in control and secondly they were attempts to avoid conflict. Both had the effect of minimising change. In this chapter I give examples of anxiety reducing activity and discuss how anxiety reduction could have effected the order that emerged in the organisation.

The Need to Remain in Control – Retention of the Old Order

One of the differences of moving to AYTAG was the change it brought to the decision making powers of managers. Decisions previously taken by senior staff such as recruitment, training and policy making had been taken away. Many of the middle and junior managers had previously operated as traditional supervisors with few decision-making powers. Now they were expected to manage multidisciplinary teams in which they had to oversee the work of

others whose professional expertise was different from their own. Activities they previously controlled and were familiar with were taken away. Others they were not familiar with were given to them. They were uncomfortable controlling the work of other professionals when they did not know their discipline. They felt it was not legitimate to control their actions. In their previous smaller organisations managers, as well as their staff, all knew each other and who was doing what was. In the larger organisation they knew much less about what was happening. Managers at all levels felt they were no longer in control.

During the period of the research there were events and actions that created disturbances for managers leading to further feelings of lack of control. Team members for example were offered multiskilling training. This increased their professional expertise which in turn increased the manager's feeling of lack of control over team members' professional actions. Increasing professional expertise was important for all, both managers and staff regarded themselves as professionals first. For many employees increasing their expertise was a way of remaining in control of their work environment.

The 1997 budget crisis reduced middle managers' control over budgets. However it gave them and senior managers opportunities to take other actions to increase their control. These actions included keeping existing single discipline work practices, limiting travel to save on travel expenses thereby limiting the amount of work that could be undertaken. The work of the AYTAG Planning Team acted as a destabiliser as demands were placed on managers to meet targets. Managers said that in order to meet them they could not release staff for multiskilling training courses. They used targets to say that they had insufficient time to reorganise their teams to introduce multiskilling. Managers had made the most of opportunities to feel more in control.

The actions taken by managers as a result of the budget crisis had been tried and tested in their previous organisations. When destabilising actions

occurred, such as the requirement to meet targets, managers used the same control mechanisms. The “old” control processes were continuing to work for them and a negative feedback process was operating at an individual level reinforcing more of the same. Over the period of the research other actions occurred in which managers asserted their control. The personnel department began to be bypassed as regional directors restructured without their involvement. The importance of AYTAG’s strategic role was down played. I have previously stated that policy heads complained *“not all the Regional Directors are willing to release resources”* to implement policies and that they worked *“in an ambiguous “no-mans land” where they try to deliver national policies without the necessary organisational authorisation”*.

Other signals given out that “things remained the same” included; senior managers remaining in their old offices, the requirement for membership of a professional body in order to overcome salary bars and perceived favourites being given new promoted posts. These actions at the level of the individual and at organisational level provided reinforcement to staff that tried and tested control mechanisms were still effective.

The Need to Avoid Conflict

In April 1996 employees found themselves in a new organisation with few formal structures and informal norms to guide their behaviour. Many felt uncomfortable, but were unwilling to voice their opinions with senior managers. In the Introduction Programme requests were made to the facilitator to take concerns to the Corporate Management Team because staff felt they would listen to him. The facilitator reported that their previous organisational experiences had ill-equipped employees to deal with the conflicts and ambiguity of a new organisation. The need to be able to trust others was a continuing issue. It was first raised in the Introduction Programme. The facilitator reporting *“in my opinion the biggest single issue facing AYTAG with*

regard to the development of the organisation is that of trust... ..the issue of trust is important in people expressing their opinion". Nearly three years later trust was seen as the key issue at two of the four management development programme launches. At the launches there was disagreement between managers regarding AYTAG's key activities. This open display of conflicting views was seen as a waste of time. It was reported as such on review forms. Some managers saw it as too much "*complaining*". This feeling of lack of trust prevented conflict from being surfaced and addressed. At the review days managers commented that there were "*higher levels of trust*". This coincided with managers beginning to take action to deal with conflicting views in the issues that concerned them.

When the chief executive informed staff of the extent of the VAT crisis in 1997 he and the director of corporate services went on holiday and thereby avoiding having to face the anger and confusion of employees. Their action prompted positive feedback processes at the level of the organisation, as others copied when they had bad news to announce. The director of West Region went on holiday when he restructured. When the job evaluation results were announced the project manager took leave. Conflict was further avoided as fewer and fewer staff became involved in decision taking. This allowed working groups and project teams to operate without members who questioned the value of what was being proposed. The remaining members of the performance related pay group avoided further conflict by getting junior members of the personnel department to deliver presentations on the scheme to staff.

Innovators in the organisation were seen as a source of conflict revealing a synonymy between change and conflict. Managers and policy advisers who were required to lead initiatives to bring about changed ways of working often found it difficult to make progress. One way the organisation dealt with this was to allow initiatives championed by individuals to die out when those individuals left. This happened to the information technology strategy when

the seconded manager chairing the working group returned to his central government office. A further example is the early retirement of the regional scientist who led the project team to integrate science and pollution prevention and control functions. When he retired the integration activities stopped and the project team ceased to meet.

Another way in which conflict was avoided when innovative initiatives were proposed was to slow their development through long consultation periods and then “water down” the initiative itself. The strategic reviews of the science function is an example. The first strategic review in 1997 made recommendations after a detailed consultation process. The Corporate Management Team (CMT) decided not to implement recommendations saying they would wait until after the publication of the National Environmental Strategy as this “*may mean further changes to science functions*”. A working group with many sub groups reporting to it conducted the second strategic review. Its recommendations were not implemented in full.

The same behavioural patterns occurred during the development and implementation of the management development and multiskilling initiatives. Both became action research projects to enable all involved to input their suggestions and comment on proposals. At various stages reports had to be produced for the corporate management team for their approval before either project could continue. Only the first part of the management development programme was delivered (minus one section) before it was changed from a corporate led programme to a pick and mix menu of courses with voluntary attendance. The proposed two day conflict handling course was reduced to one day by the Head of Personnel. She considered a two day course too time consuming. Multiskilling followed a similar pattern. The pilot training courses were initially delayed so that a further training needs analysis could be conducted and the main training programme was delayed because of the requirement to meet operational targets. After the pilot courses in the Spring of 1999 corporate led multiskilling training very quickly became region based

technical training with voluntary attendance. There was no requirement for managers to show that what had been learned on training courses was being used in the workplace.

I commented in Chapter 9 that the consultants delivering the management development programme in 1998/99 noted *“that currently in AYTAG relationship issues outweigh task delivery and there is a dislike of disagreement or implied criticism”*. They reported their findings to the Corporate Management Team at one of their monthly meetings. The CMT turned down offers from the consultants to discuss the issue further. The importance of relationships slowed down the implementation of projects to replace information technology systems developed by the previous water quality boards. Each of the boards had developed information technology systems for gathering scientific and business data. Many of the staff who developed them worked for AYTAG. I described in chapter 6 how the information technology strategy to introduce new systems was agreed by the CMT in 1997 but not implemented. AYTAG’s four directorate based information systems managers formed a self-managed team. The team succeeded when new systems were required that did not replace previous ones. Examples I have highlighted include the Intranet and the producer responsibility data base. They made little progress in replacing original water quality board data bases with new AYTAG wide systems. When this research ended in August 1999 no replacement systems had been introduced.

Conflict avoidance actions became a norm at all levels of the organisation. Rather than acting assertively to support their actions and bring any resulting conflict into the open for discussion, managers individually followed the lead of the chief executive who took leave on the announcement of the budget crisis – they also took leave when announcing difficult decisions. On a group basis the CMT and regional management teams led the way as they were reluctant to take decisions which disturbed current working relationships. By avoiding

conflict through “running away” there was no need to deal with strong feelings or discuss issues that were contentious.

The Effects of Anxiety Reduction Activity on Emergent Order

The remit for AYTAG and the strategic plans produced for its development indicated a very different organisation to any that previous employees had experienced. However, in reality for many of those moving into AYTAG much remained the same. These employees remained in their place of work and on the same terms and conditions but they felt the future was uncertain. Uncertainty generates general feelings of unease. In order to eliminate these feelings employees acted to reduce anxiety. Streatfield, (2001) Goldstein (2000) and Stacey (2000, 1996) recognise that anxiety plays a role in the emergence of order.

In this chapter I have explained that there was a high need amongst employees to reduce the anxiety they felt on moving to AYTAG although they never justified their actions in this way. Streatfield (2001) suggests that too much anxiety can drive us back into ourselves in an attempt to shut out the flow of change. We feel the lack of ability to re-assert control over events. This is what happened in AYTAG, managers continued with familiar behavioural patterns rather than acknowledging that different responses were required if the organisation was to move towards its desired new state. Stacey (1996) stresses the importance of anxiety holding measures. Such measures were not available to managers in AYTAG. Goldstein (2000) emphasises the importance of working on boundaries to contain anxiety. Although attempts were made to work on boundary management, for example the consultants running the management development programme tried to work with the corporate management team on the relationship/task boundary in March 1999, very little attention was given to it. As a result AYTAG employees used old

frames of reference as boundaries to contain anxiety and these old frames of reference worked for them.

The actions managers and employees took to reduce anxiety by using proven ways to remain in control and avoid conflict can be viewed as individual level negative feedback activity. These actions dampened down the attempts the organisation made to change the way managers and employees operated. The result of this individual level negative feedback was a move back towards an equilibrium state that had existed in AYTAG's predecessor organisations.

Having highlighted the importance of anxiety reduction behaviour and its possible influence on emergent order I will now move on to consider the importance of boundaries to emergent order, in particular the boundary between an organisations legitimate and shadow systems as this is where order emerged in AYTAG.

Chapter Twelve

Emergent order at the system boundary

In this chapter I explain where order arose in AYTAG. In doing so I align myself with the “edge of chaos” perspective of complexity theory discussed earlier in Chapter 3. AYTAG is seen as a complex adaptive system and I describe how order appeared at the boundary between its legitimate and shadow systems. In this respect my work echoes that of Stacey (1993,1995,1998) who has highlighted the importance of this boundary. I use the example of the Regions becoming more powerful at the expense of AYTAG’s centre to show how this order occurred.

In complex adaptive systems order emerges when the system operates at the edge of chaos, the boundary between stability and instability. Systems theory tells us that a subsystem is part of the whole as well as being a whole in its own right. A complex adaptive system at one level is made up of lower level complex adaptive systems interacting and creating the higher level order. According to Boisot and Cohen (2000, pp.126) emergence is a generator of hierarchies. *“It first builds these from the bottom up and then these in turn, control the resulting articulated systems from the top”* or as Goldstein (2000, pp.16) expresses it *“a bottom up top down feedback going on among the levels”*. We should therefore be able to observe what is happening at the boundary between sub systems and see the order that emerges at this level reappearing at a higher level in the system as a whole. We can see this happening as AYTAG developed during the period of this research.

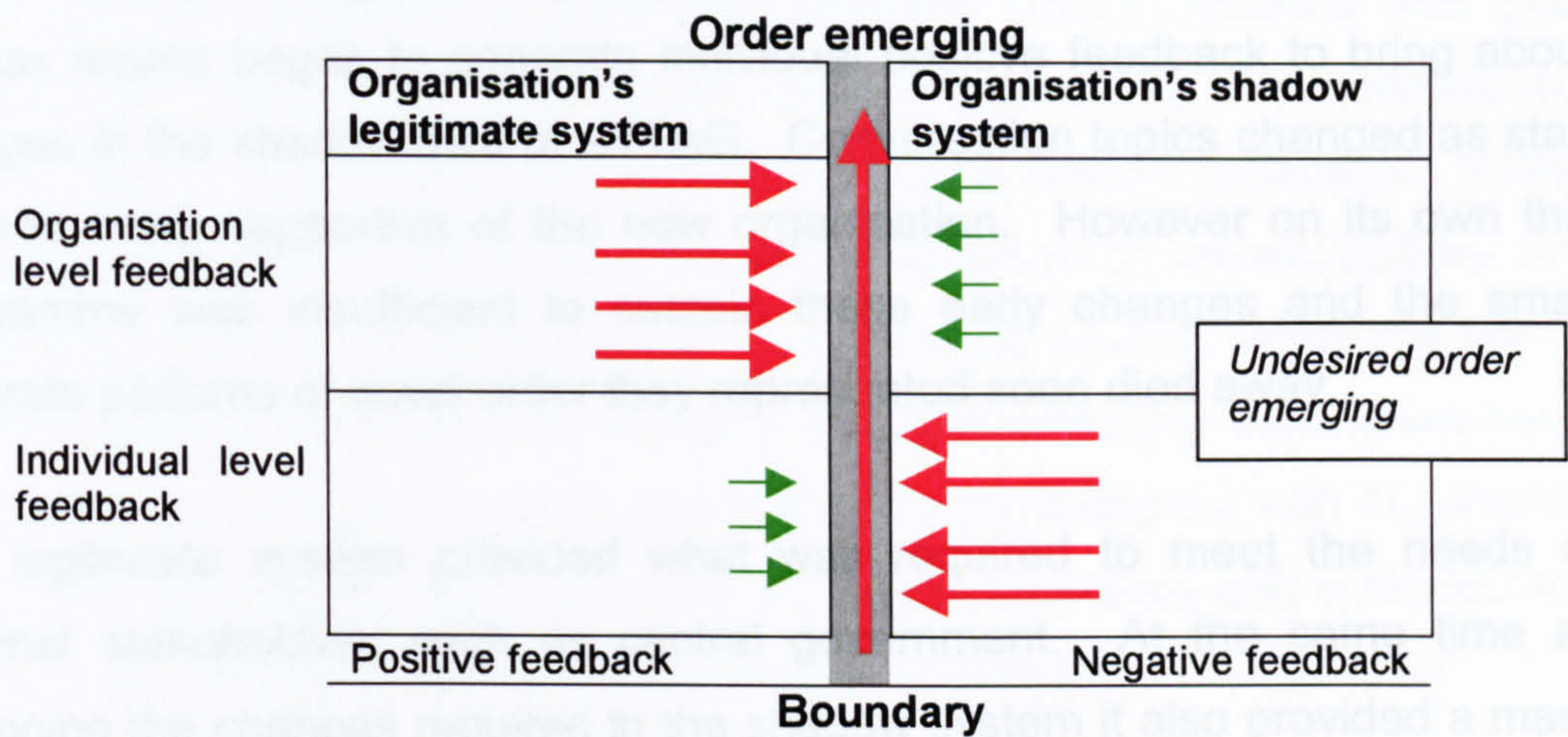
In chapter 3 on complexity theory I discussed how organisations are made up of sub systems two of which are its legitimate system and the shadow system. The legitimate system can be regarded as the organisation's publicly stated plans, its structures, policies and procedures, publicly accepted views and

opinions. The shadow side is made up of unspoken cultural norms, tacit agreements, conversations and actions, feelings, memories and emotions outside the predominant organisational ideology. In the shadow side there are activities and arrangements that do not get discussed or identified but which make a difference in decision making fora. Anxiety reduction is a tacit process, found in the organisation's shadow side. Stacey (1996, 2000) and Egan (1994) have written extensively on shadow side influences. Stacey (1996, 2000) sees the activities in the shadow side as key factors in influencing the emergence of order. According to Stacey the legitimate system tries to pull the organisation towards a new order, it is the source of stability. The tacit processes of the shadow side are the source of instability. The boundary between stability and instability is the boundary between the shadow and legitimate systems.

Order emerged in AYTAG at the boundary between the its shadow and legitimate systems. When AYTAG became operational formal processes in the legitimate system such as the development of strategic objectives and the Introduction Programme were potential sources of organisational level negative feedback. They pulled the organisation towards a new order. The anxiety reducing behaviours in the shadow system were initially individual negative feedback actions. At organisational level, collectively, they became positive feedback that had worked its way though the shadow system to produce a new order away from the desired new equilibrium.

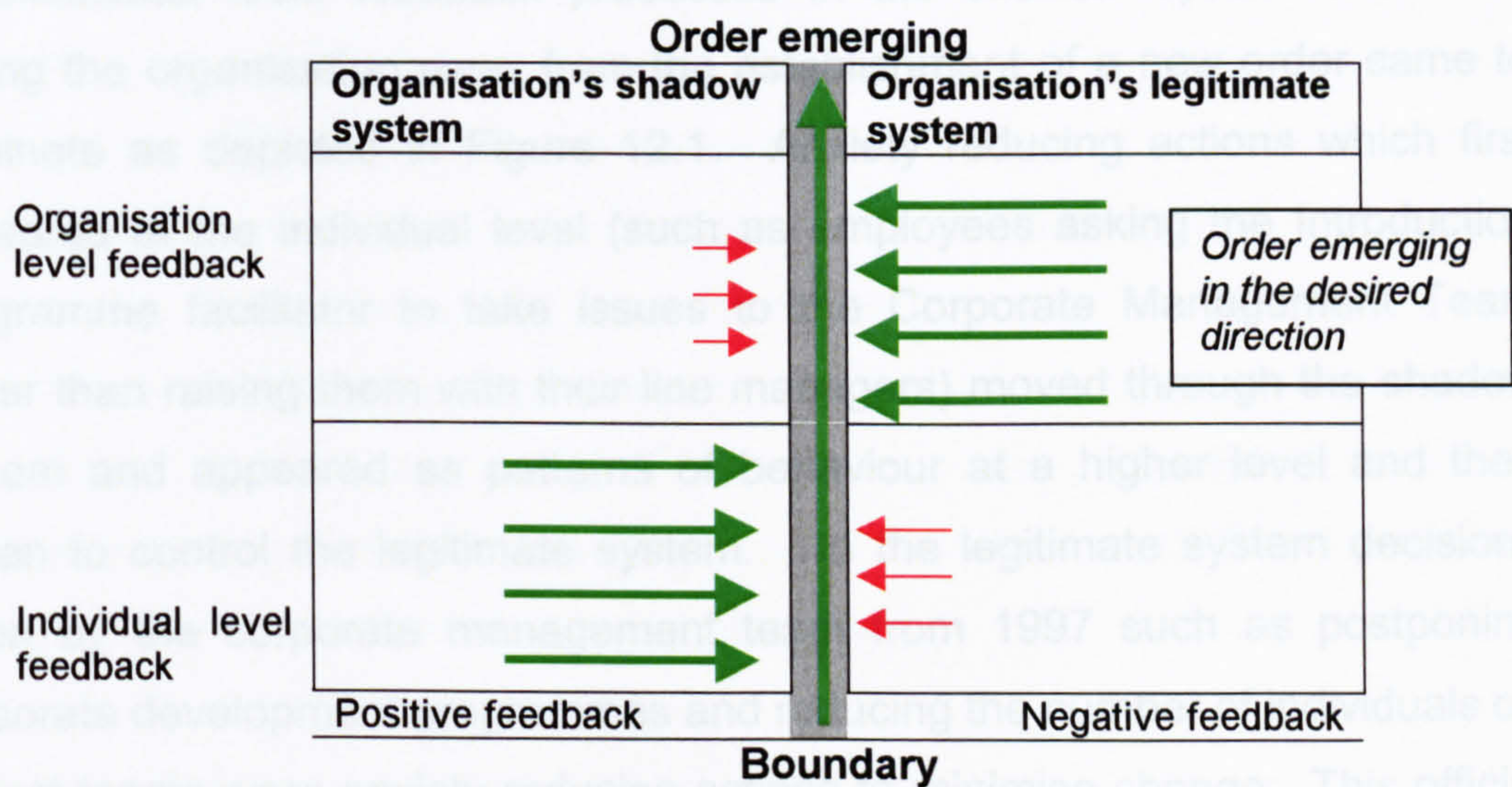
This process is shown on the next page in Figure 12.1.

Figure 12.1 The emergence of undesired order



For the actions in the legitimate system to be effective in bringing about change, they have to operate across the boundary between the legitimate and shadow systems and align the shadow system with the legitimate system. Individual level positive feedback and organisational level negative feedback processes generated by the legitimate system will dominate over both individual level negative feedback and positive organisational level feedback processes. Figure 12.2 shows this process.

Figure 12.2 The emergence of desired order



The Introduction Programme giving employees opportunities to question and discuss issues began to generate individual positive feedback to bring about changes in the shadow side of AYTAG. Conversation topics changed as staff became more supportive of the new organisation. However on its own this programme was insufficient to sustain these early changes and the small separate patterns of novel order they represented soon died away.

The legitimate system provided what was required to meet the needs of external stakeholders such as central government. At the same time as beginning the changes required in the shadow system it also provided a mask for order, enabling people to hold on to anxiety reducing behaviours and beliefs that they were used to and that had served them well previously.

There was anxiety reducing activity at the level of the individual in the shadow system when AYTAG became operational. Individual managers reduced their anxiety levels by taking un-discussed decisions to continue operating styles that had been the norm in their previous organisations. These decisions were not challenged. The prevalence of conflict avoidance ensured that this would happen. Throughout the first year, actions occurred which resulted in a large budget crisis in April 1997. Following on from this destabilising event, positive organisational level feedback processes in the shadow system that were pulling the organisation away from the establishment of a new order came to dominate as depicted in Figure 12.1. Anxiety reducing actions which first appeared at the individual level (such as employees asking the Introduction Programme facilitator to take issues to the Corporate Management Team rather than raising them with their line managers) moved through the shadow system and appeared as patterns of behaviour at a higher level and then began to control the legitimate system. In the legitimate system decisions taken by the corporate management team from 1997 such as postponing corporate development programmes and reducing the number of individuals on project teams were anxiety reducing actions to minimise change. This official action extended the organisational level positive feedback, originally only

present in the shadow system. It took the organisation away from the new order that the legitimate system was originally driving towards and back towards an equilibrium that more closely resembled its predecessor organisations. It strengthened behaviours around anxiety reduction. Initially the legitimate system had initiated the implementation of actions, policies and procedures to work towards having a multiskilled flexible workforce with a highly delegated structure. As a result of anxiety reducing behaviours being adopted in the legitimate system, this system became aligned with the shadow side. The organisation became more like its predecessors with a hierarchical structure and professionals operating in traditional ways.

I will now move on to give the example of the increasing power of the regions at the expense of the centre to demonstrate this order occurring.

An illustrative example – the Regional Directorates becoming more powerful at the expense of the Centre

In this example I describe how order emerged around the strength of AYTAG's central directorates relative to the regional operational directorates. When AYTAG became operational its structure was designed to give the organisation a strong centre to drive it forward. The central directorates had a high proportion of new recruits. Most of the transferred employees went into regions. In 1996 there were anxiety avoidance actions at an individual level, for example employees gave excuses not to attend the Introduction Programme and at a group level such as requests to the Introduction Programme facilitator to raise issues on behalf of those attending the workshops. At the workshops AYTAG as whole was criticised but individual managers and central directorates were not. The views of staff on the relative strengths of the directorates were not discussed.

By late 1996 regional employees were making comments on central departments. I repeat the example I gave earlier "*at head office they make*

foreign policy – well it's xxxx foreign to us". Managers produced pictorial representations of AYTAG during management development sessions in the regions early in 1997. Over half showed head office as separate from the rest of the organisation. In one drawing it was surrounded by barbed wire. It had become acceptable for individuals and groups openly to criticise central directorates on an informal basis. Expressing themselves in this way helped staff in the regions to reduce the anxiety they felt around not being in control of central administrative functions. Informal criticism continued. It began to be expressed by Regional Directors, so after the 1997 budget crisis it was acceptable to break up Corporate Services and share out its sections amongst the remaining directorates. The criticism of this central directorate had been formalised and dealt with through an anxiety reducing action.

The regional directorates no longer had to deal with a central directorate controlling functions that previously had been controlled by them in their former water quality board roles. The organisation had succeeded in dampening down change and had returned to something resembling its predecessor bodies. The regions now controlled central administrative functions between them. A new pattern had emerged at a higher level in the system from the agents that created it. That new pattern fed back down to influence further development at a lower level. (Boisot and Cohen, 2000) In the space of eighteen months what had started as individual expressions indicating anxiety turned into a permission to publicly criticise a central directorate and then a decision to split it after a period of destabilisation. The regional directorates had become stronger and continued to strengthen during 1998 and 1999 with regional managers taking decisions on recruitment, restructuring and work allocation, media relations and training without central involvement. In this way they came to be similar to the water quality boards they had largely replaced.

In this chapter I have argued that order emerged in AYTAG at the boundary between the organisation's legitimate and shadow systems. I have emphasised the changes in the dominance of feedback processes as a

significant factor in determining this order. In my next chapter I will continue this theme and examine other complexity theory concepts I have used to study the development of AYTAG namely sensitivity to initial conditions and disequilibrium.

Chapter Thirteen

Feedback; its links to connectivity, initial conditions and disequilibrium

In this chapter I review the concept of feedback, summarising my findings from previous chapters on how negative and positive feedback processes shift in organisations over time. Out of the four complexity theory concepts I used in my research, feedback first emerged as the most elusive concept, however after further exploration it appeared to offer the most intriguing avenue for discussion, a conceptual gateway for understanding complexity theory and its application to social systems. I am therefore reviewing this concept in more detail. I explore the relationship between connectivity and feedback and conclude that it is the diversity and frequency of interactions or connectivity in an organisation which gives rise to the type of feedback that will dominate. I continue the chapter by suggesting an alternative way of viewing the concepts of disequilibrium and initial conditions. They can be regarded as changes in the balance of feedback processes.

Shifts in the Balance of Negative and Positive Feedback

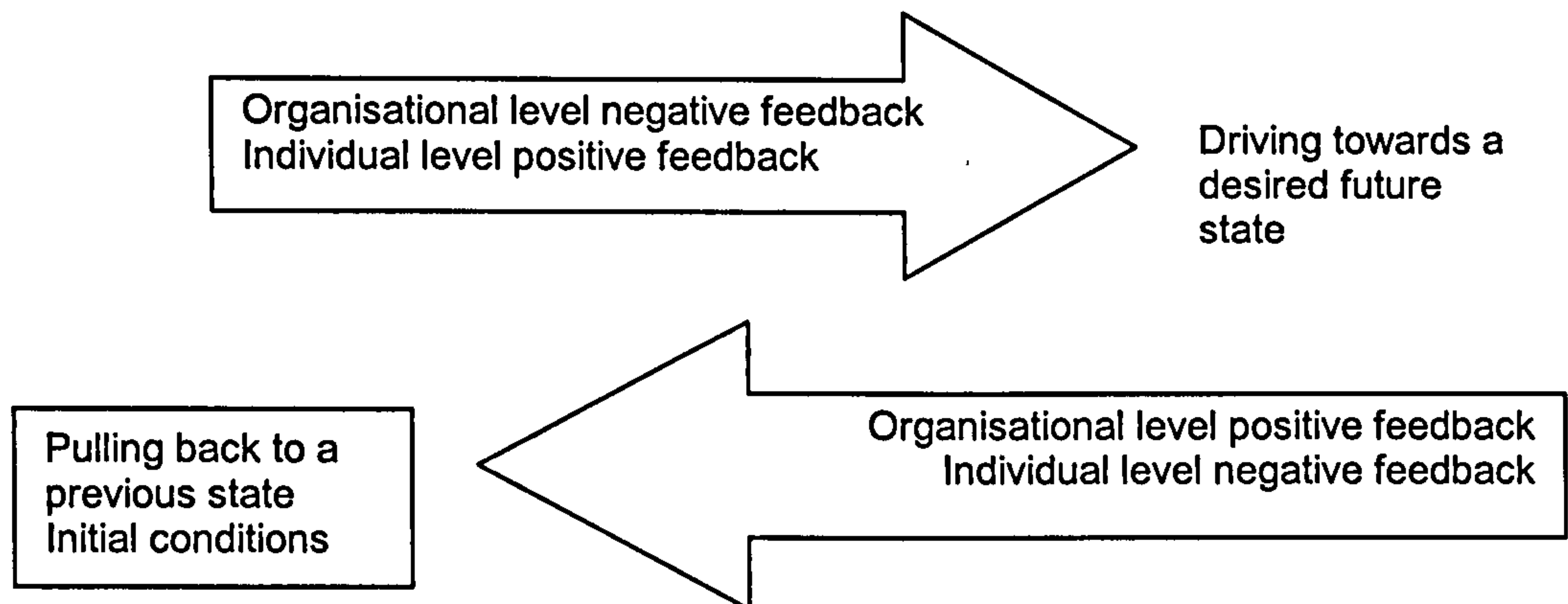
In my discussion of feedback I argued that feedback processes operated in different ways at different levels in the organisation. Before moving on to the detail of this section it is important to specify that these different levels can be considered separate systems. The reader should be aware that there are systems within systems. Feedback operating at organisational level is in one system and feedback at an individual level is actually in a different system.

As an organisation moves forward in time the balance between negative and positive feedback shifts. The desire for change results in negative feedback at an organisational level pushing the organisation towards a new equilibrium. At the same time individual system level positive feedback occurs as employees have to let go of behaviours that keep them close to an old equilibrium. When these two types of feedback occur together an organisation is perceived to be in a disequilibrium state. This occurred in AYTAG when initiatives were introduced to bring about change such as the Introduction Programme and the formation of multi functional environmental protection teams.

At other times an organisation is dominated by individual negative feedback actions which act to dampen down the effects of change. Individual level negative feedback in AYTAG took many forms for example opting out of taking decisions, seeking to avoid conflict by passing difficult tasks on to others and creating informal hierarchies. There are times when positive feedback occurs at an organisational level and it takes an organisation away from the new equilibrium it is trying to reach. Organisational level positive feedback actions occurred in AYTAG, they included such actions as; increasing hierarchy, decreasing the flexibility in the workforce, downgrading the jobs of those who had non regulatory influencing roles. When organisational level positive feedback occurs at the same time as individual level negative feedback the organisation fails to move towards its desired future state. The organisation can then move in the direction of a previous equilibrium position. For AYTAG this was a return to what was familiar in its predecessor bodies as this was the only equilibrium it “knew”.

This process is illustrated on the next page in Figure 13.1

Figure 13.1 levels of feedback and their effects on organisational change



The Relationship between Feedback and Connectivity

From the beginning feedback processes of varying strengths operated within AYTAG. The balance between them kept shifting. There were individual system level positive feedback processes that took the organisation away from the old ways of working and individual level negative feedback actions that tried to preserve the old order that had been in existence in the local authorities and the water quality boards. It is possible to trace a common thread through the shifting balances of individual negative and positive feedback processes. This thread is the extent to which there was interaction between the individuals in the organisation. Complexity theory writers such as Stacey (2000) and Cilliers (1998) stress the importance of interconnections between the elements in the system arguing that change and transformation is dependant on the pattern and strength of these interconnections. Systems theorists regard communicative interaction as the element of a human system. I use the term metaphorically, choosing the individual person as the element in the system.

Individual system positive feedback processes were at their strongest early in the development of the organisation peaking between November 1996 and April 1997. This was the time when there was high connectivity; that is,

interaction between employees was at its greatest and most diverse. During this period there was the Introduction programme which all employees attended. There were workshops for staff to discuss multiskilling and the form it should take. Environmental protection officers were trained as trainers to cascade producer responsibility training to all employees. Every employee attended appraisal training and was appraised by their line manager. E-mail was rolled out to all and nearly all staff accessed it at their desk though their own computer. There was frequent and varied interaction between employees right across the organisation. Employees had many opportunities to discuss a variety of issues with others from different predecessor bodies, from different parts of the organisation and in different jobs ensuring that the diversity of the interactions was relatively high. The Introduction Programme established the high level of interconnectivity and it was maintained with the other initiatives.

In May 1997 the Corporate Management Team took action as a result of the budget crisis. They cut budgets to a number of initiatives so that the organisation could decrease the size of its debt. These money saving actions resulted in reduced travel budgets and a reduction in training and workshop activities. Those activities that took place were on a local regional basis. The effect of these budget cuts was to significantly reduce the contact staff had with each other across the organisation. There were fewer opportunities to discuss organisation wide initiatives and the form they should take. Conversations that had begun to take root supporting change died away. Work that had begun on multiskilling and management development stopped. All of these contributed to a decrease in the interaction between employees and a subsequent decrease in connectivity. The result of this was that individual system negative feedback and organisational system positive feedback processes began to dominate and the drive towards the desired future equilibrium slowed considerably.

In 1998 there were attempts to reassert individual positive and organisational negative feedback processes. For example, the management development

programme begun in September 1998, was based on the competencies identified as essential for AYTAG managers in 1996 and 1997. It focussed on developing empowered managers. Also in the spring of 1998 some senior managers took responsibility for initiatives which brought many more staff together. For example, a Regional Scientist organised workshops for science and pollution prevention and control staff to improve the ways they worked together. Job shadowing was introduced for policy staff and they spent time in the environment protection teams. The number and variety of interactions between staff increased again and the required feedback processes to take the organisation towards its expressed goals began to take effect. Middle managers began to have pre-meetings to plan their strategies for the meetings they had with senior managers and directors.

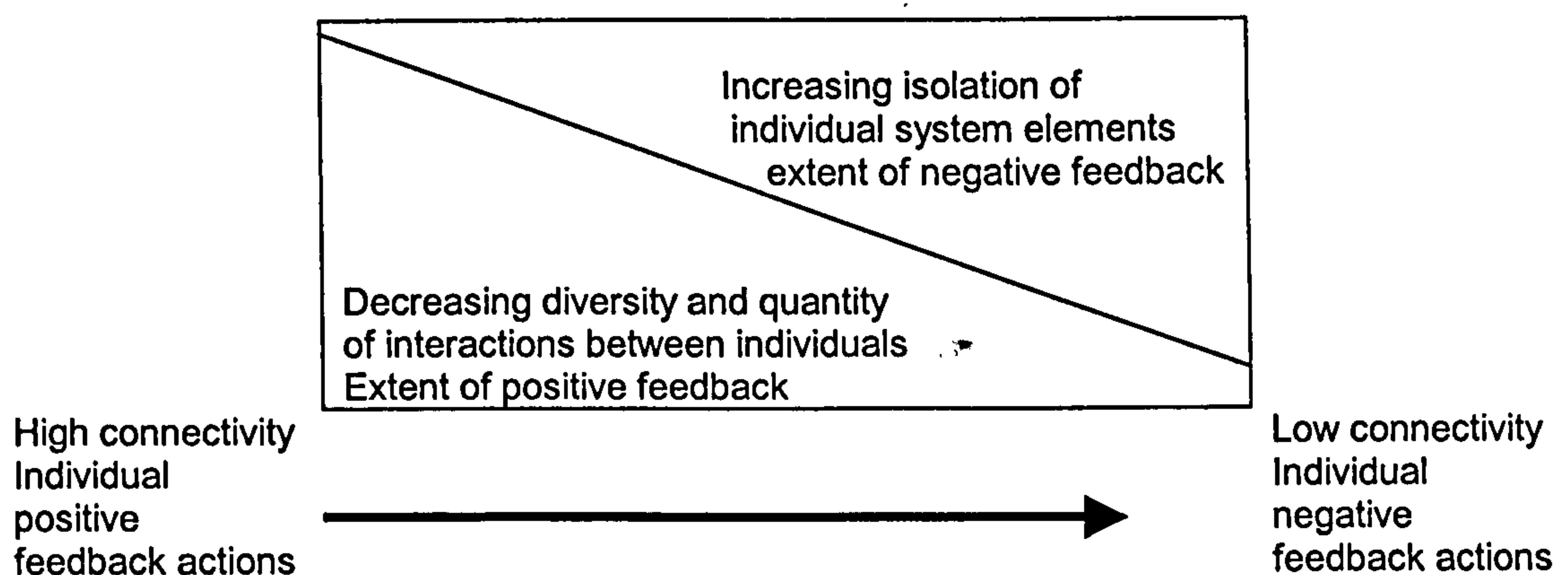
These attempts to promote individual level positive feedback were short lived. The regional scientist took early retirement and the workshops stopped. The training officer who organised the job shadowing was assigned to other work and the job shadowing stopped. Shortly after the management development programme began members of the corporate management team took steps to change its format and content. This dampened down the effects of individual system positive feedback which had occurred in the early stages of the programme. By August 1999 connectivity between individual employees had considerably decreased again. Individual negative feedback actions and organisational level positive feedback had come to dominate once more. The order emerging in AYTAG at that time was closer to that of its predecessor organisations which existed before April 1996.

In Chapter 11 I described how attempts were made by AYTAG employees and the organisation as a whole to reduce levels of anxiety. If we look at AYTAG's anxiety reducing measures, they all give rise to a reduction in connectivity as the quantity and diversity of interaction between individuals was progressively reduced. Initiatives in AYTAG gradually involved fewer and fewer people. In addition to reducing the number of interactions, there was a corresponding

reduction in the diversity of interaction. Initiatives that had involved large numbers of staff in their development such as the Science Review and Multiskilling were marginalised again reducing connectivity. Training and development events and workshops designed to bring people across the organisation together either ceased or became much more locally based, so that staff had fewer opportunities to meet each other. These actions strengthened anxiety avoidance. The result was individual level negative feedback through reducing the number and diversity of interactions in training and development activities. Change initiatives to bring about new ways of working and suitably supporting styles of management were minimised or died out altogether.

Interaction between individuals or connectivity is directly linked to feedback. When connectivity is high individual system positive feedback processes dominate and when connectivity is decreased individual negative feedback processes take over. Figure 13.2 below describes the process.

Figure 13.2 The individual as the system. The relationship between individual level human interaction and negative feedback



What I have argued in this section of this chapter is; firstly, changes in the balance of feedback processes determine the emergent order that can be observed in an organisation. That is changes to that balance determine the

extent to which organisational change occurs. Secondly changes in feedback are directly related to the extent of interaction between individuals, or the connectivity in the organisation.

When there are large numbers of diverse interactions between individuals connectivity is high. High connectivity gives us positive feedback at the individual system level, the organisation moves away from its original equilibrium. The order emerging will be different from the order that currently exists; that is change occurs. The organisation system however has to apply corrective negative feedback to prevent it from drifting off course, ensuring that it moves in the direction of its desired new state. Where individuals apply anxiety reducing actions, individual interaction is limited in both variety and quantity. There is low connectivity. Individual negative feedback processes then begin to dominate, as individuals try to regain their original equilibrium states. Change or the appearance of new forms of order is minimised. The order emerging more closely resembles the order that previously existed. In the organisation system, this appears as positive feedback as it takes the organisation away from the new state it was attempting to reach. It is therefore the connectivity, the diversity and quantity of interactions between the individuals in an organisation that determines the facets of the emergent order.

Initial Conditions and Disequilibrium as Balances in Feedback Processes

The simplest tendency in management theory is to assume that a complex dynamic can be separated into individual phenomena and that adding these phenomena together produces the end result. Complexity theory is based on the premise that the whole is greater than the sum of its parts, making it difficult to use individual complexity theory concepts to study the development of an organisation. I found that one of the consequences was a degree of circularity when I tried to separate out the concepts I was using. As I could not clearly do this when describing AYTAG's development, I needed to find

another way of looking at them. I decided to regard each of them as lenses. They were different ways of viewing the same phenomena. Both initial conditions and disequilibrium could be described in terms of feedback processes. When viewed by an observer what is seen is the balance between the effects of negative and positive feedback processes at specific points in time. It is the changes in the balance of feedback processes that govern an organisation's evolution from its initial conditions into something new and different. When I describe AYTAG's initial conditions and disequilibrium events and actions, I am describing the balance of the negative and positive feedback processes at the particular point in time.

Conclusion

In this chapter I have described how I see the interrelationship between feedback and connectivity and how the complexity theory concepts of initial conditions and disequilibrium can be seen as balances in feedback processes. There are issues in applying the concept of feedback to a social system as the concept was developed to describe activity in a physical system and it has a specific technical meaning. I will return to this in my next chapter. In this next chapter I highlight the problems of applying complexity theory concepts to social systems and suggest a way forward if the theory is to be of use in describing what happens as social systems change over time.

Chapter Fourteen

Complexity theory and social systems – problems, limitations and a possible way forward

In this chapter I summarise the issues I have found applying complexity theory concepts to a social system such as an organisation. In my introductory chapter I stated that this research makes a methodological contribution through the adoption of an ethnographical approach to a longitudinal study of change and development in an organisation. I discussed this in detail in chapters 4 and 5 and I return to this theme at the beginning of this chapter highlighting the relatively small number of academically grounded studies as a problem, in particular long term studies. I give some personal reflections on the research process which I hope will be useful to subsequent researchers who wish to consider this particular type of research.

I consider each of the complexity theory concepts used and draw attention to the difficulties in applying each of them to a social system. I stated in the introduction to this thesis that this research furthers our understanding of the application of complexity theory in three ways. Firstly, by commenting that complexity theory can offer an explanation of the prevention of change. I explored this issue in chapter eleven when I looked at anxiety reduction in AYTAG and examined how individual anxiety reduction activity had an impact on the order that emerged. Its effect was to dampen down change initiatives. This issue is explored again in this chapter in the section that looks at the concept of disequilibrium in social systems and also in the section in which I consider that organisations may not be naturally occurring complex adaptive systems. Contrary to authors of published studies, I come to the view that it may not be possible to consider a social system as a natural complex adaptive system. This does not mean that complexity theory is not of value to the study of organisations.

The second area of contribution mentioned in my introduction is introducing the human dimension to further our understanding of the application of complexity theory to social systems. This theme runs through chapters 11, 12 and 13 and continues in this chapter culminating in the section which considers the need for complexity theory to be informed by the behavioural sciences rather than the physical sciences.

The final area in which my thesis helps our understanding of complexity theory is that it sheds light on the multi-level nature of change processes particularly in relation to positive and negative feedback processes. Included in chapters 9, 10 and 12 are comments on my findings about the nature of feedback at different organisational levels. In chapter 13 I explain that the concept of feedback appears to offer the most intriguing avenue for discussion and propose that the concepts of disequilibrium and initial conditions can be regarded as changes in the balance of feedback processes. In this chapter I suggest that the concept of feedback may be a useful way of retaining systems thinking and also a way to make complexity theory more accessible to managers.

The chapter concludes with a section on complexity theory and strategic change. This section briefly examines other strategy and organisational development literature which offers explanations for why organisations resistance to change.

The Lack of Well Grounded Empirical Studies

Complexity theory has become increasingly popular over the last decade with an increase in academically robust empirical studies reported in the literature (Baskin, 2003; MacLean and MacIntosh, 2002; MacIntosh and Maclean, 1999; Brown and Eisenhardt, 1997). The number of complexity theory studies,

relative to other approaches to strategic organisational development, remains small and the theory would benefit from a further increase. As I described in Chapter 3 other authors, Seel (2001), Griffin et al (1998), Shaw (1997) and Stacey (1996), have written about consultancy assignments where they have applied complexity theory concepts to organisational change initiatives they have been called in to facilitate. They describe what they did in organisations to create situations to increase connectivity and positive feedback so that novel forms of order could emerge. There are two issues here. The first is that new untested theory is advocated as a sound way to work on strategic organisational change. Secondly, all these consultancy assignments are relatively short term. I am unaware of their authors publishing subsequent material relating to their success over a longer time period.

My research is a detailed empirical study of a whole organisation over a three and a half year period. This allowed much more opportunity to explore emergent order. As I undertook it, I was a contemporaneous participant in the development process rather than a researcher or consultant dipping in and out of the organisation. This gave me sufficient time and opportunities to observe the introduction of change initiatives and their success in bringing about new forms of order. My conclusions differ considerably from these authors in the assumptions they make about application of the theory to a social system. This research offers a different perspective on how helpful complexity theory can be. It has allowed me to highlight the shortcomings in using some of its concepts, as well as question the ease with which a theory developed from physical systems can translate easily to the social world of human systems.

Reflections on the Research Process

The study of organisations from a complexity theory perspective was less well recorded when I began this research. The very nature of complexity theory made me take the decision that I did not want to pre-judge the outcome of the

research. It is why I adopted an ethnographical approach using principles from grounded theory to guide me. This left me exposed to criticism that it would be difficult for me to show objectivity when gathering and interpreting data. I had to be very careful at all times to show that I was being rigorous in what I did. Any future researcher has to be very aware of this. There were two factors in my circumstances without which this work would have been impossible and any future researcher trying to undertake a similar study would in my view need to be in comparable circumstances. The first is that I had a relatively long, continuous period to collect the data – 3 ½ years. This is not research which it is suitable for the researcher who dips in and out of an organisation at intervals. The second factor relates to the position I held in the organisation. I had a corporate organisational change and training role. This gave me very wide, mostly non-hierarchical access to staff at all levels. It gave me the opportunity to collect data on the opinions and views of these people which would not necessarily have been revealed had I been a line manager in a specific part of the organisation. It also gave me the ability to commission work from other organisational change consultants as I implemented change initiatives such as the Introduction and Management Development Programmes, at the request of the Corporate Management Team in AYTAG. The reflective reports they produced were invaluable insights into AYTAG as it developed and essential additional data for this research.

The data gathering process was both formal, through published documents and interviews and informal, through my diary records. The result was an enormous amount of data which took a great deal of time to work through. Its interpretation required long periods of reflective thinking and checking backwards and forwards between tentative conclusions and the original data. Contrary to what is considered appropriate practice in grounded theory / ethnographic studies I made no attempt to categorise my data until I stopped collecting it. Again in keeping with the spirit of complexity theory I felt that any preliminary categorisation of data would undermine the very processes I was attempting to find out about and understand. This is not an easy study to try to

replicate, however the rewards for any researcher attempting it should be rich and interesting.

The Circularity of the Key Complexity Theory Concepts used in the Research

Tsoukas and Hatch (2001) argue that interpretation of the features of complex systems from a complexity theory perspective, is dependant upon the position of the interpreter. From my position, I encountered problems in defining and trying to separate out the different complexity theory concepts. As I used complexity theory concepts to describe the emergence of order or the strategic development of AYTAG, it soon became clear that initial conditions, disequilibrium and feedback processes were not dividing into neatly separable real phenomena. It was difficult to separate factors present in the initial conditions and disequilibrium from each other, and both of them from negative and positive feedback processes. They all appeared as facets of one dynamic. This is not surprising. Complexity theorists argue that order emerging in organisations cannot be predicted from studying the fine detail (Coveney and Highfield 1996). For example, in this study the requirement for multiskilled environment protection officers was both an initial condition and a disequilibrium causing activity. Positive and negative feedback processes operated at the same time, making it difficult to categorise individual actions into the different concepts. It was also difficult to separate these concepts when describing the creation of the Corporate Services and Environmental Strategy directorates to develop a strong centre for AYTAG and the subsequent lessening of their influence.

The Concept of Initial Conditions in Social Systems

In physical and mechanical systems the initial conditions come into operation as a set at the “start” of the system. I was researching a social system within which there was the organisation system (the procedures, organisational

structure etc) and the individual system (memories, management styles of employees etc). It soon became obvious that this made it difficult to define its initial conditions exactly. Specific physical attributes of a system such as the start date for a business can be given a point in time at which they come into being. The organisation as a system, that is AYTAG as an entity, more closely resembled a physical or mechanical system. It had a specific start to its operations, 1 April 1996. This made it relatively easy to identify the set of initial conditions that operated at organisational level. On 1 April 1996 the majority of people employed in AYTAG began to work for it. It's structure, which previously had been a diagram came into being.

When trying to determine the initial conditions for the individual as a system, drawing the boundary was much more difficult. Individuals have a history which brings mental attributes to the "start" of something. These attributes include emotions, opinions, experience and membership of competing cultures. They vary in intensity and relevance between individuals. What I found in this research was that the actual conditions created by the formation of the organisation, such as its designed systems, mattered less than the preconditions that existed as memories. They formed a legacy which dominated the initial conditions landscape. The presence of anxiety operated to attempt to restore these preconditions. Because both the physical and mental states have to be taken into account, it makes it impossible put a boundary on, or, to state accurately what the initial conditions are in a human system such as an organisation. The situation is further complicated by the introduction of an observer into the system, who as an individual in the organisation, becomes part of both systems. A question we have to ask ourselves is once we introduce the presence of an observer into a time dependant social system have we changed the system and therefore do we have a different set of initial conditions?

The Concept of Feedback in Social Systems

The application of the concept of feedback in a physical system is straightforward. Negative feedback is dampening and positive feedback is destabilising. Applying the concept to a human system proved much more complex and initially elusive. Actions at different levels in the organisation resulted in feedback being perceived differently at each of these levels. This finding links in with Luhmann's view that rationality at the level of individual action is not the same as rationality at the level of the social system (Brans and Rossbach, 1997). The drive towards a new equilibrium required organisational level negative feedback, or corrective actions to keep the organisation on track. These actions however require individual system level positive feedback actions at a lower level. The desired equilibrium is only achieved through the careful balance of different types of feedback at different levels

My findings question the validity of using the term "feedback" in its original technical sense when describing a complex adaptive social system. Complexity theorists argue that we can apply the characteristics of physical systems to social systems (Mitleton-Kelly, 1998; Rosenhead, 1998; Thiétart and Forgues, 1995; Levy, 1994). Goldstein (2000), and Chia (1998) are among those who have recognised the need for circumspection in attempting to transfer complexity theory formulations from the natural to the social world. I support Goldstein's and Chia's more cautious approach.

Feedback is a concept with which managers are familiar. Although there is a complex interrelationship between negative and positive feedback processes at different organisational levels it can provide a useful metaphor for managers who need to understand strategy development and implementation. By building on managers' current understanding of feedback and examining the different ways feedback has to operate in different systems (organisation and individual) it can provide a useful tool for helping the understanding of strategic organisation development. Stacey's (2001) proposal of complex responsive

processes for understanding organisation development offers something similar. For managers however, the concept of feedback is more immediately accessible. It also allows us to retain a systems theory approach from which Stacey has moved away. A popular conception that appears in the literature is that complexity theory tells us that managers should no longer think they can be in control. Working with feedback processes introduces the notion of some control which practicing managers will find more acceptable than being told to simply “let go”.

The Concept of Disequilibrium in Social Systems

The setting up of AYTAG in 1996 was unsettling for its employees who came involuntarily from the water quality boards, local authorities and central government departments. The security they found in the routines of their previous organisations had gone and in its place there was an undeveloped organisation with very few policies and procedures to guide employees and provide stability. In the initial conditions there was disequilibrium, Negative and positive feedback processes were operating at different levels. Further potential for disequilibrium was produced in the legitimate system over time through the vision the CMT had for AYTAG, high recruitment activity, the budget crisis and the reorganisation of Corporate Services. Complexity theorists (Tasaka, 1999; Stacey, 1995) argue that creating disequilibrium conditions enables connectivity to increase and positive feedback to take hold leading to novel forms of emergent order. Streatfield (2001) suggests that anxiety could be the source of energy that drives those involved to search for new and different meaning. However this research shows that destabilising a social system such as an organisation does not inevitably lead to novel forms of order. Although there were continuous destabilising activities ranging from training programmes to a budget crisis the order emerging in AYTAG was very little different from what existed in its predecessor organisations. This suggests that we should explore

further what happens in organisations when attempts are made to introduce disequilibrium.

In the organisation I studied anxiety reducing actions were taken in periods of uncertainty or disequilibrium. Disequilibrium was produced as a result of decisions taken in the legitimate system as it attempted to bring about changed ways of working. This generated anxiety which in turn produced individual shadow system actions to dampen down change. These actions acted as negative feedback at the individual level but when viewed at a higher level in the shadow system the feedback was positive as it took the organisation away from its intended goals. It was the organisational level positive feedback processes from the shadow system that took hold. Rather than novel forms of order appearing these feedback processes amplified copycat behaviours which pushed AYTAG towards re-establishing the equilibrium of “remembered” comfort and security. The organisation returned to an approximation of its previous equilibrium conditions. As a result AYTAG become an hierarchical organisation with traditional specialisms similar to its predecessor water quality boards from where the majority of its staff were transferred in April 1996.

The calls for the creation of disequilibrium and positive feedback to the facilitate emergence of novel forms of order are largely based on the study of complexity theory in physical systems. I have already highlighted that some complexity theorists have advised caution in doing this (Goldstein, 2000; Chia, 1998). Social systems are different from physical systems in their complexity. The rules that determine the interactions in social systems are socially constructed and are not fixed by laws of nature. Human agency can for example alter the parameters and structures of social systems (Levy, 1994). In a social system everyone has a psychological state and this has to be factored in when considering the behaviour of the system. Negative individual level shadow side feedback leads to reduced connectivity between the elements in the system. That same feedback is perceived as positive at a higher level and it takes the

system away from the desired new equilibrium and back towards a previous equilibrium state.

Destabilising activities and actions taken to reduce anxiety were continuing features of AYTAG's development. Both can be traced back to the organisation's initial conditions. As time progressed anxiety reduction activity dominated and pushed the organisation towards the equilibrium of its predecessor bodies. It would appear from this finding that the concept of disequilibrium as described by complexity theorists may be less helpful in facilitating the emergence of novel forms of order in a social system. Novel forms of order will not necessarily emerge as a result of destabilising events nor by taking action to increase connectivity between agents (Shaw, 1997; Stacey, 1996). We need another way of visualising the concept of disequilibrium if it is to be helpful to our understanding of the behaviour of complex adaptive social systems such as organisations.

Critical to our understanding of emergent order in organisations is the role of anxiety and the actions taken to reduce it by individuals and groups. Anxiety is present as a general sense of unease. It is generated when change is indicated or implemented and it is found in the shadow system. Strategy theorists in general focus their theories on the legitimate system and together with complexity theorists primarily apply theory developed from physical systems. The shadow system is largely neglected by them. In order to study it is necessary to draw on theories that do not have their roots those systems. Such theories usually come from the social sciences such as psychology.

Complexity theorists for example MacIntosh and Maclean (1999) applying the theory to complex social systems describe disequilibrium as a dynamic between stable and unstable states, a bifurcation point in which a series of feedback processes have led to a pattern change. As a result of this research I would like to offer the view that this dynamic can be thought of as anxiety. I propose an alternative view of disequilibrium in complex social systems. I propose that in

such systems disequilibrium and anxiety can be considered synonymous, anxiety is disequilibrium and disequilibrium is anxiety. It is the presence of anxiety that keeps a complex social system in disequilibrium.

The causes of anxiety or disequilibrium are found in the organisation's legitimate system which in AYTAG included changes to working practices, reporting lines and organisation wide development programmes. When organisations make changes such as restructuring, merging, shifting skill bases this causes anxiety levels to rise or expressed in complexity theory terms causes disequilibrium in the system.

Anxiety is something that human beings try to get rid of and they seek to replace it with the equilibrium of comfort and security. Menzies-Lythe (1960) and Argyris (1992) are among the authors who have written on how humans working in organisations build defences against anxiety. The natural tendency for humans is to seek equilibrium and this can be done by reducing anxiety through conflict avoidance, taking actions to retain control and minimising change. Individuals retreat into themselves. This behaviour gives rise to individual level negative feedback and reduces connectivity between individual elements in the social system. Disequilibrium is then displaced as the system tries to regain equilibrium. Actions to dampen down anxiety and move the organisation to an equilibrium position are found initially in the shadow system, they are usually tacit and at an individual level as they were at first in AYTAG.

Are Organisations Naturally Complex Adaptive Systems?

All systems including social systems are subject to constraints. Stacey et al (2000) draw on the work of Elias and Scotson (1994) to introduce the constraints placed on members of a group in social relationships. Elias and Scotson argue that a basic social impulse is the creation and maintenance of power differentials. This theme is picked up by Streatfield (2001) who argues

that power is a constraint that excludes some communicative actions and includes others. Reducing connectivity between elements in a social system results in an exclusion of some communicative actions and so leads to power differentials. Power differentials in organisations are expressed as hierarchy. Thus organisations naturally stabilise over time.

In my chapter reviewing the literature on complexity theory I noted that authors such as Stacey (2000), Mitleton-Kelly (1998) and Prigogine and Stengers (1984) argue that one of the major insights complexity theory brings to strategy theory is that an organisation can be viewed as a non-equilibrium system so that the concept of the organisation moving from one stable state to another as a result of change is flawed. As a result of my research I disagree with this view. The natural tendency of a complex social system is the creation of equilibrium rather than novelty. When disequilibrium is present in the form of anxiety the shadow side creates and maintains power differentials and self organises into hierarchy to reduce anxiety and suppress novelty. The desire to reduce anxiety produces patterns of stability first within the organisation's shadow system. Patterns include the repetition of behaviours such as decision taking styles which are present in an organisation's initial conditions and individual actions to avoid conflict and remain in control. As these patterns stabilise they become part of the legitimate as well as the shadow system and the drive back towards a previously recognisable equilibrium is reinforced. In AYTAG this took the organisation away from having a devolved structure with a multiskilled professional workforce to a traditional hierarchical organisation with single discipline professionals.

Paradoxically, though organisations can self-organise, when they do, they tend to retreat from the very fluidity which enables self-organisation. In the state towards which they are attracted, they are not naturally occurring complex adaptive systems such as are studied in the natural sciences – if anything they are our defensive responses to such systems. As predicted by Stacey (2000) I have observed order emerging in AYTAG at the boundary between the

legitimate and shadow organisational systems. With the desire to reduce or avoid anxiety, hierarchy developed. However this is not an unnatural state. In social systems, hierarchy is the result of self organising and anxiety reduction actions are entirely natural emergent outcomes. The suggestion that, in the absence of anxiety and power differentials, organisations would exist as complex adaptive systems is practically the same as suggesting that organisations would exist in the absence of the basic processes of organising.

The concept of an organisation as a natural complex adaptive system could well be a myth. Equilibrium expressed as a desire for harmony and security is the norm in social systems as they seek to avoid anxiety. Complex adaptive systems made up of human elements tend not to exist away from equilibrium. Human systems such as organisations are not pushed towards chaos when the system is in disequilibrium they tend to gravitate towards an equilibrium position. This is the opposite of what many complexity theorists claim about living systems (Stacey 2000, 1996). It is what happened in AYTAG as it tried to return to previous operating styles that had been in place in the local authorities and water quality boards.

Stacey et al (2000) and Streatfield (2001) in acknowledging that hierarchy is an emergent property of organisations appear to be moving to a position which corresponds with my observation that organisations stabilise over time. Rather than viewing organisations as complex adaptive systems we can draw on the work of Nicholas Luhmann and regard them as complex recursive systems, continually trying to recreate themselves in the same way (Brans and Rossbach, 1997). Our understanding from the study of living organisms tells us that the vast majority of them only experience short term survival. They do not adapt and this is also true for organisations.

Using Complexity Theory Concepts as Metaphors

It is through metaphors that people attempt to reduce the diverse variety of experience that may be difficult to conceptualise because of the unavailability of literal terms (Tsoukas, 1991). Many concepts borrowed from scientific disciplines are used by managers and researchers as metaphors to describe organisations (Morgan, 1997). Metaphors can encourage different ways of thinking which allow us to focus on, explain and influence different aspects of organisational phenomena. The individual concepts which make up complexity theory can be employed as images to help our understanding of organisations.

Although I have proposed that the concept of feedback could be usefully used as a metaphor I would suggest that, given the issues I have raised about the concepts used in this study such as their circularity, applying them as metaphors needs to be done with caution. With our current understanding directly transferring them to organisation development could have two unwanted consequences. Metaphor users recognising that the theory has come from physical systems and computer simulations may use a dominant machine paradigm rather than a complexity paradigm to give the concepts meaning. The problems trying to separate the individual concepts from one another may cause confusion when trying to assign meaning. Both of these consequences would result in the theory being seen as another fad. As a metaphor however, complexity theory has the potential to offer a rich set of concepts to explore the phenomenon of emergence in organisational systems.

The need for complexity theory to be informed by the behavioural sciences

Emergent order occurs in organisations. They are complex social systems and time irreversible. Reactions to anxiety or disequilibrium strongly affect the nature of the order that emerges. Anxiety reducing actions lead to order that is little changed as an organisation tries to recreate what it knows from its history.

The need to reduce anxiety in AYTAG prevented it from successfully implementing new initiatives to work towards its original vision. As a result “old ways of operating” continued. They shaped the new organisation in their image.

This study of AYTAG shows that complexity theory in its current form is only partially successful as a device for describing the development of an organisation. It gave insights regarding the importance of anxiety reducing actions which I may well have obtained if I had taken a more traditional approach. Concepts developed by Argyris (1992) and Menzies (1960) on social defences and studies relating to the psychodynamic perspectives of organisations by Brown and Starkey (2000), Kets de Vries and Miller (1994) and Hirschorn (1990) could possibly have been equally appropriate. This study has highlighted limitations in using the four complexity theory concepts to describe a human social system and I recognise there are many questions still to be answered for the theory to be as useful as some of its advocates would suggest

Much of complexity theory thinking is developed from physical systems. Unlike physical systems, human systems contain psychological drivers and do not necessarily tend towards chaos. Psychological drivers do not exist in natural science systems and the study of them in management writings on complexity theory applications is under represented with the exception of the work of Stacey (1996, 2000) and those who work closely with him (Streatfield, 2001; Stacey et al, 2000; Shaw, 1997). Stacey (1996, 1991) has long argued the links between complexity theory and psychology including cognitive psychology, psychoanalytical theory and more recently he and colleagues working with him have argued for a theory of relationship psychology (Stacey, 2000; Stacey et al, 2000). He stresses the importance of anxiety in the emergence of order and sees human interaction and conversation as crucial to emergent order. My research supports his argument that psychological processes can form a framework for explaining how order emerges. However as I have discussed earlier in this chapter, I disagree with him on the issue that disequilibrium leads

to the emergence of novel forms of order. I have argued that disequilibrium takes the form of anxiety in social systems and rather than leading to novel forms of order anxiety reducing behaviour pushes such systems back towards previous equilibria.

The sensitivity of systems to their initial conditions is a key concept in complexity theory. Human social systems have histories that cannot be ignored. Anxiety was present at the start up of AYTAG and formed a part of the initial conditions. It was inadequately acknowledged as an issue to be addressed. Seel (2001) and Goldstein (2000) both state that although emergent order cannot be determined it can be influenced. Seel gives the example of the placebo effect. This research has shown that when observing initial conditions in a social system, it is essential to examine the psychological processes such as anxiety as these are key factors in indicating the possible direction of emergent order. The need to reduce anxiety was a significant factor in determining the order that developed in AYTAG and without taking action to surface it and influence its effects AYTAG lost an opportunity to work towards the new order it was seeking.

Letiche (2000) talks about the substantial body of work on emergent phenomena in studies of the “informal” organisation that has not been recognised because of a lack of a suitable theoretical and methodological framework. Letiche’s informal organisation is similar to the shadow system described by other authors (Stacey, 2000; Egan, 1994). He points out that complexity theory can aid our understanding of the adaptive role that various aspects of the informal organisation may play. Complexity theory informed by the behavioural sciences should address Letiche’s concerns.

Complexity theory and strategic change

In Chapter 3 I suggested that complexity theory could offer a different conceptual framework for the study of strategic change. As a result of this research I argue that organisations may not be naturally occurring complex adaptive systems. I have argued that a behavioural sciences dimension has to be incorporated into complexity theory for it to be of greater use. The theory has provided me with a different perspective on how order emerges at the interface between the shadow and legitimate systems. This has not been done previously with such empirical detail. I have also suggested that organisations stabilise over time, as stabilisation is one of the primary defences against anxiety.

Defensive behaviours, stabilisation and inertia are recurrent themes in the strategy and organisational behaviour literature, but less attention is given to them than strategic change (Greenwood and Hinings, 1988; Weick, 1979). Concepts developed by Argyris (1992) such as single loop learning and defence routines and Menzies' (1960) study of social defences which I drew attention to in the previous section offer explanations of how we attempt to limit change and remain stable. Likewise research carried out by Hirschorn (1990) and Kets de Vries and Miller (1994) also helps us gain insight into why organisations stabilise. In the strategy literature there are models and approaches which focus on a continuation or a return to stability. Miller and Friesen (1984) suggest that most organisations gravitate towards a "design archetype" and remain there for a lengthy period of time. Greenwood and Hinings (1998) propose that organisations use "interpretive schemes" to move along an organisational "track" which can help explain the absence of change. Johnson (1988) writes about the persistence of cultural paradigms which bring about resistance to change. This single case study is insufficient. What I would suggest is further empirical study on stabilisation and novelty in organisations to allow direct comparisons to be made between what can be revealed through the lens of complexity theory and through other approaches to strategy.

Whittington's (1993) framework with its four conceptions of strategy which I discussed in Chapter 1 could be a good place to start. A comparison between applying complexity theory and other strategy theories as described by Whittington to AYTAG's strategic development can be found in Appendix 4.

Conclusion

Complexity theory as it is being used is inadequately sensitive to the dynamics of individual and group behaviour, which are the key to understanding the detailed phenomena of strategic change. When it is used to describe the processes of strategic change its specific usefulness is still unclear. As a metaphor it offers the possibility of a rich set of concepts to explore the phenomenon of emergence in organisational systems particularly at a macro level. More empirical research is needed in organisations, as without this, complexity theory is in danger of becoming a short-lived linguistic fashion statement. This might then deprive us of the promise it shows as an alternative and integrative set of ideas and insights on the dynamics of pattern development.

For complexity theory to be useful to management practice it has to move away from its reliance on exemplars from natural science systems and embrace theories and principles from the behavioural sciences. Complexity theory, applied to organisations, has to be more seriously informed by our understanding of the dynamics of human behaviour in order to take account of a range of issues such as socially constructed rules, anxiety and other forms of embodied expression. The role of such phenomena has to be incorporated into complexity theory concepts to help explain the creation and evolution of patterns of interaction. This will enhance the attractions of complexity theory as an integrative framework for understanding strategic change.

In this research I have shown that complexity theory concepts can give us a broad based, deep understanding of why an organisation develops in a certain way. I have also highlighted issues in using the theory to describe the development of a social system. Much still remains to be done to enhance its attractiveness. Until there is an increase in the level of empirical enquiry which improves our understanding of the application of complexity theory to human social systems, we must exercise great care when we attempt to use it to help managers lead and develop their organisations. If my research findings moderate the actions of those whose priority regarding complexity theory is to “sell the benefits” to others, stressing action over reflection and if, my findings stimulate further enquiry and debate, the research will have been worthwhile.

Appendix One

Interview plan for Interview with Director for Special Projects

Overall interview purpose

Views on the development of AYTAG from the time of appointment

Introduction

Explain purpose of interview
Agree time available - up to 40 minutes
Seek agreement for note taking

Main body of Interview

Clarify date of appointment to AYTAG
Probe – feelings on coming into the organisation – only director with no previous connections to any of the other members of the CMT

What was it like in the four months leading to the transfer of staff and AYTAG becoming operational.
Probe if required for views on original organisational structure, how new staff were recruited, views of other members of CMT, how the CMT worked together

What was your vision for the organisation.
You initiated various staff programmes to help implant that vision such as the Introduction programme. How did they help
Probe if required for similarity of vision with other directors and the Board, what else helped to drive the organisation forward, how well did the organisation progress towards the vision in the first year. Check reasons given for the progress or lack of it

How soon did the CMT realise they did not have sufficient funds to pay the VAT bill. Can you tell me about how this problem arose.
Probe if required – how much of the problem was caused by central government not taking the VAT decision earlier, how much were poor financial systems to blame, ask for other causes/influences eg pressure to agree to buy a new HQ for West Region

You are leaving AYTAG in one week to take up a similar appointment in a larger organisation. Can you give me your views on what difference it will make to AYTAG now that the organisational structure has changed and the Corporate Services sections distributed between the other directors

Probe for type of organisation that could develop, type of organisational culture, the strategic direction of the organisation, influence the directors will have on the support service they are responsible for, how might they change it, AYTAG's ability in the longer term to provide an efficient front line service (multiskilled employees)

If interview ambience makes it appropriate ask how director personally feels about the way he has been treated by fellow directors, being put in a position that makes it difficult to stay in AYTAG. Ask for personal view of fellow directors and the board and their commitment to the original organisational vision.

Interview Close

Offer congratulations for new job

Thank director. Explain notes will be transcribed and offer to e-mail them for correction/comment

Appendix Two

Using Action Research to develop Multiskilling Professionals in AYTAG

Action research is a cyclical process and during the three years I worked on the multiskilling initiative in AYTAG the process fell into four cycles

Cycle One to build support for the concept of multiskilling

Cycle Two to produce a strategy for implementing multiskilling

Cycle Three to develop a profile of a multiskilled officer

Cycle Four to design and deliver programmes of training

Table Ap2.1 below outlines the action research approach taken firstly to ensure that the concept of multiskilling gained acceptance amongst staff and secondly to develop an acceptable training programme.

Table Ap2.1 The Action Research Approach to Multiskilling Professional staff in AYTAG

Reading and other learning activities to inform action	Action within AYTAG to progress the development of multiskilling
<p>From August 1996 Reading; multiskilling what is it, how does it apply to professional, how is it implemented, examples, corporate plans</p> <p><i>Theory testing - by allowing discussion of the issues a clearer understanding of how multiskilling is perceived will be gained. This will inform future action such as how quickly it can be introduced</i></p> <p><i>interventions to amplify the issues and build support</i></p>	<p>Group work on Introduction programme -multiskilling what are the issues report to management team on issues Chief executive making presentations to staff on the issues and allay fears Clarifying my role in its introduction (to develop the concept and implement training to bring about a multiskilled workforce)</p>
<p>From October 1996 Further reading on implementing multiskilling/change initiatives, organisation behaviour and organisation development, process consultation literature.</p> <p><i>Theory - by involving those who raise the issues in the development of the strategy a way forward can be agreed</i></p>	<p>Cross directorate workshop to begin the process producing a strategy for multiskilling including defining multiskilling, looking at suitable jobs, types of training etc Provisional strategy produced and taken to</p>

<p><i>Interventions to bring about agreement on an overall strategy</i></p>	<p>Regional/Local Offices for development through Regional workshops and environment protection team meetings, discussion with unions Draft strategy agreed with the management team</p>
<p>From June 1997 Further reading on multiskilling, career development Attending workshops/ meetings to learn about accrediting training. Meeting other personnel professionals working in the same field From September 1997</p>	<p>Taking up the suggestion of two divisional managers to focus on environment protection staff, develop a tasks and duties and a skills and knowledge profile for a multiskilled environmental protection officer(EPO)</p>
<p><i>Theory- as managers will not give specific details on their requirement a profile can be developed by those who carry out the work which will be acceptable to managers and staff</i></p>	<p>A further series of workshops, group discussions and questionnaires resulting in the development of the profiles At each of these workshops staff were asked to raise issues and concerns they had. Multiskilling changed to professional diversification</p>
<p><i>interventions to agree detail and a specific way forward</i></p>	<p>The profiles, suggestions for proceeding with the training and dealing with the issues in a report to the corporate management team February 1998. The profile of a multiskilled officer agreed</p>
<p>From March 1998 <i>Theory – using an experienced EPO to help develop the training through discussion with PPC teams will give training credibility</i></p>	<p>Proposal and funding agreed for a senior EPO seconded to the Corporate Training and Development Section to develop the training. Interviews with team leaders and divisional managers to establish actual training needs and to agree content of courses.</p>
<p><i>Interventions to establish specific training requirements</i></p>	<p>Some rural teams restructure to promote multiskilling</p>
<p>From November 1998 <i>Theory – Offering pilot courses with built in evaluation will lead to an approved and popular training programme</i></p>	<p>Tenders issued to external training consultancies for delivery of the training in the different media. Evaluation team set up to evaluate tenders and training Delivery of Pilot courses March 1999</p>
<p><i>Interventions to deliver and evaluate training programme to ensure needs are met</i></p>	<p>Provision of full scale training programme from August 1999</p>

Using Action Research to develop the Management Process in AYTAG

Table Ap2.2 below shows how an action research process was used first to develop management competency statements and then to develop and deliver a suitable training programme

Action research cycles

Cycle one to build a management vocabulary

Cycle two develop management competency statements

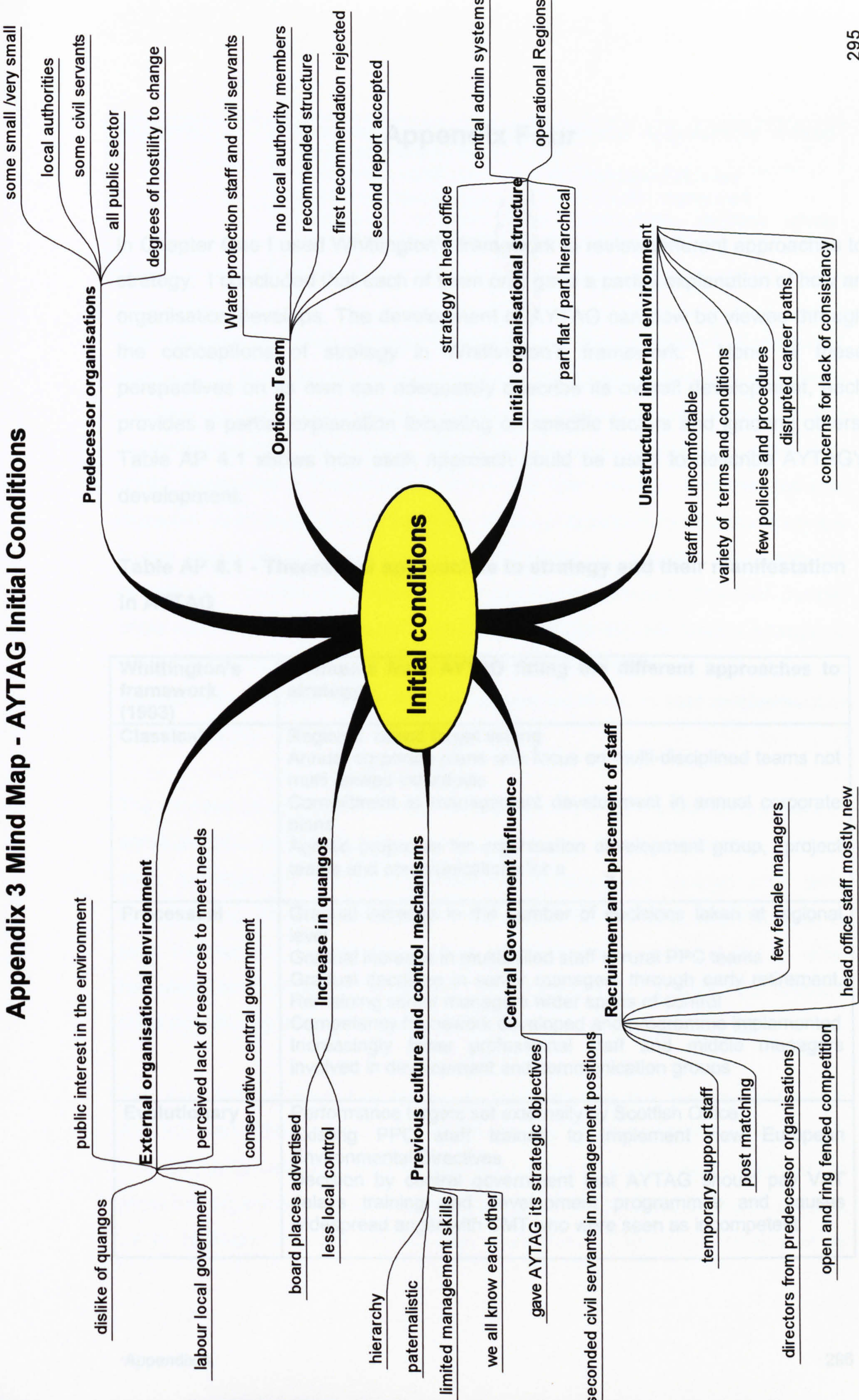
Cycle three design and implement a development programme

Cycle four programme evaluation

Table AP2.2 Action Research Approach to Management Development in AYTAG

Reading and other learning activities to inform action	Action within AYTAG to progress individual manager skills and the management process
<p>From August 1996 Reading Management of change, human effects of organisational mergers, Developing management skills. Reports relating to the setting up of AYTAG</p>	
<p><i>Theory testing – some managers have no experience of management development a short introductory course will help the change process and pave the way for a more detailed programme</i></p> <p><i>Intervention to introduce the vocabulary of management and basic theory and techniques</i></p>	<p>From December 1996 to May 1997 Two day optional course for managers introducing a range of management topics Two day optional devolved budgeting course</p>
<p>From February 1997 Reading Organisation development and human resource development literature, competency based management development</p>	
<p><i>Theory – There must be clarity of what is expected of a AYTAG manager for any development activities to be successful</i></p> <p><i>Interventions to develop agreed manager competency statements</i></p>	<p>Corporate management team meet to agree what they require of their managers Consultants recruited to develop AYTAG manager competency statements Questionnaires issued, returned and analysed by consultants. Workshops with managers to finalise and competency statements Agreement from the CMT to fund a large programme</p>
<p>From December 1997 Reading Management Development Literature, training interventions, personal development planning evaluation techniques</p>	
<p><i>Theory – Development of the programme must model the behaviour changes to be successful</i></p> <p><i>Interventions to design a suitable programme for managers</i></p>	<p>Project board set up to determine the requirements of a management development programme Tender documentation produced and a Management development consultancy appointed to run the programme</p>
<p>From May 1998 <i>Theory - If the consultants work with the CMT and senior managers to design the programme it will be favourably received.</i></p> <p><i>Interventions to agree content of programme</i></p>	<p>Programme consultants have a meeting with CMT and a workshop with senior managers to discuss and agree their requirements and incorporate these in the programme</p>
<p>From September 1998 <i>Theory – In order to show the success of the programme a suitable evaluation strategy has to be in place</i></p> <p><i>Intervention to begin evaluation strategy</i> <i>Interventions to deliver programme</i></p>	<p>Organisation attitude survey conducted – to be re-run on programme completion</p> <p>Managers attend a personal development workshop and 2 x 3 day courses with topic options.</p>
<p>From January 1999 <i>Theory - the interest of the CMT must be maintained to avoid the risk of them becoming disconnected from their managers</i></p> <p><i>Intervention to involve CMT more closely in the programme</i></p>	<p>Consultant hold two feedback meetings with CMT and a development workshop</p>
<p>From July 1999 <i>Interventions to determine the success of the programme and the extent of attitude and behaviour change</i></p>	<p>Organisation attitude survey re-run Management Review Days for all managers attending Further training planned from October 1999</p>

Appendix 3 Mind Map - AYTAG Initial Conditions



Appendix Four

In Chapter One I used Whittington's framework to review different approaches to strategy. I concluded that each of them only gave a partial explanation of how an organisation develops. The development of AYTAG can now be viewed through the conceptions of strategy in Whittington's framework. None of these perspectives on its own can adequately describe its overall development, each provides a partial explanation focussing on specific factors and ignoring others. Table AP 4.1 shows how each approach could be used to describe AYTAG's development.

Table AP 4.1 - Theoretical approaches to strategy and their manifestation in AYTAG

Whittington's framework (1993)	Examples from AYTAG fitting the different approaches to strategy
Classical	Regional based target setting Annual corporate plans with focus on multi-disciplined teams not multi-skilled individuals Commitment to management development in annual corporate plans Agreed proposals for organisation development group, project teams and communications for a
Processual	Gradual increase in the number of decisions taken at regional level Gradual increase in multiskilled staff in rural PPC teams Gradual decrease in senior managers through early retirement. Remaining senior managers wider spans of control Competency framework developed and programme implemented Increasingly fewer professional staff and middle managers involved in development and communication groups
Evolutionary	Performance targets set externally by Scottish Office Existing PPC staff trained to implement new European Environmental Directives Decision by central government that AYTAG should pay VAT delays training and development programmes and causes widespread anger with CMT who were seen as incompetent

Systemic	Managers used to working in smaller organisations disliked centralised finance / HR systems Promotion of traditional career development pathways Paternalistic management styles not overtly challenged Development of authoritarian /paternalistic decision taking processes similar to predecessor organisations
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The classical approach adequately describes AYTAG's method of corporate planning. It is particularly useful for short-term target setting and short term planning to implement incoming legislation once the implications of the legislation became very clear. Major human resource initiatives were only briefly mentioned in the corporate plans with little mention of milestones and expected outcomes. The focus of the classical approach is very much on the formal organisation, the effects of the informal or "shadow side" are not considered. It does not enable us to describe the effects of the 1997 budget crisis such as the considerable lowering of staff morale, the delay it brought to implementing training and research initiatives. Nor does it help us describe the gradual shift in power to the regions and the decrease in staff involvement in decision taking.

The processual approach enables us describe the incremental development of some aspects of AYTAG. These include; human resource initiatives such as skills development, AYTAG's incremental development through short term target setting, the gradual increase in power of the Regions and decrease in staff involvement in decision taking. The focus is very much on what happened and not why it happened. The drawback of this approach is that it does not help us understand why AYTAG developed in the way it did.

The evolutionary approach helps us deal with external factors over which AYTAG had little or no control such as the implementation of European Environmental Directives and the decisions taken by central government not to allow the organisation relief from paying VAT in 1997. This approach enables us to highlight that the organisation must have a great awareness of its

external environment and must place considerable emphasis on it. However it is another approach that does not help explain why the internal characteristics of AYTAG developed in the way that they did.

The systemic approach helps explain how AYTAG could remain within the public sector "way of doing things" as it enables us to focus on what existed prior to the setting up of AYTAG and how this can influence organisational characteristics. It does not help describe initiatives such as management development, greater spans of functional control nor does it help explain why AYTAG dealt with crises in the way that it did.

Content and process theories of strategy all have considerable limitations when it comes to describing how and why an organisation develops strategically in the way that it does. Complexity theory can provide us with a useful alternative enabling us to take a more holistic approach to studying organisations and to include issues often ignored by the more traditional approaches. Table AP4.2 shows how organisational development can be explored more extensively using complexity theory compared to the other strategy theories described in Whittington's (1993) model.

Table AP4.2 - Applying strategy theories to organisation development

Complexity Theory	Applying complexity theory	Applying other strategy theories Classical, processual, evolutionary and systemic
Sensitivity to initial conditions	Acknowledges that what exists in an organisation at an initial point must be explored and used to consider future development. Allows exploration of formal and informal systems	Systemic approach acknowledges internal characteristics which can generate "norms of behaviour" Classical and evolutionary approaches focus on the "formal system" and use tools such as SWAT analysis to look forward without considering what is tacit in the organisation Processual approach could use the initial conditions as the base line for moving forward but tends to concentrate on "formal system"

Dis equilibrium	Organisations should not to think that equilibrium is the norm. Encourages the exploration of situations that are not in equilibrium and how these can be used to help survival Acknowledges that this is continually present in organisation. Accepts that organisation has to work with it continuously	Accept that organisations should work towards maintaining equilibrium Organisations work towards reducing instability
Positive feedback	Acknowledges the importance of positive feedback and that organisations should work with it to move forward	Primarily accept negative feedback models. Many positive feedback processes are found in the "informal organisation" which tends to get ignored or are seen as unhelpful to organisation development.
Emergent order	Accepts that the development of an organisation cannot be predicted long term. Only short-term action can be planned with any accuracy. Organisational characteristics and goals will emerge Can re-unite strategy content and strategy process theories	Classical and evolutionary approaches focus on clear goals to maximise profit. Systemic and processual approaches more pluralistic Theories focus on either strategy content or strategy process. Content and process are usually different from what has been envisaged. The differences are played down or "explained away".

The Application of Complexity Theory to the Strategic Development of an Organisation

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