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TEAMWORK IN MANAGEMENT: COMPANY ORGANISATION AND CLIMATE AND

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THE RESULTS OF TRAINING IN MANAGEMENT SKILLS

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Thesis presented by

Diana Catherine PHEYSEY

for the degree of Doctor of Philosophy of the University of Aston in  
Birmingham

March 1973

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RESULTS OF TRAINING IN MANAGEMENT SKILLS

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Summary of thesis presented by Diana Catherine Pheysey for the degree of Doctor of Philosophy of the University of Aston in Birmingham, March 1973.

A conceptual framework is proposed for understanding the actions of managers in groups in organisations. It provides a basis for synthesising developments from cognitive psychology, social psychology, decision theory and organisation theory; and it reconciles three apparently contradictory views on the transfer of learning, viz: Schein and Bennis (1965), newly learned behaviour must be 'relationally refrozen' (i.e. confirmed by a compatible environment); Moscow (1968), 'most effective change occurs with trainees whose relationship with their boss is only moderately good'; and Festinger (1957), 'a person will try to justify a commitment to the extent that there is information discrepant with that commitment'.

Managers' actions are conceptualised in terms of their contribution to mastering information. Four skills are considered: (1) gathering intelligence about the environment; (2) protecting information that is regarded as vital; (3) reducing information to operating instructions; and (4) co-ordinating information through personal communication.

Seven training programmes were located that taught skills of systematising information and communicating it frankly (the third and fourth skills listed), but no detectable differences in target performance were found between 'trained' and 'untrained' groups. However, the static group comparison design was not really adequate for a proper training evaluation. On the other hand, the proposed conceptual framework proved useful. Relationships consistent with it were found for the 18 groups (132 managers). The criterion behaviour does relate to the resources, structure, and climates of the employing organisations. These are establishments drawn from manufacturing firms with an annual turnover of more than £40 million, and they were then using training for 'maintenance' purposes rather than to inaugurate changes. The lessons of the research for practitioners are outlined. More work needs to be done on the first and second skills above.



TO

John Edward Pheysey, OBE, MC

and

Dorothy Catherine Pheysey

my parents



## P R E F A C E

## SIGNPOSTS FOR THE READER

The text of this thesis is reproduced on white paper, and everything else is on blue paper. This should make it easier to locate the tables, the figures, the footnotes, and the full bibliography. All the appendices are located in the second volume so that they can be consulted concurrently with reading the text. The general list of contents gives only the chapter titles and pages, but there is a detailed list of contents in front of each chapter.

The thesis is divided into three parts: the Research Predicament; the Research Process; and the Research Product. Each part is preceded by a short statement of what is to come (and, for parts two and three, of what has gone before).

Part one, essentially, sets the stage for the research, and it can be safely skipped by the reader who only wants to learn about the research itself, and who is not interested in its context. Part two deals with the concepts, variables, research design, and research instruments. Part three describes the companies and groups, and gives the results and conclusions. A brief resumé of the ten chapters is given below, together with key page references. By sampling these the reader will get some impression of the entire work.

## RESUME

The origins of the research lay in the personal experiences described in Chapter One. These experiences formed the 'because' motivation. The 'in order to' motivation was 'to find some way in which the lives of managers and of workers could become more rewarding' (I.3, page 15, paragraph 2).

Perhaps such lives could be more rewarding if managers were taught how to think more critically, and how to empathise (II.3, page 26, paragraph 2).

If so, there are certain 'package deal' training programmes which seem to be offering to teach these skills. But can managers put their learning into practice at work? Perhaps there has to be a suitable administrative structure, and a climate of opinion that supports the transfer of learning? In this case, the research can be thought of as evaluating the conditions for the transfer of learning from such 'package deal' programmes. This is how it was presented to the Central Training Council (III.3.1, page 35).

I began to read some of the literature on attitude change and behaviour change, and came across three apparently contradictory hypotheses. The following types of association between environmental supportiveness and change were proposed: (1) direct; (2) conditional; and (3) inverse (IV.1.2.1 to 1.2.3, pages 50-51). Perhaps I could collect data to eliminate one or two of these hypotheses?

To examine the hypotheses I had to find what were the conceptually relevant variables, and define them operationally. As independent variables I chose: resources, structure, and climate. They are all listed in Figure V.1 (page 64). Chapter Five is all about them.



It is to a part of 'strategic activity', namely critical thinking and empathising, that training efforts are directed. But critical thinking and empathy can only be inferred, not observed. What observations of performance would indicate their presence? The whole of Chapter Six describes the problems of designing an instrument for the dependent variable. I called the questionnaire 'Managers' Activities and Methods of Working' - or MAM. The pilot studies for this are described in VI.4 (pages 109-124).

During the pilot studies I was also seeking to ground the three hypotheses in a richer conceptual framework. The initial ideas were introduced in Chapter Four and extended in Chapter Five. In Chapter Seven they come to maturity. Figure VII.2 (page 147) is the key to the whole framework. Managers' activities are thought to be linked to an information processing cycle, of elaboration followed by reduction, and to information processing which aims: (1) to increase the extensiveness or the intensity of information; (2) to guard vital information, and to exchange dispensible information; and (3) to discern long-term trends, and to reduce information to short-term programmes. Figure VII.3 (page 153) shows how these activities are thought to be linked with the administrative structures and the climates of organisations.

Chapter Eight explains how the evaluation design proposed in Figure V.5 (page 93) had to be modified in the light of the research openings that actually presented themselves. The revised design is shown in Figure VIII.1 (page 193). Chapter Eight also describes the co-operating companies and groups.

The results, presented in Chapter Nine, indicate that company resources, structure and climate are all associated with managers' activities and methods of working in ways that are consistent with the ideas put forward in Chapter Seven (IX.5, pages 225-226). There were, however, no differences between groups where 46 per cent or more of the members had received the focal training and groups where fewer than 35 per cent had received the focal training. The dependent variable, MAM, was, however, limited to activities favoured by bureaucracies (see IX.1 page 198, and X.4.5, page 271-272).

In Chapter Ten I conclude, from qualitative evidence obtained in another 25 companies, that training is much more likely to be used for strengthening the status quo than for bringing change. In other words, these package programmes are just another form of intensive, short-term, information processing (X.1.5, page 237). In this last chapter I concentrate on the effects which the research has had on the development of my own thinking, and I try to indicate what other support there is for the conceptual framework (X.4.2, pages 264-269). The thesis ends where it began, in the problems of practitioners (X.5, pages 272-277).

#### ACKNOWLEDGMENTS

I want to acknowledge my debt to a great many people. I mention them in a roughly chronological sequence. Eric Elworthy testified that I would make a useful addition to a research team when I was in doubt about this. With him I shared the six experiences in which the conceptual framework originated. He taught me more than he will ever know. Derek Pugh responded to my plea to be allowed to join the IARU at Aston, and he has shown



me unfailing kindness ever since. My indebtedness to Derek is very great. Léon Sauvée was a helpmate until his death in 1969, and he is still around when needed. All present and former colleagues in the IARU have contributed, but especially Roy Payne, my co-worker for two years, Colin Fletcher who led the way, and Bob Hinings who relieved me of all the impediments to writing. Without this relief there would have been no thesis, and my long-deferred hope would never have materialised. If Bob had not returned to Aston, everyone else's contribution would have been in vain. Ian Gibson helped me to obtain financial support and held a watching brief for the first two and a half years of the project. Alec Martin and his colleagues at the Department of Employment were always very helpful and the CTC Research Committee took the trouble to study each six-monthly report.

The following have also encouraged me by their interest, and by sparing time to discuss aspects of the research: John Morris, Gordon Hilton, David Sutton, Wally Hill, Bill Glueck, Paul Golder, John Fairhead, David Hickson, and John Barnsley. Ruth Montague has been a staunch ally. The loyal help I received from Pat Clark and Ruth Goodkin has been invaluable. Ruth, especially, has borne uncomplainingly the burden of designing the format, typing, and processing the finished product.

The University of Aston Library, in the persons of Mrs Moore, and latterly of Mrs Vincent, has provided a much appreciated personal current awareness service. The Association of Teachers of Management has been a tremendous resource. Through it I have made research contacts and have had the chance to sound out ideas. May it continue to grow in strength!

Confidentiality prevents my mentioning the companies by name. Without them the research could not have gone forward. To them, and to all the managers, students, trainers, and teachers who answered my questions and volunteered their comments, I offer my grateful thanks. There are others, such as my 'butties' from the carpet firm described in Chapter One, who should also be mentioned. One of them has been my friend for twentythree years now. They, and other nameless ones, will know that they are not forgotten.

#### AN APOLOGY

If there is merit in this thesis I owe it to all these people. Its defects are my responsibility. I must apologise that in many places I use the editorial 'we' instead of the first person singular. This is because of a dual purpose, which I hope the reader will excuse. A large part of this work must also serve as the basis for my report to my sponsors.



T E A M W O R K    I N    M A N A G E M E N T  
 COMPANY ORGANISATION AND CLIMATE AND THE RESULTS OF TRAINING  
 IN MANAGEMENT SKILLS

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## PART ONE

### THE RESEARCH PREDICAMENT

PART ONE of this dissertation deals with three aspects of the research predicament:

1. The choice of what problem to work on
2. How to cope with phenomena for which there is no theory  
and
3. The context of the research with the differing expectations of the various parties involved

Part One: THE RESEARCH PREDICAMENT

CHAPTER ONE

CHOICE OF PROBLEM: WHY TEAMWORK IN MANAGEMENT?

1. RESEARCH CHOICES AND LIFE CHOICES
2. THE GENESIS OF THE RESEARCH PROJECT
  - 2.1 Early experiences with structure, climate and managers
  - 2.2 First industrial employment
    - 2.2.1 The firm's presentation of itself
    - 2.2.2 The physical environment
    - 2.2.3 The work tasks
    - 2.2.4 The trade union
    - 2.2.5 A shop floor view of management performance
    - 2.2.6 Management's own performance criteria
3. CHOICE OF PROBLEM: WHY TEAMWORK IN MANAGEMENT?

## CHAPTER ONE

CHOICE OF PROBLEM: WHY TEAMWORK IN MANAGEMENT?

Here am I, here are you:  
But what does it mean?  
What are we going to do?

W H Auden

## 1. RESEARCH CHOICES AND LIFE CHOICES

The question of what is worth doing confronts the researcher, and it cannot be answered lightly. It is part of the wider choice of what to do with one's life. Dealing with this phenomenon of choice, Schutz (1970) distinguishes between 'because' motivation - anchored in past experiences and 'in order to' motivation which 'transforms the inner fancying into a performance or action gearing into the outer world'.

There are those who would argue that the course of a person's life has a certain inevitability<sup>1</sup> because of his genetic inheritance, the circumstances of his birth and upbringing, and so on. The 'in order to' motivation on such a view becomes an illusion. We ourselves hold that genetics and upbringing set limits to what is 'thinkable' for a given person (much as, for example, blindness from birth prevents a person so handicapped from pictorial dreaming, though not from dreams incorporating sounds and smells)<sup>2</sup>. We do not, however, believe that circumstances cancel all alternatives save one; and wherever at least two alternatives exist, the possibility of choice exists also.



At the pragmatic level it has generally been the multiplicity of alternatives, rather than their scarcity, which has exercised decision theorists and operational researchers. It is the definition of the situation which is important. We shall be arguing later that the way managers think about their environment affects the way they choose to act upon it. Similarly, the way we came to think about our research problem has affected the subsequent course of our research.

In the present chapter we shall look back over the antecedents of the research to trace some of the 'because' motives which appear, in retrospect, to have been operative. We shall also deal with the 'in order to' motives by describing why we thought the research was worth doing in terms of our anticipation of events. We ask indulgence from the reader for this introduction of an autobiographical element. It is done because we believe that the subjectivity of research should be acknowledged. Subjectivity which is known can be allowed for. Concealed subjectivity is another matter.

## 2. THE GENESIS OF THE RESEARCH PROJECT

The key concepts of the research - organisation, climate, and management skills - have been in mind for a comparatively short time, perhaps ten years at most. But the experiencing of organisation structure, organisation climate and management skills as unarticulated interests dates back to childhood.

### 2.1 Early experiences with structure, climate and managers

The first research study I ever undertook was at school. The National Council of Social Service recruited my class as interviewers for a project on leisure opportunities. The work of

surveying the town's facilities was divided among us. My own task was to interview all three of the town's cinema managers. All had the same job title, but otherwise they seemed to have nothing in common. One was a huge greasy man in his shirt sleeves who seemed to fill his tiny, stuffy, box-room of an office. One was dressed impeccably and spoke with an Oxford accent. His office was well appointed if not positively luxurious. The third was a suspicious little man who was interviewed through a grill in the booking kiosk. He didn't seem to have an office at all. To judge by their behaviour, I was seen by the first man as a kid to be humoured, by the second as a potential customer and publicity asset, and by the third as the hired agent of some busybodies. This was my first introduction to the complexities of management environments and to the different ways in which people perceive a research situation.

## 2.2 First industrial employment

The 'because' motive for my current research was much strengthened by my experience of management as seen from below. Although not trained in 'participant observation', I kept a diary of my experiences over six months. Excerpts from this document will be used as illustrations of the organisation, its climate, and its management. I doubt if any of the managers there had had any formal training for their jobs and all were promoted from within. The question which the current research would pose about them is 'would they have behaved any differently if they had had training?'



### 2.2.1 The firm's presentation of itself

The best introduction to the firm (which traced its origins back to 1700) would be for the reader to imagine himself in the works canteen at a showing of the film which the company had just made for advertising purposes. The year is 1950. This is a special preview for some of the 1,800 employees on the site. The film is in technicolour, and is introduced by the managing director from his study (audience comments 'Oh, isn't he nice!'). Next there are some shots of the Worcestershire countryside with fields where sheep are grazing, and now the camera shows the exterior of the factory as seen from the hill where the hospital stands. We look across the factory buildings first towards the parish church and then towards the gasometer and the chimneys of other factories. Each stage in carpet production is shown, from the designer's office, and the preliminary carding and treatment of the wool; to the spinning, dyeing, drying and winding processes and the 'setting' tables in the preparatory department. One thousand five hundred colour shades are used. In the carding room we see all the different types of looms which weave the Wilton, Axminster, Cardax and Almeda carpets. There is a new loom which will weave two carpets at once. Now comes the turn of the finishing department (from which this audience is drawn). We hear the voice of the film commentator, 'It is due to the skill of the worker throughout the previous stages that there are so few faults when the carpets reach the finishing room' (cries of 'Oooh' from the audience), 'but the skill of these girls can prolong the life of a carpet. A bad finish mend ruins it. If necessary it is possible to put in missing tufts by hand'. The film does not show the 'pickers' sewing

in long lines of missing tufts. It would be bad for business. It shows the 'passers' feeling over the surface, and it shows bindings and fringes being machined on. The half-hour is nearly over, so we are not shown how the packers do their job. The film ends with a shot of bales of carpets ready packed, and stacked in rows with their export destinations written on the packaging. The audience files out chattering, 'Did you see the big back and the little back pushing a truck? That was me and my butty'.

### 2.2.2 The physical environment

There was very little machinery in the finishing department - only a huge set of steam rollers (to bring up the pile) right in the middle of the shop, and a set of shearers for trimming, and sewing machines for bindings. The department office was half-way down the shop, and to one side of it was the 'pickers' section and to the other side the 'passers'. The foreman, forewoman, and departmental manager all used the departmental office. The works manager had an office in the administration block away from the factory.

On my first day at work the gate-man indicated the way to the department office where I waited with two other newcomers. Eventually the foreman emerged from within with needles and scissors and beckoned to us to follow. My first task was to help another girl to iron labels onto carpets. They were self-adhesive labels and the iron had to be a certain temperature. Although electric, it had no thermostat. It was connected to a light socket about five feet above our heads, and every time the iron got too hot we had to climb onto the table, and then onto a box in order to disconnect it!

It was a hot day in late September, and we were grateful when the swing doors at the bottom of the shed were left open. The heat was most oppressive when the sun beat down on the glass roof. They said it was almost unbearable in summer and they prayed for each day to end. The air was heavy with steam from the pressing machines, and with the smell of wool, ether (used for cleaning) and fish glue. (You can tell a genuine finisher by the smell of her clothes!). Standing all day made it worse. There was no seating, but it would be hard to work sitting down, as most jobs required that the carpets be moved continuously across the big work tables by pairs of operators. There were no mechanical handling devices, only a trolley with rods at the sides, which the men used to move the large rolls of carpet which were joined end to end. Rugs and smaller carpets (up to 3 metres by 4 metres) were all carried by the girls. In one section of the department there was a 'conveyor', but a stationary one, consisting of metal rollers along which carpets could be slid. When it was rumoured that the factory inspector was about, the roof windows were opened by a man with a long heavy pole. The building resembled a hangar and there were no windows in the walls.

### 2.2.3 The work tasks

All the instruction that any of us received was from workmates. This meant that bad habits were picked up as well as good ones. Much damage was caused by such unskilled beginners at picking or passing as we were. Everyone of the 1,500 colours used in the carpets was coded so that it could be ordered from the wool stores. It was, however, months before I found out that the number on the 'talons' (work docket) supplied with each carpet were to identify



the colours, pattern, loom and size. Even with this information, one would find that colours brought from the stores, or even from the loom bobbins direct, did not always tone perfectly with those used in the carpet itself, and an expedient of 'chalking down' was occasionally resorted to to disguise the sewing-in by a finisher.

Each type of weave required a different form of sewing-in, so it was best if the pickers could have a long run on the same type of carpet. Passers were supposed mainly to be looking for faults, and if they found anything substantial they were supposed to 'show it up' by a loop of string. It was then a matter for argument between the forewoman and the foreman as to which section - pickers or passers should be obliged to rectify. There were as many things to look for on the backs of carpets as on the front - thick jutes, thin jutes, too much size, too little size (stiffener used in cheap carpets), chain missing, or slack, or knotted (chain was a white string which ran at right angles to the jutes) and so on. There was, in our opinion enormous scope for operator training in fault analysing and repair. The foreman's advice, when asked for, was often incorrect. His skill seemed to consist of allocating work without offending people, and in smoothing over arguments when they arose. The carpet inspector was a technical specialist who was not under the authority of the department manager. The foreman resented the fact that part of his former duties had been taken away and given to a man who had been promoted from a manual job. He was in his element when the carpet inspector was off sick. The deputy inspector seemed to know less about carpets than the workers did. The women would say 'We ask him and then we do what we think'.

#### 2.2.4 The trade union

The trade union was very active in taking up grievances and in looking after the interest of workers. The local branch of the Power Loom Operatives and Other Textile Workers Association had members from other factories in the town and it met after working hours off the premises, but we received notification of meetings and of the business to be conducted. After I had had one week's sickness absence it was the steward who was the first to welcome me back with 'You'll be wanting your sick pay, luv?'. The money, far more than the sum of all my weekly payments, was in my hands within hours. The subscription was 7½p per week but this was out of a wage of less than £3.00.

Our steward was a very energetic grandmother - 69 years old. She was a match for the departmental manager, who according to the girls 'got his job because he's good at talking folks out of things'. In matters affecting pay and conditions for the whole department the works manager was involved. One day he called the whole finishing department to the canteen in the afternoon, where he addressed us. He proposed putting the pickers onto a piecework rate. He spoke of the world situation and of the need of the firm to secure imports of raw materials and to get priority in securing these supplies they had to be big exporters of finished goods. He wanted more and better production - both quantity and quality, but was very diplomatic about it. He said there would be 'floating' pickers, to help tables which had very bad carpets. Everything was to be done democratically through union agreement, and anyone could send in (unsigned or signed) written questions, if not satisfied with his explanations

of the firm's proposals. There would be another meeting later at which progress could be reported and matters thrashed out again.

The union had strict apprenticeship rules for creelers who had to serve five years and be 21 years of age before they could be weavers. There was in this post-war period, a shortage of skilled weavers, and it was said in the finishing department that this was the reason why weavers could turn out bad work with impunity. How true this was, I cannot say, but a revision was made in the payment scheme for pickers to allow for the variable quality of work from the weaving shed. Work was to be graded by machine (how, we did not know) according to whether it came from good, indifferent, or bad looms, and pay rates were to be adjusted according to the grade marked on the talons (dockets) with the carpets.

#### 2.2.5 A shop floor view of management performance

That the firm was bothered about quality is evidenced by the fact that they introduced a glass-topped table lit from underneath by fluorescent lighting. Two of us (work was done in pairs throughout the department) were assigned to this table to make special examinations. One day there was quite a to-do over a couple of carpets which had been sent all the way back from Sweden because of faults. We were asked to find them. One carpet had two very tiny holes and the other did not have any tufts missing but had been marked in Denmark for 'faulty sewing in'. Three senior executives came to our table. One said, 'Swedish customers expect perfection now, as their new purchase tax puts the price up very high'.



Another illustration on the same theme will also show that the works manager was not aware of the fact that his subordinate, the departmental manager, had been using the lighted table for purposes other than those intended. The works manager stopped at our table with a guest. 'Yes', he said, 'the lights show up everything-if even a threeshot gets to a customer they write saying they've got a hole the size of a half-crown'. 'I know - a ten pounds loss', sympathised his guest. The works manager glanced at some of our sewing in. 'You're not supposed to be repairing', he said to us, 'it must go back to the table if it's bad.' We said nothing. It had come to us direct from a loom, and we knew that he would be very annoyed if he found out that the departmental manager was using us as temporary pickers.

The structure of the firm was the conventional pyramid, and the works manager was usually the most senior person seen on the shop floor. Workers were not supposed to address any member of management except the foreman. This was especially enforced with regard to staff personnel other than the welfare officer. The electricians were experimenting with the hot air vents one day and their chief came into the department. A union representative asked<sup>us</sup> to see if we could get the heat turned off. Presently cool air came from the vents and the union representative came over to us to warn us not to mention the incident to the foreman.

The foreman, who was known by his Christian name, was quite popular. He had managed women for 30 years, but confided to us once that he still could not tell 'which way they'll jump'. He said, 'They ask for a thing, and then don't like it when they've got it. Some have to be asked to do things. Others have to be told.' He had a number of what he regarded as problem workers.

The flow of work was extremely uneven, overtime (which was paid higher than normal hours) was worked on Saturdays but this often meant that there was little to do on Mondays. There were times of very heavy pressure, and at other<sup>times</sup> work was slack. Here is an account of the speculation in the shop about a complete cessation in the flow of work. 'Some said the pickers were going slow because they were annoyed about an incident yesterday. Some said that they were trying to fix a higher piece rate (because, since passing was separated from picking, the pickers have lost the  $\frac{1}{2}$ p a metre they used to get for passing). Others said the hold-up was not in our department but that the factory was preparing to stop certain work and go onto munitions. Others said that orders had fallen off steeply because of the rise in the cost of wool. The foreman came up and said it was the fault of the chemists who were holding up production for experiments with dyes.' It seemed strange that our foreman seemed to have had no advance warning of activities by the chemists which affected the operations of his own department so adversely.

People were moved about a great deal and consequently you got to know a number of workmates very well. There were numerous social rituals to enliven the day, and the firm was very considerate about the personal difficulties of employees, allowing variations in starting or finishing times and so on. Nevertheless, the unpredictability of the flow of work encouraged restrictive practices designed to ensure one had a regular minimum wage. The work itself was tedious and one sometimes felt that a carpet looked no better for one's efforts than it did before. Worse, it seemed to this worker at least that much of the work was unnecessary, if



only the earlier stage of manufacture could be improved. From the shop-floor the firm seemed, in terms of our current research terminology, to have a climate of low control and also of low development.

#### 2.2.6 Management's own performance criteria

From management's point of view the firm was a highly progressive enterprise. The local paper brought out a four-page supplement eight years later which was devoted entirely to the firm's activities and exploits over the years. They spent over a million pounds on development between 1945 and 1960. In 1946 they had had to divert three branches of the river (which flowed through the site) into a single channel so that the production plant could be laid out on flow lines. They opened show rooms in other parts of the country. They were the first to offer retailers a 24 hour 'by return' cut-length delivery service of certain broadloom carpets. They expanded their contract business, and they exported all over the world, including the new African states and the USSR. 'The company has always been far-seeing' said the paper above a picture of the board of directors. But who should be the judges of those who manage, and what standards should they use?

### 3. CHOICE OF PROBLEM: WHY TEAMWORK IN MANAGEMENT?

This firm has been described at some length because it caused me, 22 years ago, to redirect my career plans from social work into management, for it seemed that industry was 'where the action is'. Surely there could be some better ways of making carpets, or cars, or chocolates, or whatever else. There are, of course, those who would cry 'exploitation' on hearing such sentiments. My feeling

was that workers' abilities were being frustrated, that work was unnecessarily tedious and unpleasant, that wages were low and that there was no leisure at all. I rose each day at 5.00 a.m. in order to be at work by 7.30 a.m., and I was not home before 7.00 p.m. I was too tired to read anything more demanding than Reville or Titbits. Couldn't our managers so capitalise on all their assets, human as well as physical, that everyone could have more hours to call his own, and more energy left in which to enjoy those hours? What kind of structure must managers create? And what kind of climate? And what skills do they need to do this?

The intervening years in management and management teaching have not really altered the 'because' and 'in order to' motives which have been described above. The answer to the question, 'Why management?' as a research problem is 'because my experiences led me in this direction', and 'in order to find some way in which the lives of managers and of workers could become more rewarding'. The 'teamwork' in the title reflects another bias. It seemed to make no sense that what one worker did should be undone by another (in my first employment work was actually unpicked); or that one person's instructions should be countermanded by another's (a frequent occurrence). Teamwork implies building something together, and 'The man who has builded during the day would return to his hearth at nightfall to be blessed with the gift of silence, and doze before he sleeps' (Eliot)<sup>3</sup>. From these high ideals we have had to step down to the practicalities of what could actually be done in researching teamwork in management. In our next chapter we consider first the problems of giving content to the ideal of 'managing better'.

FOOTNOTES

1. See for example, B F Skinner (1959), Cumulative Record, New York: Appleton Century Crofts, who says that a scientific theory of human behaviour 'must abolish the conception of the individual as a doer, as an originator of action' (p.236).
  
2. A listener to the BBC programme 'Whatever you think' telephoned the studio to describe her dreams. She had been born blind, and she was answering a point raised in the programme.
  
3. T S Eliot, 'The Rock', Chorus V, from Collected Poems 1909-1935, published by Faber and Faber.



Part One: THE RESEARCH PREDICAMENT

CHAPTER TWO

PHENOMENA FOR WHICH THERE IS NO THEORY: MANAGERS' SKILLS

1. DEFINITION OF GOOD MANAGEMENT
  - 1.1 Efficiency
  - 1.2 Worker satisfaction
  - 1.3 Commercial pre-eminence
  - 1.4 Survival and growth
2. WHO ARE THE MANAGERS?
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3. BEHAVIOUR, ACTIONS, OR SKILLS?
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## CHAPTER TWO

PHENOMENA FOR WHICH THERE IS NO THEORY: MANAGERS' SKILLS

Work out your own salvation

Saint Paul

It was only after I started my apprenticeship in research that I began to think explicitly about such concepts as 'structure', 'climate' and 'skill'. When I was employed in production management my problem was how to manager 'better'. As a management teacher the problem is how to enable managers to learn 'better' ways of managing. These problems were the precursors of the research.

In the previous chapter we described how we came to focus upon managers rather than upon some other occupation. All research is, however, value-laden not only in its choice of subject but also in the theoretical perspective adopted in all prior and subsequent choices. Values, according to Rescher (1969) are 'invariable instrumentalities for reasoning about alternatives', and the research is constantly faced with alternatives. When we speak about 'managing better' we are obliged to invoke values. We shall examine a selection in the paragraphs which follow. We end with a provisional definition of 'managing better' in terms of skill.

## 1. DEFINITIONS OF GOOD MANAGEMENT

### 1.1 Efficiency

One definition of managing better would be to increase productivity. If one can produce the same output for less expenditure of effort, then one is being more efficient. The rational-empirical

tradition from Frederick W Taylor (1856-1917) to modern management scientists, psychometricians and communication media experts, offers a variety of techniques for increasing the return for a given expenditure. Efficiency is, however, only an instrumental value. It is usually associated with 'enlightened self interest', and with the division of labour. But, as Emery and Trist (1960) point out, even in a single organisation, sub-optimising of the parts may be needed for the interest of the whole. Sacrifices of self interest have to be made. Better plant layout, better materials handling, elimination of unnecessary drudgery through method study and ergonomics, diminished fluctuations in work load through improved stock control and production scheduling - all these bring double-edged advantages. The requirements of simplicity and predictability run counter to the desire of the individual person to go about his work in his own way, at his own pace and at times of his own choosing. Many of the incentive schemes designed to reconcile people to predictable system requirements have been counter productive from an efficiency point of view. Workers' energy has been channelled into beating the system, as is well documented in, for example, the study by Klein (1964) of Multiproducts Ltd., and in Lupton's (1963) work. In the hope that the needs of economic man and of social and complex man (Schein, 1965) can somehow be harmonised, what is rather grandly called 'applied social science' is now being enlisted to promote 'job enrichment' and 'autonomous work groups'. Experiments in flexible working hours are also being tried. The predominant management goal is nevertheless that of efficiency to achieve increased profitability for the firm. This profitability, it is argued, also contributes to the gross national product and hence to



the national interest, but such a simple equation is challenged in many quarters.<sup>1</sup>

### 1.2 Worker satisfaction

Managing 'better', from the Hawthorne experiments onwards, has included the idea of providing the kind of conditions which meet people's social needs. The firm with low absenteeism, low labour turnover, low grievance rates, and no work stoppages from strike action is sometimes held up as a model. Dissident voices attack this view for its paternalism or for producing 'The Organization Man',<sup>2</sup> or they suggest that one should not seek to make work a central life interest. Dubin (1972) for example, asserts that, 'the affective detachment of men from work could be highly functional to their total life as citizens representing a social system in which man's capacities, enjoyments, rewards and interests for the first time in human history will be focused on non-productive activities'.

Miller and Rice (1967), from a functional systems perspective, point out an unintended consequence of promoting solidarity in the primary task group. When task boundaries and (what they call) 'sentient boundaries' coincide, a strong vested interest is created in maintaining the status quo. Changes will be difficult to introduce. Miller and Rice think that temporary systems may be the prototype for organisations of the future, and they therefore believe that management will have to get round the problem of small group vested interests by encouraging more diffuse loyalties to some secondary grouping. The problem is to determine how this may be done.

Two areas of disagreement about worker satisfaction are

therefore apparent: the first is whether it is socially desirable (the good might be the enemy of the best); and the other is whether it is commercially desirable (does it enable a business to be more competitive, and, if not, should the commercial interest be paramount?<sup>3</sup>).

### 1.3 Commercial pre-eminence

Better managing can also be described in political terms. The value here is power and influence. Technical, financial, commercial, productive, and other resources (including expertise) are exploited to this end. Internally the power of the dominant coalition is maintained through calculated disbursement of rewards and penalties. Externally the strategy is to pre-empt the choices of rivals. Karpik (1972) lists forms of action which are available under 'technological capitalism'. Shifting alliances may be formed against a background of win-lose competition or precarious hegemony. Jay (1970) in 'Management and Machievelli' has a more humorous treatment of this subject. Blattner (no date) brings together economic, political and sociological thinking in his discussion of power in international firms.

### 1.4 Survival and growth

Commercial pre-eminence may be one road to ensure survival and growth. It is not, however, the prime orientation of those who think of firms as open systems adapting to and integrating with their environment. These writers prefer a form of functional analysis to identify the characteristics of organisations which can adapt themselves: (1) to the needs of their own members (see



the writings of Argyris, 1957-1972; of Clark and Krone, 1972; and of Golembiewski, 1968); and (2) to the environment (see Lawrence and Lorsch, 1969; and Burns and Stalker, 1968).

Does 'managing' then entail, as a minimum, ensuring the survival of the enterprise, and is survival the basic need to which managers should direct their attention? Silverman (1968) criticising the natural system model of organisations, says, 'If the only test of whether a need is "real" is if the system cannot "survive" without meeting it, then what do we mean by "survival"? How are we to judge whether the system has "died" or merely changed?' He continues, 'We must recognise that the "system" itself is not a "given" but is relative to a particular balance of interests'. Considerable changes are taking place in the ownership of business. Have the managers of a firm which acquires a major interest in another firm managed 'better' than the managers who have sold out? There is evidence to suggest that the new system is sometimes no more efficient than the old.<sup>4</sup>

## 2. WHO ARE THE MANAGERS?

### 2.1 Top dogs and others

We have been speaking so far as though managers were 'top dogs', who, at enterprise level at least, constitute a discrete cadre charged with responsibility for setting and meeting enterprise objectives. We have also outlined four values which are pertinent for such managers: efficiency, worker satisfaction, commercial pre-eminence, and survival and growth, and we have raised some questions about these values. We have, however, neglected the fact that the word 'manager' covers many persons who are not top dogs. Sometimes

it is used to include virtually anyone who is not classified as a 'worker' or as 'clerical staff'. Managers differ by status, by number of subordinates, by functional responsibility, by size of establishment, type of industry, and so on, but there is one thing which this amorphous collection of persons has in common - a manager's work can seldom be done in isolation.<sup>5</sup> We shall turn therefore to see what we can learn about 'managing better' from the writings about small groups.

## 2.2 Members of groups

Dwight Sanderson (1938), over thirty years ago, outlined five areas for an adequate description of a group. These are: (1) identity - what limits the group or sets it apart; (2) composition - who belongs; (3) intergroup relations - whether the group is independent of or controlled from without; (4) intra-group relations - forms of interaction among members; and (5) structure and mechanism. Under the last heading he includes 'Leader, type and origin (how selected and if from group)'.

It is, therefore, somewhat surprising that much of the subsequent work on small groups has concentrated on only one or two of these five areas, and has not made explicit what effect the neglected areas might have had on the studies concerned.

One focus of attention has been on devising tasks to find out when groups are superior in performance to persons working alone. Cohen (1969) has an excellent review of this literature. What has yet to be demonstrated is how short-term experimental tasks carried out by temporary groups in controlled conditions can be generalised to the kind of tasks and conditions which managers deal with in

their daily work. Cohen's book does attempt to bridge this gap conceptually, but only in terms of the structural similarities of ongoing and experimental groups.

### 2.3 Leaders

Another favourite topic in small group research is leadership. Bowers and Seashore (1966) have a useful chart of the correspondence of various leadership concepts, and a concise and clear review of the studies of leadership is given by House et al. (1971). They reveal that much inconclusive work has attempted to show how far initiation (emphasis on work to be done) and consideration (support for subordinates) affect performance and satisfaction. Many of the work groups have been experimental ones. Field research groups have been mainly of blue collar workers. Also, the emphasis has been from leader to worker, and not in the reverse direction. A report by Crowe et al. (1972) of an experimental study of the effect subordinates have on leaders is an exception to the rule. Vroom and Mann (1960) have also written about how subordinates influence leadership style.

Management teachers have done much to popularise notions concerning leadership styles, contingency theories, and the like. Whether this helps managers to manage better is an open question. What we can say from our study of the small group literature is that we are now more clear about the nature of the problem we have posed. If we allow the parties concerned to define what values they hold,<sup>6</sup> then 'what is it that managers do in their multifarious interactions (as subordinates, as colleagues, as superiors) which contributes to the furtherance of their values?'



### 3. BEHAVIOUR, ACTIONS, OR SKILLS?

The actions and behaviour of individual persons are the elementary subject matter of the social sciences. Braybrooke (1970) would have us use the term 'behaviour' when we are interested primarily in reinforcements and responses (Skinner's, 1971, viewpoint), and 'action' when we are interested in motives and meanings (as Schutz, 1970, is for example). A behaviour investigation would ask 'how the repertoire of actions and policies exhibited' by managers evolved in adaptation to the environment. An action investigation would see managers as purposeful agents operating together with other managers 'in a context of rules for doing business'.

One should be able to adopt both perspectives. As a result of having been involved in sensori-motor process analysis for operator training, it occurred to me that managing could also be thought of as a skill. A skill is both instrumental action and conditioned behaviour. Managing is not, in fact, a single skill, but rather a set of skills, comparable to those of teaching and of medical practice. The possession of a skill means that the skilled person's senses, mind, and muscles are attuned to a certain range of phenomena. 'Man has been variously described as a symbolizer, abstracter, culture creator, time-binder, and communicator' (Barnlund, 1970). The ability to be all of these things is present in everyone. The ability is exercised with 'ease, rapidity, and precision' when managers, doctors, teachers, and lawyers, for example, are performing skilfully. Only a small fraction of such performances is, however, accessible to direct observation, namely the overt muscular activity. Other elements

in these skills have, nevertheless, been subjected to study. For example, the brain is a black box whose neurological functioning has been modelled by Newell, et al. (1960) and by others. It is only partially understood. Particularly obscure is the connection between the viscera and cognition. The viscera presumably affect the tonic background activity in the brain, and arousal theory holds that when activation is unduly low the system will be inert and signals are likely to be lost. With very high levels of arousal the system will be over reactive, action will be confused, and capacity will be insufficient for high level judgments. Welford (1968) summarises the findings of research in this area in the statement that 'a moderate level of arousal is conducive to the best performance'.

The layman would probably believe that arousal of feeling plays a large part in the ability to empathise, and empathy has been cited by Natale (1972) as an important element in the skills of which we are speaking. In 'An Experiment in Empathy' he claims, however, that the ability to think critically is a precondition for empathy. He ran two experimental literature courses, one of them designed to stimulate critical thinking and the other a control. He was able to improve scores on several independent indices of empathy in the critical thinking class.<sup>7</sup> If the ability to empathise is indeed a component skill of managing, and if Natale is right in his assertion about critical thinking, then the sort of programme he runs could help managers to 'manage better'. In skill terms one possible answer to the question we put at the end of the section on leadership could be, 'managers empathise and think critically in their multifarious interactions as colleagues,



subordinates, and superiors'. If this is so, then 'managing better' could mean 'empathising more and thinking more critically'. We propose to accept this definition provisionally as a basis for further thought.

#### 4. WHAT KIND OF A THEORY IS NEEDED?

'No science deals with its objects of study in their full concreteness. It selects certain of their properties and attempts to establish relations among them ..... But in the social sciences the singling out of relevant properties is in itself a major problem.' This quotation from Lazarsfeld (1958) illustrates one of the consequences of the absence of any single well developed theory in the field we wish to investigate. Since managers do not form a discrete class either in society, or even in many firms, we are not trying to formulate a theory of managerial action or a theory of managerial behaviour. Those things which all managers do will be things which non-managers also do, and many of the things which some managers do will not be done by all managers.

'Managing better' implies, at the least, a change in the status quo ante, even if it is only that managers empathise more and think more critically. It implies, further, that, on at least one normative criterion, the subsequent state is superior to its predecessors. The problem of prescription is dealt with again in the next chapter. Meanwhile we will settle for a descriptive theory about persons in groups in organisations which will tell us the conditions under which such persons will substitute a new way of doing things for their present way of doing things. (We



want to try out this theory on managers in formally designated groups in business firms, and we believe that concepts such as structure and climate are relevant.)

There are many such 'theories' to choose from. The problem is which one. A structural functionalist theory would hypothesise that a change would be made if the system 'required' it in order to adapt to changed circumstances. An interactionist theory would hypothesise that a change would be made if the actors revised their definition of the situation. Role theory would hypothesise that a change would be made in response to new demands from significant others. Balance theories would hypothesise that change would be made if the current position was incongruent or asymmetrical. Cultural diffusion theories would hypothesise that change would occur if the new way was compatible with existing ways. Learning theory would direct our attention to motivation and reinforcement. Group dynamic theories would hypothesise that change would be made if the source of pressure for change lay within the group. There is virtually no end to the list of possible hypotheses and variables. Many of these could be subsumed under a higher order theory if this existed. It does not exist. In the absence of theory - work out your own salvation, Denzin (1970) refers to five levels of what he calls 'theory work'. These are: '(1) ad hoc classificatory systems; (2) categorical systems or taxonomies; (3) conceptual frameworks; (4) theoretical systems; and (5) empirical-theoretical systems'. He adds that 'much of what now passes as theory in sociology are conceptual frameworks that systematically direct empirical and theoretical activity around a core set of problems'. All the so-called theories referred to in the previous paragraphs are really no more than conceptual frameworks, in our opinion.

Nevertheless, we agree with Denzin that 'because of this directive function, the conceptual framework offers the best hope for development of systematic theory'.

What we have done here is to illustrate various facets of our 'core set of problems'. In our next chapter we wish to discuss a further aspect of the research predicament, namely role conflict. After that we shall describe the stages by which we constructed our own conceptual framework, hoping that 'conceptual framework' is not too grand a title for the resultant format. It does attempt to specify some conditions under which persons will substitute a new way of doing things for their present way. We shall indicate later some empirical measures of the postulated conditions under which managers are likely to think critically, to empathise, and to work together as a team.



## FOOTNOTES

1. See for example, E J Mishan, Economic Growth: the need for Scepticism, Lloyds Bank Review, No.106, October 1972, pp.1-26.
2. See W H Whyte, The Organization Man, Jonathan Cape, 1957.  
A nasty account of 'the organisation woman' is provided by C Perrow (ed), The Radical Attack on Business, Harcourt Brace, 1972, on pages 202-206. These pages give an anonymous description of the life of a telephone operator.
3. Bengt Johannisson, Visiting European Fellow at The University of Aston in Birmingham, in his report to the Leverhulme Trust says, 'if a company is to adapt today and in the future, it is in its own self interest to develop strategies that include a longer time perspective and also define its business role in the wider social context'. The Harvard Business Review, Jan-Feb 1973, has advice on how to carry out a 'social audit' since there will be increasing pressures for businesses to do so.
4. See A Buckley, Acquisitions: avoiding the pitfalls, Accountancy, Vol.83, No.948, August 1972, pp.72-77.  
An account of the characteristics of companies which are taken over and of companies which do the taking over is given by J Tzoannos and J M Samuels, Mergers and Takeovers: the financial characteristics of the companies involved, Journal of Business Finance, Vol.4, No.3, August 1972, pp.5-16.
5. 'Unfortunately most discussions of the paraphernalia of planning (the committees, forecasts, budgets and experts) have little to say about the organisational process by which contending parties evolve a consensus within some ongoing framework that allows for major shifts in emphasis and structure' - L R Sayles and M K Chandler, Managing Large Systems, Harrap, 1971. Yet this is teamwork.
6. P E Connor, Research in the behavioral sciences, a review essay, Academy of Management Journal, June 1972, pp.219-228, is concerned lest social scientists become either 'handmaidens or agents' of policy makers. In suggesting that we enquire into how managers further their own values we do not wish to suggest that the values themselves should be exempted from study. Rather that the interaction of behaviour with emergent values is itself of theoretical interest. But we do not believe that social scientists, qua social scientists, are qualified to design a brave new world.
7. For various ways of measuring empathy see the following:  
Rosalind F Dymond, A scale for measurement of empathic ability, Journal of Consulting Psychology, 13, April 1949, pp.127-133.  
C W Hobart and N Fahlberg, The measurement of empathy, American Journal of Sociology, 70, March 1965, pp.595-603.  
A H Hastorf and I E Bender, A caution respecting the measurement of empathic ability, Journal of Abnormal and Social Psychology, 47, April 1952, pp.574-576.  
R R Carkhuff, Critical variables in effective counsellor training, Journal of Counselling Psychology, 16, 1969, pp.238-245.



Part One: THE RESEARCH PREDICAMENT

CHAPTER THREE

THE CONTEXT OF THE RESEARCH

1. EVALUATIVE RESEARCH OR ELUCIDATORY ENQUIRY
2. FUNDING AND ACADEMIC INDEPENDENCE
3. THE PARTIES TO THE RESEARCH
  - 3.1 Sponsor and investigator
  - 3.2 Researcher and 'subjects'
  - 3.3 Researcher and trainers
4. PROFESSIONAL ASPIRATIONS OF THE RESEARCHER

## CHAPTER THREE

THE CONTEXT OF THE RESEARCH

The want of a thing is perplexing enough,  
but the possession of it is intolerable.

Sir John Vanbrugh

## 1. EVALUATIVE RESEARCH OR ELUCIDATORY ENQUIRY

The last chapter set out some ideas on the subject of how to manage better, and it was suggested that persons who think critically and who empathise with others will be better managers than will persons who do not do these things. There is some evidence for this proposition,<sup>1</sup> and, if we accept it, we can turn to the question 'Do certain management training programmes enhance these skills?' In focusing on a training problem, the research becomes primarily decision-oriented and evaluative and only secondarily conclusion oriented and elucidatory. Glass (1972) asserts that

'Elucidatory inquiry on education simply does not seem to have turned up any important, reliable, replicable relationships worthy of continued study..... If physical laws were as limited in generality as the laws so far discovered by social scientists, we would hesitantly creep out of bed each morning not knowing whether we would float to the ceiling or crash to the floor. If physical laws were as erratic as the "laws" governing the educational system we wouldn't dare to get out of bed.'

He described the work of Rothkopf (1966) and Faust and Anderson (1967) whose conclusions

'concerning the cueing and control of attentional processes are as well understood and lawful as basic educational research can hope for. Yet ..... the mathemagenic effect appears and disappears as a function of ..... mediating

conditions even in the scientists' own make-believe world of *ceteris paribus*.'

Glass argues that since resources for research are scarce, the payoff from evaluative enquiry (finding out 'how well') will be greater than from elucidatory (finding out 'why'). In addition the former stands in a heuristic relation to the latter. We are interested in both types, but it was the evaluative element that enabled us to secure funds.

## 2. FUNDING AND ACADEMIC INDEPENDENCE

The research procedures of social scientists were investigated by Bath University Library (1971) as part of a broader study of information requirements in the social sciences. The report states that 'the origins of projects for many researchers appear to lie largely in their own curiosity and awareness' (p.3) but 'the resources available are in many cases the deciding factor in determining the specific hypotheses to be investigated and the methodology to be used' (p.15). 'On the whole, however, few researchers reported that they used methods new to them, and little time was devoted to learning new techniques.' (p.4)

The Industrial Administration Research Unit at Aston had an established methodology which had been developed over a period of several years by Pugh, Hickson, and Hinings.<sup>2</sup> It could be presented to outside sponsors as evidence of the research competence existing in the Unit, even though the originators had all departed. This, coupled with the fact that I was interested in evaluative research, meant that considerable pressure was applied by the relevant university authority to induce me to accept a grant that an outside body wished to make for the purpose of evaluating a



particular management development activity. I was, at the time, highly vulnerable, since my own contract was running out. It was, however, my considered opinion that there was a total mismatch between the objectives stated by the outside body and the means by which the university authority was proposing to achieve those objectives. The time scale and resources were inadequate and there was no chance of developing the conceptual framework which I had in mind for purposes of this dissertation. 'My own thing' would have been so distorted as to have been unrecognisable. The (Research Unit) dog would have been wagged by the (project) tail. I therefore refused to be a party to the proposed scheme. This incident illustrates that a very important part of the research predicament is the degree of independence of the researcher in setting his or her own objectives. There are cases where the possession of a grant is more intolerable than the want of it! I do not believe that autonomy is the perfect solution, but I do believe that the various interdependencies which form around research must be symbiotic not self-destructive. The introduction to the eventual sponsor occurred almost casually. It was fruitful for me and I hope the CTC will consider it was so for them.

### 3. THE PARTIES TO THE RESEARCH

#### 3.1 Sponsor and investigator

The way in which I was enabled to commence work on the project fits very nicely the garbage can model of decision making outlined by Cohen et al. (1972). According to this model the matching of problems, choices, and decision makers is partly controlled by attributes of content, relevance, and competence, but it is also

quite sensitive to attributes of timing, the particular contents of current garbage cans and the overall load on the system. Thus it happened that, for quite extraneous reasons, a full-time official of the then Department of Employment and Productivity was visiting the Head of the Department of Industrial Administration at Aston. The visit occurred when the impending expiry of the research fellow contract which I held was an item in the Head's 'garbage can'. Also in the can was a research proposal that I had put forward. The proposal appealed to the visiting Civil Servant because it was close to some interests of his own, and he arranged the first contact with the potential sponsor, the Central Training Council.

The predicament now was to re-formulate the research proposal in such a way that it would also be acceptable to the potential sponsor. First, the research had to be on some aspect of training (not of 'education' which was the province of the Department of Education and Science). Secondly, it had to be outside the terms of reference of any single Industrial Training Board, but of interest to the ITBs in general. Thirdly, there had to be an obvious practical application, and fourthly, the methods proposed had to be methodologically sound. The CTC 'Research Criteria' are given in full in Appendix III.1.

The remarks about mediating conditions in educational research (in section 1 of this chapter) indicate reservations about the possibility of obtaining results which can be generalised beyond very narrow limits. We are well aware of all the sources of internal and external invalidity cited by Campbell (1967) and the problems seemed to be insurmountable. We had no idea what was the total population of firms or of training organisations who were

using analytical skills or social skills training (i.e. training specifically designed to make managers more critical and/or more empathic). We knew certain trainers published lists of their clients; but we did not know how exhaustive the lists were; nor why it was that these firms had been attracted to these courses; nor how many firms had used a team approach. We did not know all the ways in which relevant training programmes differed among themselves. We thought we could find out the answers to some of these questions, but should we really be able to bring off a quasi-experimental field study? How many additional lines of defence could we build into the study? We could use well-tried instruments. We could establish multiple points of contact with prior research. We could collect different types of data, use a triangulated design, and so on and so forth. The chief temptation in such circumstances is to sound more optimistic than you really are, for who will support you if you lack confidence? On the other hand, if both parties acknowledge the risks in advance there is less likelihood of serious misunderstanding later on. The first intrapersonal role conflict was then between inner despair and outer assurance. Our sponsors expressed doubts also, but took the risk of backing us. We owe them a deep debt of gratitude.

### 3.2 Researcher and 'subjects'

George Kelly (1969) wisely remarked that

'Too often it turns out that the experiment the psychologist thinks he is performing is not the one in which his subject is engaged. If the two experimenters are to collaborate each needs some idea of what the other is doing ..... Each person who participates should at some point be apprised of what the "experimenter" thinks he is doing, and what he considers evidence of what. It is of equal importance to ask what the "subject" thinks is being done, and what he considers evidence of what.'



But first catch your subject! This, in our case, was quite a problem. The garbage can model again seems appropriate. It has an 'energy allocation assumption' which goes as follows: 'Each participant allocates his energy among choices for which he is eligible to the one closest to decision (i.e., the one with smallest energy deficit from other participants)'. In Appendix III.2 we show our introductory letter to the chief executive of firms, and a sample of the replies of those who declined to take part. In all these cases the proposed research failed to intermesh with the on-going concerns of the recipient of the letter. What happened in interested firms depended largely on the preoccupations of the persons to whom copies of our initial letter were circulated. Appendix<sup>III</sup> 3 shows the reasons which the companies who participated gave as their grounds for so doing.

Schon (1968) says, 'It is questionable whether the objective stance of the social scientist in relation to the ..... organisation is feasible or useful'. He then tells of an investigation by a social science team into the social attitudes of personnel in a government laboratory.

'Their approach was to establish true propositions about the current attitude of laboratory personnel toward work and toward management and the to "feed back" these results in order to help the laboratory to improve its style of leadership and organisation. The result was that the head of the laboratory concluded that "these people want us to help them; they don't want to help us". The results of the research were treated as obvious when they were felt to be true and discarded when they were felt to be false. The tough-minded scientists of the laboratory found the measurement techniques and statistics of the social scientists to be suspect in any case.'

We tried to avoid this kind of situation by openly admitting from the start that it was we who were in need of their help. Secondly, we took Kelly's advice and tried to find out as much

as we could of their side of the picture. This in some cases meant pre-research meetings over a period of up to six months. This was because at least three levels of management were involved and also members of the training staff. The selection of who was to participate as 'trained' and as 'control' groups meant finding out also about the 'self-concept' of the groups concerned. Where training was an accolade, or at least the norm, then a group which had been denied any training was possibly already suffering from feelings of rejection. This would reduce yet further its comparability with the trained group.

We believe that the stance of the investigator towards the research subjects can influence the results of a questionnaire whether the investigator is aloof (e.g. postal contact only) or close. I decided to meet all the respondents to give them a personal assurance of the independence of the research and of the confidentiality of their replies. I also insisted that the company's official reason for acceding to our request should be divulged. (I could not, of course, know all the unofficial reasons.) In one case, I refused to accept an offer from a company to undertake the research in a subsidiary which it had recently acquired, as the managing director of the subsidiary was concerned about the way in which any results might be construed at head quarters. The relationship between him and the chairman was so strained that he dared not refuse outright himself. He had procrastinated as long as he could. I wrote to the chairman suggesting that the design of the research did not really fit his situation (of uncovering what he called a 'syndrome') and that there were other firms to whom we would have to give priority. In doing this I was, of course, 'siding with'



the managing director. The chairman's reply expressed his extreme disappointment and asserted that he was determined to get to the bottom of the matter.

We mention this incident as an indication that the field researcher is likely to be used by his subjects for their purposes and that one dilemma is to decide what purposes are acceptable, and how these purposes are likely to affect the research.

Each respondent was promised a short report within four weeks of the issue of the questionnaires, and warned that the report might contain some awkward surprises. I offered to make myself available to the group of managers should they wish subsequently to raise matters arising from the report. The company was also promised an anonymous interfirm comparison at the end of the three-year project. In several cases I was asked back by the groups and was then expected to help them with problems which had been made more visible by the research. The taxpayer's money was to support the research, not for a consulting arrangement, and we could argue that responsibility to the subjects ceased with the discussion of the report with them. Unlike the researchers described by Schon, however, we never claimed to be establishing 'true propositions' but rather to be reflecting back a view which we hoped they would recognise as theirs. If they saw no point in such an exercise they could decline to co-operate. (Though declining was not always perceived as an option by 'lower participants' as the example given above illustrates.) The role conflict concerns the degree of involvement of the researcher with the 'subjects'. They were such likeable people!

I was never really able to discover whether the being associated with the Department of Employment was an asset or a liability.

Once or twice I was asked to



clarify the nature of the Department of Employment's interest, and this I endeavoured to do. The fact that I was operating from a university research unit was, I think, helpful in establishing academic disinterestedness in the firm's internal affairs. Once inside the firm my previous industrial background became more salient as a means of counteracting the association of 'academic' with 'impractical' in the minds of some managers. The problem is that of managing one's image. Some people were interested in my professional aspirations to which we shall refer in section 4 of this chapter. Some took it for granted that I was working on a 'thesis', others did not enquire at all into this area. We hope that all who finally co-operated did indeed feel themselves to be partners. We agree with Wilson (1971) when he says, 'Research studies cannot prosper where the company sees itself or feels itself, however unwittingly, as a guineapig or a victim rather than a partner in the work'. The other side of the picture is, of course, that 'research will not flourish if the workers believe they are being steered away from asking relevant and important questions'. The embarrassing question that we were asking was 'Why did you engage in this type of training?'

### 3.3 Researcher and trainers

On the training side we chose full-time courses of five days to fifteen days duration where the emphasis was upon learning by doing and where the objectives encompassed critical thinking (analytical skills) and /or empathy (social skills) for persons in the middle or senior levels of management. We excluded courses which were aimed at a particular functional area:

personnel management, marketing, production management, and so on. We also excluded programmes which were concerned with a single technique: discounted cash flow, value analysis, job evaluation, etc. We excluded university and college programmes, and programmes aimed solely at first line supervisors. We also excluded programmes whose chief concern was to convey information: e.g. appreciation courses to familiarise people with current developments. In the end we worked with seven different programmes which are described more fully in Chapter Six. They were run by outside consultants or by in-company personnel who had been trained by outside consultants.

Our research was concerned with managing 'better', and we therefore wanted indications of whether managers thought more critically or empathised more when they were back on the job. It was to be an evaluation study at the intermediate level of outcomes, to use the terminology of Warr et al. (1970), Hamblin (1972), and others. It would be extremely hard to establish any connection between job behaviour and training if we focused on isolated individuals unless we also studied those individuals before, during and at the end of training. However, an alternative was to study group job behaviour in firms where training had been consciously employed to facilitate some form of organisational development, and where two or more managers who were working together had received the same training. The research dilemma vis-a-vis the trainers was: 'What is being evaluated: the trainers, the training programme, the managers, the firm, or the research?' We wanted to focus on the interactions among three of these - the programme, the managers and the firm, but the other two were quite crucial in the early stages of obtaining trainer co-operation. Naturally trainers<sup>3</sup> were mainly



concerned with what happened during their courses for this is what they could influence most readily.

The role of the trainer is to promote learning, and trainers differ in the extent to which they expect their activities to result in the same kind of learning for all participants, or to produce as many differences in learning as there are initial differences among participants. Our learning measure would not take into account differential starting points in determining the ultimate criterion. How much more critical or how much more empathic should a trained group be than an untrained one? To say the gap should be broad was to ignore many training problems. Of course, one welcomes evidence that one is doing a good job and tends to discount evidence that what one is doing has no effect whatever, or that there is an effect which is deleterious. If one believes that one's training programme has multiple outcomes, then, when a customer is satisfied, one can point to the merits of the programme, and when he is dissatisfied one can point to beneficial consequences which he has overlooked, or at least suggest that the responsibility for deficiencies lies with him, the customer. The more specific and unconditional the promises one makes, the more certain must one be that one can do what one says. Training brochures tend, therefore, only to make the kind of claims which are not susceptible to easy refutation. This is not surprising, given our current ignorance about all the necessary and sufficient conditions for managers to learn (e.g. to be more critical or to empathise more).

Another problem about introducing criteria that can be tested is that such criteria might, by concentrating attention solely on those areas which can be 'examined', have a retrograde effect on



the broader learning process. From the whole universe of possible manifestations of critical thinking or of empathy we have to select an infinitesimally small proportion. There is no doubt, on the other hand, that 'knowledge of results' is a powerful asset in skill acquisition (see Welford, 1968). In practice I did not put the evaluation issue in this way to trainers, who all seemed to accept in principle, that training objectives should be spelt out, and that progress should be monitored. Most were trying to obtain feedback on what they were doing, at least at the reactions level, and possibly for purposes of reassurance.<sup>4</sup>

The trainers who co-operated in the main research said that they welcomed an 'independent' enquiry into managers' behaviour subsequent to training, even though I was covering only some of their objectives. I did, however, make it clear that I was not going to praise brand X training and decry brand Z. More details of the help I received from training colleagues in the pilot stages of designing the performance measure are given in Chapter Six, sections 4.3 and 5. The part played by trainers in the later stages of the project is explained in Part III. We wish to turn now from the concerns of trainers to the professional aspirations of the researcher.

#### 4. PROFESSIONAL ASPIRATIONS OF THE RESEARCHER

Davis (1964) has neatly described some of the dilemmas of a research director. He says:

'Clients commission research because they are interested in something specific ..... whether enough people are training for careers in biochemistry, how much scholarship money is available to graduate students ..... and so on. Sociology is, however, the enemy of the specific. Even though the facts of social life ..... are less well documented than the facts of marine life at the bottom of the ocean, the

academic sociologist (.... whom our young PhD wants to impress) has a phobia against research which "merely" describes .....

If he (the researcher) completes his research in such a fashion as to satisfy the sponsors it will lack academic glamour ..... (so the natural strategy is to attempt both ..... a specific descriptive report "for the client" and a highbrow article or monograph for the study director's self aggrandisement). Thus as well as a description of who gets scholarships comes a test of the theory of relative deprivation among graduate students; along with the descriptive materials on whether poor boys go to college comes a paper on status crystallization and career choice ..... and so on.'

In the present research, the specific aspect was to answer the question, 'do package-deal team training programmes in analytical and/or social skills affect managers' behaviour?' The more general aspect (to satisfy the academic aspirations) was to develop a conceptual framework for understanding the actions of managers in groups in organisations.

The reasons for our choice of subject were outlined in Chapter One, and in Chapter Two we indicated how the concern for 'managing better' was reinterpreted as a problem of improving such skills as critical thinking and empathy in the context of management teamwork. In this chapter we have spoken of the interplay of the various influences centering on the research project.<sup>5</sup> It is now time to make explicit the succession of ideas through the project, and the ways in which we attempted to test them.



1. Some evidence on critical thinking and effective management is given by H Pickle and F Friedlander, Seven societal criteria of organizational success, Personnel Psychology, Vol.20, 1967, pp.165-178, where critical thinking of the small businessman is correlated with satisfaction of customers and of employees.

Empathy, defined as ability to judge what others are thinking, is discussed by Ronald Taft, 'The Ability to Judge People', Chapter 13, in W W Roman and Erich P Prien (eds), Perspectives on the Measurement of Human Performance, Appleton Century Crofts, 1971. Taft says:

'The ability to predict how subjects will respond to opinion items shows a consistent positive relationship with measures of social skill, such as leadership, salesmanship, and popularity. This relationship would follow logically from the probability that these types of social skill are aided by the ability to predict how people will behave. Unfortunately this relationship could also be due simply to a combination of judge's tendency to project his own responses onto his subjects and his being in fact similar to the subject in his responses. Until these factors have been more carefully isolated, it is impossible to know which explanation is the correct one. Recently a method has been proposed for separating the effects of projection, similarity and empathy in such tests of judging ability. Other tests of ability to judge others, e.g., rating traits or matching expressive behavior, do not show this same consistent relationship with social skills.'

Also, R M Stogdill in a review of 124 leadership studies (Personal factors associated with leadership: a survey of the literature, Journal of Psychology, Vol.25, 1948, pp.35-71) found that the items with the highest overall correlation with leadership, in order of priority, are: 'Originality, popularity, sociability, judgment, aggressiveness, desire to excel .....'. He concludes, 'leadership appears to be a working relationship ..... in which the leader acquires status through active participation and demonstration of his capacity for carrying co-operative tasks through to completion. Significant aspects of this capacity ..... appear to be intelligence, alertness to the needs and motives of others, and insight into situations'. The last two qualities he mentions are akin to empathy and critical thinking, and leadership is a role most managers are expected to adopt. (It was discussed in Chapter Two, section 2.3) (Our underlining)

2. This methodology is described in C R Hinings, D S Pugh, D J Hickson and C Turner, An approach to the study of bureaucracy, Sociology, Vol.1, No.1, January 1967, pp.61-72; and P M Levy and D S Pugh, Scaling and multivariate analyses in the study fo organisational variables, Sociology, Vol.3, No.3, May 1969.
3. We use the term 'trainer' to include either commercially based staff or in-company training staff. We do not intend to restrict the term to group dynamics trainers. We have not used the term 'teacher' because of its association with university and college programmes which were outside the scope of the research.



4. Norton M Bedford, The concept of management information systems for managers, Management International Review, Vol.2-3, 1972, pp.25-29, outlines three basic concepts of information:
  - (1) Information as uncertainty reduction
  - (2) Information as reassurance
  - (3) Information as disclosure of additional alternatives in a decision situation.

The last, of course, tends to increase the decision-maker's uncertainty.

5. It may seem strange that I have not, in this chapter, referred to the fact that I was not the chief investigator for the project. My supervisor was chief investigator. The reason is that he emphasised on many occasions 'It's your project' and diverted correspondence and enquiries to me. I hope that I have made clear in the acknowledgements his part in the enterprise. Without him, possession of the research grant might well have been intolerable.

## PART TWO

### THE RESEARCH PROCESS

PART ONE of this dissertation dealt with three aspects of the research predicament: (1) choice of problem, (2) phenomena for which there is no theory, and (3) the context with its potential role conflict.

PART TWO deals with the progress in our thinking from (1) the conceptual beginnings and basic assumptions, through (2) the selected variables and research design, and (3) the problems of developing a performance measure, to (4) further conceptual elaboration.

CHAPTER FOUR

CONCEPTUAL BEGINNINGS AND BASIC ASSUMPTIONS

1. INTRODUCTION

1.1 The impact of the Role Set and of organisation structure on behaviour change in ex-trainees

1.2 Some conflicting hypotheses suggested by the literature

1.2.1 Direct association of supportiveness and change

1.2.2 Conditional association of supportiveness and change

1.2.3 Inverse association of supportiveness and change

1.3 Comments on these conceptual beginnings

2. AN INTEGRATED APPROACH TO INDIVIDUALS IN GROUPS AND ORGANISATIONS

2.1 Strategic activity

2.2 Structure

2.3 Resources

2.4 Climate

2.5 Conclusion



## CHAPTER FOUR

CONCEPTUAL BEGINNINGS AND BASIC ASSUMPTIONS

..... because I cling with my mind  
To the same, same self, same love .....

Robert Browning

## 1. INTRODUCTION

We spoke, in Chapter Two, of the need to work out one's own salvation when faced with phenomena for which there is no theory. At the beginning of our research we had decided that we wanted to evaluate certain forms of training to discover whether they resulted in managers thinking more critically, empathising more, and acting as a team in their work situation. As a teacher we wanted to improve our professional competence in analytical and social skills. The problem of specifying the conditions under which acquired skills can be practised is therefore of direct personal and professional relevance. We quote, below, from a document which formed part of our original research proposal. It is dated October 1968, and bears a singularly unattractive title, but since part of the research process consists of finding names for what you are doing, the title itself is of historical interest.

1.1 The impact of the role set and of organisational structure  
on behaviour change in ex-trainees

Training is an attempt to alter the status quo - to provide trainees with knowledge and/or skills they did not previously possess, or to improve the quality or amounts of existing knowledge and/or skills. Some programmes are also designed to inculcate certain attitudes or values.

Training may make an initial impact, but companies will be concerned also with the longer-term results of training.

This research focuses on training which aims to inculcate attitudes and improve skills in the human relations/critical thinking area. It aims to uncover the crucial variables for long-term success of such training.

It therefore examines not only the trainer's values and the personal characteristics of the trainees but also the key people in the trainees' immediate environment and the structure of the organisation from which the 'target population' is drawn.

It will examine certain hypotheses concerning normative supportiveness (the prior 'fit' of organisational climate and training values) and course effectiveness (the minimal degree of improvement from training which can be successfully maintained afterwards).

## 1.2 Some conflicting hypotheses suggested by the literature

### 1.2.1 Direct association of supportiveness and change

The higher the supportiveness the greater the long-term change. Schein and Bennis (1965) following Lewin (1947) argue that new attitudes and behaviour must be 'relationally re-frozen' by confirmation from people important to the trainee. House (1968) argues that 'the consequences of leadership training depend on the degree to which the social influences in the trainee's work environment are viewed by the trainee as motivations to learn and the degree to which they re-inforce the learned behaviour during and after training'.

### 1.2.2 Conditional association of supportiveness and change

Supportiveness which is neither extremely high nor extremely low will lead to greater long-term change.

Moscow (1968) found that reinforcement and refreezing 'probably occur with trainees whose relationship with their boss is only moderately good and whose work climate is not extreme in autonomy, security, flexibility, or openness'. 'Trainees with moderate relationships with boss and moderate work climate show most on-the-job change'.

### 1.2.3 Inverse association of supportiveness and change

Low supportiveness will lead to greater long-term change. Dissonance theory's central notion is that 'a person will try to justify a commitment to the extent that there is information discrepant with that commitment', Festinger (1957). If a trainee has become committed to the training programme, resistance will increase his commitment.

## 1.3 Comments on these conceptual beginnings

The extract quoted reveals that we had some notion of a balance or imbalance between the values of the training programme and the climate of the organisation. What is not revealed is that we had also thought about including the methods used in training as a variable, and had even been to Geneva to learn about what Hawrylyshyn (1967) was doing in this connection. However, the eventual project designed turned out to be complicated enough (see Chapter Five) without this intervening variable. 'Behaviour change' in ex-trainees, if we would define it, would have to suffice.



From the early draft title it can also be seen that we were concerned with training for managers who belonged to groups (or role sets) in organisations, and that we expected such membership combined with the organisation structure to have an impact.

My research apprenticeship was served with Derek Pugh and others who had been working with structural variables (Pugh et al., 1968), and subsequently with Roy Payne on the Business Organisation Climate Index (Payne and Pheysey, 1971). It was therefore natural to incorporate these aspects of a manager's environment as relevant to his learning of new skills. Training was thought of as a resource to be assimilated or rejected.

## 2. AN INTEGRATED APPROACH TO INDIVIDUALS IN GROUPS IN ORGANISATIONS

Figure IV.1 shows the important areas around which our thinking has subsequently developed.

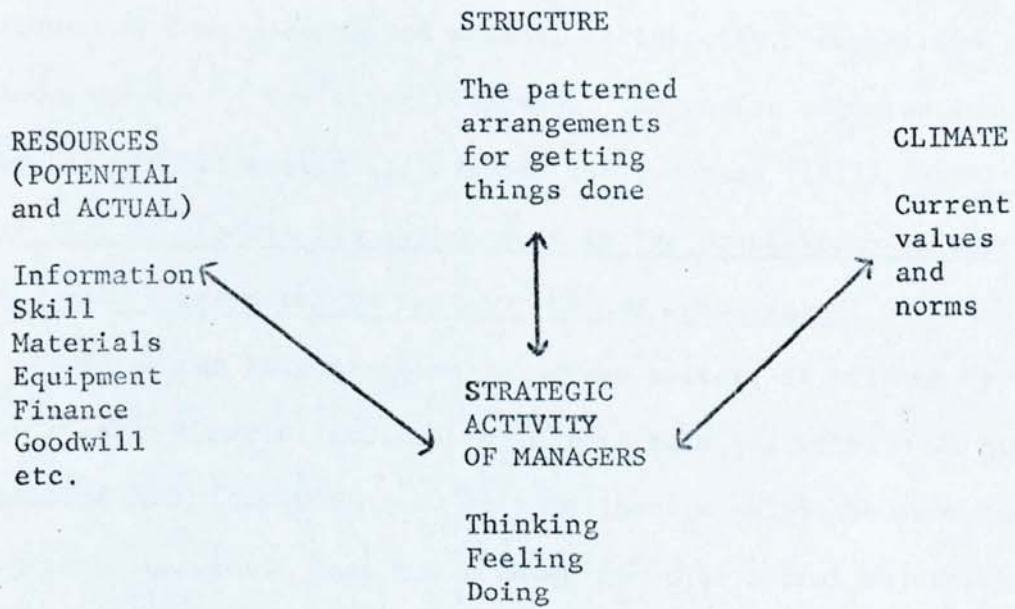
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 See Figure IV.1  
 -----

### 2.1 Strategic activity

Managers engage in strategic activity<sup>1</sup> when they are determining what needs to be done and are acting accordingly. Strategic activity is concerned with recognising opportunities and taking them, with estimating costs and incurring them, and with improving or reducing future chances. Strategy, according to the Shorter Oxford English Dictionary is equivalent to generalship, but we do not wish to restrict its use to the top dog managers. Each manager is engaged

Figure IV.1

IMPORTANT AREAS IN THE STUDY OF MANAGERS AS INDIVIDUALS IN GROUPS  
IN ORGANISATIONS



in strategic activity to the extent that he is exploiting his position to acquire scarce and valued resources to maintain his own functioning. Whether his actions support or obstruct those of his colleagues depends partly on whether the climate and structure reward concerted action, reciprocity, competition, or independence. The effectiveness of the entire organisation may be defined, according to Seashore and Yuchtman (1967), as 'its ability to exploit its environment in the acquisition of scarce and valued resources to sustain its own functioning'.

If we can help managers to manage better, it will be by increasing their effectiveness in strategic activity. We hinted earlier that in choosing to help managers we might be promoting business interests that run counter to other social objectives. Howard McMahon (1971) president of the Consulting firm, Arthur D Little, believes, however, that corporate managers will submit to social as well as fiscal audits as they 'become convinced that accountability to their employees, customers, and the community at large is as crucial to corporate survival as profits'.<sup>2</sup> In any case, the results of research, once published, may be used by those with interests quite different from those of the original sponsors. Finally, there are many organisations whose functioning we wish to see sustained by better managing. It is up to us to concentrate our efforts there.

Before leaving this topic of strategic activity, we should like to make one more quotation from Seashore and Yuchtman.

'We have thought too simplistically that organisations have goals that can be identified and that become the yardstick for assessing organisational effectiveness. This imputation of purposiveness to organisations has misled us. While profitability, for example, or growth, or productivity, seem attractive and superficially



plausible as goals of an organisation, it is apparent from empirical studies, our own included, that in persisting organisations profit is never safely maximised, growth is never safely maximised, and productivity is never safely maximised: as "goals" they become destructive when approached, and they therefore are goals only (a) with reference to certain classes of interested persons (owners, customers, employees, etc.) or (b) with reference to society at large (which must exploit the organisation as best it can if it needs the output without destroying the organisation), or (c) with reference to some particular time span or phase of the organisation's life (that is, a temporary concentration of effort toward restoring balance among the total roster of necessary performances - a transient goal to be moved toward, but not actually reached).'

According to Gore (1964), 'the central function of the sum of all decisions is to hold the organisation within a zone of disequilibrium bounded by thresholds of disorganisation'. We put thinking, feeling and doing as the elements of strategic action, and we shall have more to say about this later, but we agree with Gore when he says, 'Almost without exception a rational decision is preceded by a heuristic decision traversing the same terrain, but vicariously and through the emotions'.

## 2.2 Structure

Strategic activity creates patterned arrangements to which we give the name structure. These arrangements may be inter-personal, intra-group or inter-group, intra-organisational or inter-organisational. The boundaries implied in the terms used in the previous sentence are structural boundaries. Some structures are divisive, but others are connective.

Structure has been a major focus in the work of organisation theorists such as Pugh et al. (1968), Blau and Schoenherr (1971), Burns and Stalker (1961) and many others. Much of the discussion has centred on the appropriateness of the various models -

bureaucratic, organic, matrix, etc., for handling different kinds of environmental circumstances. We are stressing here that, in one sense, structure is a byproduct of strategic activity, whether consciously designed or not. For example, Selznick (1953) says, 'Day-to-day decisions, relevant to the actual problems met in the translation of policy into action, create precedents, alliances, effective symbols, and personal loyalties which transform the organisation from a profane, manipulable instrument into something having a sacred status.' This quotation illustrates also that arrangements that were introduced for a given purpose tend to outlive that purpose, and to influence subsequent strategic activities.

### 2.3 Resources

We have used the term 'resources' to indicate not only the assets already acquired through strategic activity, but also those potentially available. How managers think about and act towards resources will be partly a function of the structure and climate they have inherited from past activities and partly a function of the resources they currently possess, especially resources of information and skill. Increasing and using one's resources are seen as aspects of performance.

### 2.4 Climate

Climate, like structure, is thought both to originate in, and subsequently to influence, the strategic activity of managers. It comprises the norms and values which have developed over time, and it forms what Vickers (1965) calls the 'appreciative system'.

A very interesting account of the climate in two sections of



the first-year intake of Harvard Business School Students is given by Orth (1963). He reproduces the following table showing the percentage of students (n = 81) who over or under performed in relation to the social support they received.

---

	Full support	Partial or no support
Over-performers	24%	7%
Under-performers	7%	22%

---

Support was sociometrically determined at three different times during the year, and is defined according to the number of ties binding an individual to others. The book describes how transgression of in-group norms (the climate) led to lack of support. Orth describes a critical incident in the formation of the climate in Section A at Harvard. It concerned a brilliant performance by one student which eclipsed the previous performances of his fellows. The incident became legendary, and was cited in support of the norm that 'no one should produce work that shows his colleagues in a poor light'. The climate had numerous other effects on student performance besides the indirect effect shown in the table above.

Like structure, a particular climate may be intra-group or inter-group, intra-organisational or inter-organisational. Like structure it may persist long after the activities with which it was first associated. Because structure and climate may arise at different times and places, however, they may be independent of each other, sometimes congruent, sometimes in conflict. They are related only via the strategic activity of persons.



### 2.5 Conclusion on the integrated approach

We fear that we have not met Indik's (1963) criterion that each class of variables: activities, structure, resources, and climate should be mutually exclusive of variables in any other class. For example, we have classified training as a resource, but it could also be viewed as strategic activity. We have said climate is equivalent to an 'appreciative system', but an appreciative system can be regarded as a form of structure, and so on. The classification is rudimentary as we leave it here. We shall try to build upon it in our next chapter, and in Chapter Seven.

1. We confess to a rather loose usage of the term 'strategic'. As the following paragraphs in Chapter Four indicate, we do not wish to contrast the term with 'tactics' or with 'planning' as other writers have done. We considered the term 'task oriented' as an alternative to 'strategic' but this is more cumbersome and it does not include the sense of directing one's activity simultaneously to one's own personal ends as well as to those required by the task. In Chapter Two, section 3, we discussed the difficulties with the words 'behaviour' or 'action', used without qualification. Activity alone might indicate merely 'busyness' whereas we wish to include more contemplative thinking and feeling states under this general rubric, as explained in Chapter Five, section 1.1.2.
2. For views in Britain on the question of whether business should be socially responsible in its own interests, see the following item from John Gretton in *New Society* (1 Feb. 1973).

#### Business

The notion of social responsibility is making only slow headway among businessmen and investors. Admittedly, in the case of Distillers, the man from the Pru and some of his friends did act in a socially responsible way, but this was only after great public pressure.

Typical is the interim report of the company affairs committee of the Confederation of British Industry, published last week (A New Look at the Responsibilities of the British Public Company, CBI, 21 Tothill Street, fl). The committee was set up last March, under Lord Watkinson, to consider, among other things, 'corporate behaviour towards interests other than those of shareholders and providers of finance, including employees, creditors, customers, and the community at large'. In an appendix a list is given under the headings of pollution, conservation, local community affairs, and national and international affairs, of the possible points of contact between a company and the public interest.

That, in fact, is the main interest of the report. For the rest, the report recommends drawing up a code of practice, modelled on 'best British practice' - a handy way of rejecting outright any such foreign notions as supervisory boards or worker directors. It is a compromise document, a sort of 'green paper' to provoke discussion.

The sense of urgency is much more pronounced in Social Responsibility Audit by John Humble (published that week by the Foundation for Business Responsibilities, Portland House, Stag Place, SW1, at fl.25) - the subtitle is 'a management tool for survival'. Those that ignore their social responsibilities, says Humble, will find themselves subject not only to increasing public and legal pressures, but also to financial ones. Humble, who is a director of Urwick Orr, the management consultants, thinks investors will increasingly take social responsibility into account.



Humble's watchword is enlightened self-interest, and half of his booklet is taken up by a questionnaire for businessmen to fill in as a checklist against the social responsibility of their performance. It is a remarkably complete 'audit', though it contains no provisions for costing the various measures that might be taken. Humble divides the area of social responsibility into internal environment, covering the more traditional concerns of management consultancy such as working conditions, communications, education and training, but also minority groups; and external environment, covering community and consumer relations, pollution and packaging, shareholder relations and investment policy. The common thread in this and the CBI pamphlet is that, enlightened or not, management knows best.

Humble is also the author of the book (and the catch-phrase), Management by Objectives. In this case, he has failed to define his objectives - is it, principally, to be the longer-term profitability of the firm? Or are social and ecological considerations to be paramount?

The main problem is that responsibility, whether social or financial, implies responsibility to someone, who can, if necessary, operate sanctions. Businesses have always assumed their prime financial responsibility, to be to their shareholders. Since the growth of institutional shareholders, these have been increasingly unwilling, and indeed unable, to operate sanctions. If they have not done so, except very rarely, in the financial field, there is no reason to suppose they will in the social field, either.



## CHAPTER FIVE

## THE SELECTED VARIABLES AND RESEARCH DESIGN

1. THE NOMINAL VARIABLES - DEPENDENT AND INDEPENDENT
  - 1.1 Strategic activity
    - 1.1.1 Analytical and social behaviour - the dependent variables
    - 1.1.2 Thinking and feeling in strategic activity
  - 1.2 The independent resource variables
    - 1.2.1 Team training received
    - 1.2.2 Size of group
    - 1.2.3 Individual's background
    - 1.2.4 Own organisation
    - 1.2.5 Parent organisation
  - 1.3 The independent structure and climate variables
2. RELATIONS AMONG THE NOMINAL VARIABLES
  - 2.1 Structure, climate and strategic activity
  - 2.2 Some specific hypotheses
    - 2.2.1 Hypotheses relating structure, climate and training to behaviour
    - 2.2.2 Hypotheses relating resource variables (other than training) to behaviour
3. THE OPERATIONAL DEPENDENT AND INDEPENDENT VARIABLES
  - 3.1 The dependent variables
  - 3.2 The independent resource variables
    - 3.2.1 Parent organisation
    - 3.2.2 Own organisation
    - 3.2.3 Group
    - 3.2.4 Individuals

- 3.3 The independent structure variables
  - 3.3.1 Own organisation
  - 3.3.2 Group
- 3.4 The independent climate variables
  - 3.4.1 Own organisation
  - 3.4.2 Group
- 4. THE OPERATIONAL HYPOTHESES
- 5. THE LEVEL OF ANALYSIS
- 6. RESEARCH DESIGN
  - 6.1 Two stage sampling
    - 6.1.1 The first stage
    - 6.1.2 The second stage
  - 6.2 The static group comparison design

## CHAPTER FIVE

THE SELECTED VARIABLES AND RESEARCH DESIGN

Between the idea  
And the reality  
Between the motion  
And the act  
Falls the shadow

T S Eliot

## 1. THE NOMINAL VARIABLES: DEPENDENT AND INDEPENDENT

1.1 Strategic activity

In the last chapter we talked about strategic activity, resources, structure and climate in a very general way. We must now say what specific aspects of these we wish to examine.

We begin with 'strategic activity' - the 'thinking, feeling and doing' shown in Figure IV.1. Thinking and feeling affect the outer world through action, so we intend to discuss them in section 1.1.2 below, even though we do not measure them operationally. 'Doing' was represented in the research design by two concepts: managers' analytical behaviour and managers' social behaviour. They are shown at the foot of Figure V.1 as the dependent variables.

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See Figure V.1  
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1.1.1 The dependent strategic activity variables: analytical and social behaviour

Analytical behaviour is 'action which creates or follows systematic procedures'. Social behaviour is 'action which exhibits and encourages open expression of feelings'. The



Figure V.1

INDEPENDENT AND DEPENDENT VARIABLES IN THE RESEARCH

1.	2.	3.
INDEPENDENT RESOURCE VARIABLES	INDEPENDENT STRUCTURE VARIABLES	INDEPENDENT CLIMATE VARIABLES
<u>Parent organisation</u>		
Size - number of employees		
Size - group turn-over		
Size - capital employed		
<u>Own organisation</u>		
Memberships	Structuring of activities	Perceived stimulating or supportive developmental climate
Interdependence		
Size - number of employees	Concentration of authority	Perceived regulatory or inhibiting controlling climate
Technology		
<u>Group</u>		
Size	Hierarchical level	Unanimity or diversity of perceptions
Team training received	Functional differentiation	
<u>Individuals' background</u>		
Training		
Qualifications		
Age		
Experience		
Salary		
Family		
Beliefs		
	DEPENDENT STRATEGIC ACTIVITY VARIABLES	
	Managers' analytical behaviour	
	Managers' social behaviour	

definitions just given are intentionally restrictive, and the two forms of behaviour are selected from a limitless array of possible strategic activity because they are the forms of behaviour promoted by the team training received.

In Figure V.1 the two dependent variables are shown at the foot of three columns of independent variables. We believe that analytical behaviour, as defined above, seeks to order experience so as to render it more certain and secure, and that social behaviour, as defined above, is more tolerant of risk and innovation. Persons seek to maintain for themselves some sort of homeostasis of thought, feeling and action, vis-a-vis the environment. In Figure V.1 this environment is represented by the three columns of independent variables. 'Team training received' (see under 'Group' in column 1) is but one influence among many to which the manager is subjected. He will attempt to cope with the pressures upon <sup>him</sup> through activating one or more of the following four tendencies:

- (1) a systematising, or certainty-producing tendency
- (2) a spontaneity, or innovation-producing tendency
- (3) a permissive, or risk-producing tendency
- (4) a controlling, or security-producing tendency.

These tendencies are also to be found in the environment, as represented by the independent variables in Figure V.1. We are therefore interested in continuities and discontinuities between analytical and social behaviour on the one hand, and external certainty, security, innovation or risk. However, because the external world is accessible first at the level of sensory inputs to thought and feeling, we should like to introduce our theme by considering what might happen when information reaches a manager's threshold of attention (ignoring, for the present, the problem of the selective



receptivity or permeability of the threshold itself). In what follows we shall quote extensively from a paper we wrote in 1970 which was published in 1971 (Pheysey, 1971).

### 1.1.2 The strategic activity of thinking and feeling

The threshold of attention is at the top of Figure V.2.

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See Figure V.2

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The six processes shown are similar to those suggested by Simon (1960). The intellectual bifurcation has been added to allow for either flexible or systematic thinking at each stage. The right-hand, systematic fork within each stage is the stability-oriented, certainty-seeking and error-reducing tendency. The non-systematic intellectual approach, on the left-hand side within each stage, is the spontaneity or innovation-producing tendency.

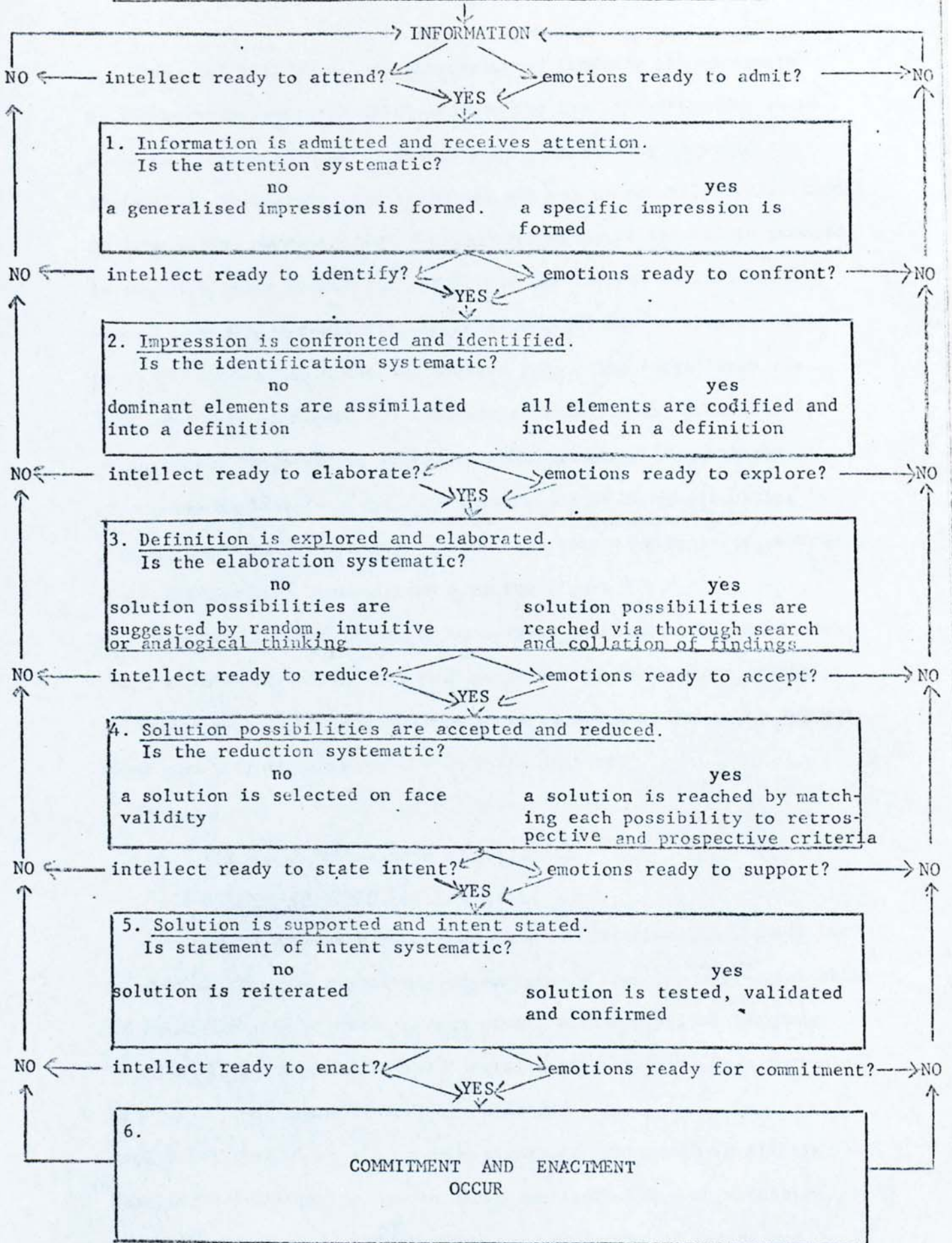
The questions between the six stages indicate that intellectual and emotional predispositions may facilitate or impede the subsequent activity. For example, (1) attention may be more readily given if curiosity is aroused. An uninteresting input may be disregarded. (2) Identification may be helped by pleasurable anticipation and hindered by anxiety. (3) Elaboration, (4) reduction, (5) intention, and (6) enactment, may all be assisted by such positive emotions as hope, confidence, and enthusiasm, and blocked by such emotions as anger, fear, or despair.

The six positive emotional 'yes' responses lead to: admittance, confrontation, exploration, acceptance, support and commitment. That is to say, they constitute the permissive or risk-producing tendency referred to above.



Figure V.2

INTELLECTUAL AND EMOTIONAL ELEMENTS IN INFORMATION PROCESSING



The controlling, or security-oriented tendency is represented by the negative emotions which lead to the six 'no' responses shown down the right-hand edge of Figure V.2. In seeking to avoid instability or failure, the responses are not necessarily dysfunctional. De Bono (1969) maintains that the 'no' response, or refusal to proceed, is important even in logic. It forces the thinker to take another route. To stop a particular train of thought may be strategically or tactically valuable for the manager too. The 'noes' down the left-hand edge of Figure V.2 indicate an intellectual inability (or perhaps unwillingness) to proceed. The advantages of continued effort may be less than those of inertia, or of short-circuiting from stages 1 to 4 and 4 to 6. (For the sake of simplicity, short-circuit lines have been omitted from the figure.)

Figure V.2, then, attempts to suggest how competing preferences for certainty or innovation, risk or security, may operate on the processes of thinking and feeling. It is now time for us to suggest where the training courses fit into the picture.

## 1.2 The independent resource variables

### 1.2.1 Team training received

Before we commenced the pilot studies (described in Chapter Six) we thought that the objectives of analytical training and social skill training might be opposed to each other, with analytical training being oriented to certainty and social skills training being oriented to risk. Our reasoning went as follows:

Analytical training seeks to make a manager systematic in all six intellectual thought processes shown in Figure V.2 - in attention, identification, elaboration, reduction, statement of intent and



enactment. In his actions he will create and follow systematic procedures. Social skills training encourages admittance of own and others' feelings, and likewise confrontation, exploration, acceptance, support and commitment of feeling. In his actions the manager will express his feelings openly, and will allow others to express theirs.

A person either lays down and follows rules, or he responds to the feelings which are dominant at the time, but he cannot do both simultaneously. On this view the two types of training would be separated by a dimension of 'programmed versus spontaneous' behaviour.

By the time we wrote the 1971 article in which Figure V.2 appeared, we had reconceptualised this single dimension in terms of the four separate tendencies discussed. The actions mentioned in the brochures of the training programmes we actually studied are described in Chapter Six. The emphases of the different courses are, in fact, complementary rather than opposed. Figure V.2 shows the <sup>intellectual and</sup> emotional 'yeses' in such a complementary perspective. Most of the training programmes were mixed, not polarised.

### 1.2.2 The size of group

We turn now from the type of training received to the group itself. Several times we have used the expression 'team training' because our focus is not upon isolated individuals but upon a working unit of managers who have shared a common training experience.

(Details of the extent of such sharing are given in Chapter Eight)

If the team is large it might make use of more formal meetings than it would if it were smaller, and hence might welcome analytical training to clarify agendas. If the team is small and contains an



even number of persons it might welcome social skills training to help it cope with the disagreements which arise between sub-groups of equal size. These are just two of the possibilities suggested by Berelson and Steiner's (1964) summary of the findings of small group research on the effects of size. Lindsay (1972) also has an interesting discussion on size differences from the point of view of behaviour. Other size effects may be mediated via the group's structure to which we shall refer later in this chapter.

### 1.2.3 Individual's background

It will be noted that, under the heading of 'individual's background' in the resources column of Figure V.1, we have listed a number of biographical variables. We shall not attempt to delineate how each variable might be related to an individual's propensity to seek certainty, security, risk or innovation, but will merely make some general remarks. Among the variables shown, some are indicative of prior socialisation (for example education and qualifications) and possibly of professional reference groups. Certain combinations (e.g. parents' jobs, years at school, sibling status, own first job, current age and salary) may provide some indirect evidence of achievement motivation, of tolerance for ambiguity, and so on. It would not have been possible to administer psychological tests such as Adorno et al.'s (1950) for authoritarianism, Rokeach's (1960) for open mindedness, or Rotter et al.'s (1962) for origin-pawn person perception, though these are conceptually relevant. We preferred biographical information on three counts: (1) managers were generally happy to supply it; (2) it could be

interpreted without specialised testing expertise; and (3) it would help to locate our sample of managers in relation to a number of other studies of managers and their careers and possibly add to the representativeness of our findings. Scollay (1957) has written about personal history as a predictor of success, and Sharma (1969) reports that many companies in America use the Individual Background Survey as a tool for identifying high flyers at an early stage. It has established itself as a satisfactory alternative to psychological testing for these purposes, and we hoped it would be equally satisfactory for ours.

#### 1.2.4 Own organisation

We turn from the individual to his organisation shown above 'group' in the left-hand column of Figure V.1 as another set of resource variables. Memberships, interdependence, size and technology were all conceptualised in the Aston research as 'contextual' variables (see Pugh et al., 1969a). For our present purposes we consider them as resources which may be relevant to the time, expenditure and effort which companies devote to training their managers in analytical and social skills. Team training introduced in a company which is already a member of BACIE and BIM, which has other factories undergoing training, large numbers of managers, and science-based technology, may be a very different operation from team training in an organisation which does not belong to BACIE or BIM, which has no parent company, few managers, and a jobbing engineering technology. In the former case there may be greater investment in the training and hence greater reluctance to withdraw once funds have been sunk in the programme. On the other hand, the more external memberships the organisation has,

the more likely it is that someone is receiving information about alternative ways of doing things, thereby increasing the uncertainties surrounding training unless the various associations concerned are in agreement. In an interesting article, Schneider (1972) demonstrated that 'organisational climate may extend beyond formal organisational boundaries and have influence on potential organisational employees'. In asking about memberships we were considering that the permeability of the organisation might equally permit external influences to affect its own climate.

As far as interdependence with a parent company is concerned, there may be either a reduction or an increase in equivocality, depending on whether the unit of organisation is central or marginal to the activities of the group, and on whether the operations of each are financially sound. Guest (1962) shows how constant pressure on a subsidiary to provide reassuring information to headquarters aggravated the difficulties under which the subsidiary was labouring.

Size and technology recur constantly in the literature as important organisational variables. In the work at Aston, size was the chief predictor of the bureaucratic type variable called 'structuring of activities'. Operations technology correlated with a few variables that were centred on production (or workflow), but did not seem to affect the general administrative structure, once the effects of size had been partialled out (Hickson et al., 1969). Woodward (1965), however, considered the effects of technology to be much more pervasive. Large batch and mass production firms seemed to suffer from the intractability of production scheduling problems whereas process technology was more predictable. As Child and Mansfield (1972) point out,



however, not much work has been done relating technology to managerial ideology, or, in our terms, to climate.

#### 1.2.5 Parent organisation

In the discussion above of interdependence between own organisation and parent organisation, we indicated conflicting possibilities in relation to the certainty experienced by the subsidiary. The information on parent size, under the three heads of employees, turnover, and capital employed, gives some indication of the strength of the group as a whole.

We have now commented on the resource variables listed in Figure V.1, but in nominal terms only. We give the operational definitions (in section 3 below). We shall now consider the structure and climate variables.

#### 1.3 The independent structure and climate variables

Structuring of activities and concentration of authority are two orthogonal factors derived from sixteen structural scales in the Aston work (Pugh et al., 1968). They are concerned with the extent of specialisation, standardisation and formalisation of activities and with the hierarchical spread of decision making authority or its concentration at the top. The groups we intended to study might themselves be spread across levels in the hierarchy or across functional areas, and Payne and Mansfield (1973) found relationships between these aspects of structure and reported climates.

Developmental and controlling climates were the two largest factors we found in our work with the Business Organisation Climate Index (Payne and Pheysey, 1971a).

The organisation climate is measured by perceptions, and the organisational referent may not be perceived in the same way by all participants, for example developmental climate was perceived by higher levels but not by lower levels in Payne's later work. Where the members of a particular group have shared perceptions of climate, however, it is likely that the group as a whole recognises the existence of a relevant norm. Thus the extent of unanimity or diversity of perceptions within the group can be conceived of as contributing to the group's own climate.<sup>1</sup>

## 2. RELATIONS AMONG THE NOMINAL VARIABLES

### 2.1 Structure, climate, and strategic activity

In Figure V.2 we suggested how the thinking and feeling aspects of strategic activity might be permeated by four tendencies. We wish now to show how these same tendencies can be discerned in the behaviour of managers, and in the structure and climates of the organisations which managers inhabit.

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 See Figure V.3  
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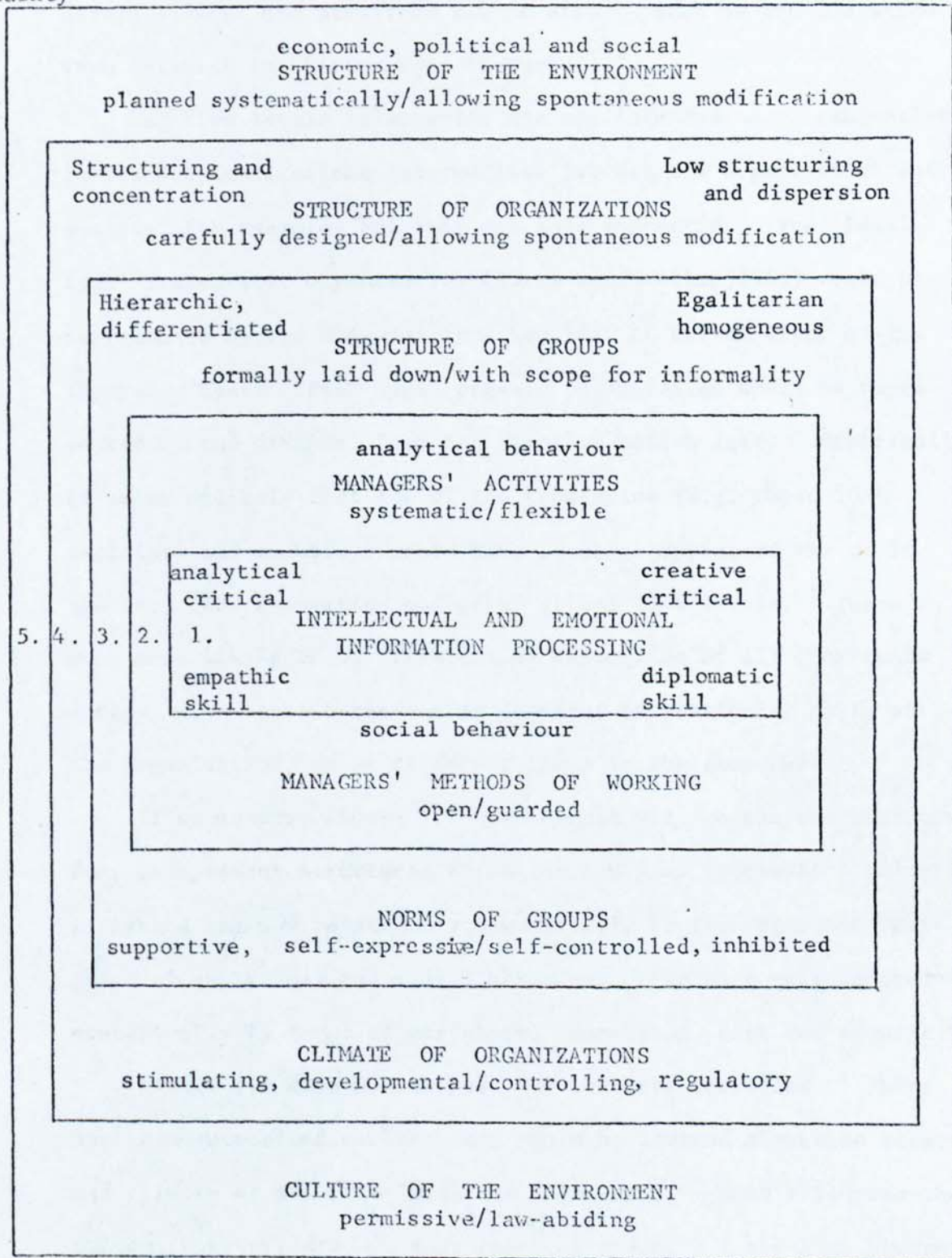
Figure V.3 shows the systematising and spontaneity tendencies running through managers' analytical behaviour, the structure of groups, the structure of the organisation, and even the structure of the environment. It shows the permissive and controlling tendencies running through managers' social behaviour, norms of groups, the climate of the organisation and the culture of the environment. Structure is thus directly linked to reasoning, and climate to the emotional aspects of information processing.

Figure V.3

THE CONTEXT OF MANAGERS' ACTIVITIES

Seeking  
Certainty

Seeking  
Innovation



seeking risk

seeking security



The separation is not intended to be clear-cut, however, as the enveloping rectangles indicate. (Values can have a strong cognitive element and structure can be affect-laden as the quotation from Selznick in Chapter Four indicated.)<sup>2</sup>

The five levels illustrated are not intended to be exhaustive (there are institutions intermediate between the organisation and society, for example) but they are interconnected. The 'ideal type' mechanistic organisation (Burns and Stalker, 1961) would be represented by the diagonal from top left to bottom right of the figure. Their 'ideal type' organic organisation would be represented by the diagonal from top right to bottom left. Empirically it seems unlikely that two of the tendencies (e.g. those for certainty and security) would have totally suppressed the other two (e.g. for innovation and risk) at all five levels. There is much more likely to be differential expression of all four tendencies, with certain tendencies dominant in particular parts of the organisation, or at different times in the same part.

If we compare Figure V.1 with Figure V.3, we can see that our four independent structural variables and four independent climate variables are now related diagrammatically to the dependent variables of analytical and social behaviour. We have related them conceptually in terms of certainty, innovation, risk and security.

Figure V.3 does not include the resource variables. These have been discussed earlier, and could be located alongside structure and climate at all five levels of Figure V.3. Such resources themselves, however, are not just inert or given, but are also products of managers' previous strategic activity. Because of this 'anything that happens in an organisation implies both some reduction and some

increase in tensions - some redistribution of the inventory of tensions' (Gore, 1964). 'We have two modes of decision activity: activation of sanctioned patterns of structured behaviour and consequent maintenance and reinforcement of the status quo; and activation of indigenous patterns of accommodative behaviours which result in the loosening of commitments supporting existing structures and the introduction of potential changes.' We are suggesting that critical analytical skills programmes will encourage the former, and empathic social skills programmes the latter. What we lack is a theory which will tell us when it is appropriate to introduce the one type, and when the other, and how to accomplish the necessary shift that is incurred whether in defence of the status quo or to support change.

The tendencies running through the diagonals of Figure V.3 do, however, suggest various hypotheses, some of which are given below.

## 2.2 Some specific hypotheses

When we prepared our initial submission for the Department of Employment we had not identified more than one type of developmental climate, nor more than one type of control climate. We give below four hypotheses (based on the diagonals of Figure V.3) by which we related the independent structural and climate variables to the dependent behaviour variables before the study commenced. Our later thinking (Section VII.2.4) suggested other hypotheses. In Part Three of the dissertation we shall show results for both sets of hypotheses insofar as we have been able to test them (Chapter Nine).



2.2.1 Hypotheses relating structure, climate and training to behaviour

- (1) Both trained and untrained groups will have high analytical and high social behaviour scores in organisations with high structuring of activities, high control climate and high developmental climate.
- (2) Both trained and untrained groups will have high analytical behaviour scores and low social behaviour scores in organisations with high structuring of activities, high control climate and low developmental climate.
- (3) Both trained and untrained groups will have low analytical behaviour scores and high social behaviour scores in organisations with low structuring of activities and low control climate and high developmental climate.
- (4) Both trained and untrained groups will have low analytical and low social behaviour scores in organisations with low structuring of activities, low control climate and low developmental climate.

These hypotheses would be based on the assumption of a direct association between compatibility of the environment and the success of training (i.e. with Schein's position in Section IV.1.2.1). Note that this refers only to the direction of change, not to its magnitude. If the training were remedial the trained group might finish with a score equal to or even still slightly below other groups, or it might surpass them.

If we took the dissonance theory perspective (see Section IV.1.2.3) we would rewrite the above hypotheses. For example, hypothesis (4) above would be:



Trained groups will have high analytical and high social behaviour scores and untrained groups will have low analytical and low social behaviour scores in organisations with low structuring of activities, low control climate, and low developmental climate.

We added a fifth hypothesis to test the Moscow position (see Section IV.1.2.2).

- (5) The behaviour of ex-trainees will be closer to training target behaviour than is the behaviour of other managers when the control and development climate scores of the organisation are neither maximally nor minimally distant from the control and development climate scores regarded as ideal by the trainer.

#### 2.2.2 Hypotheses relating resource variables (other than training) to behaviour

The discussion in sections V.1.2.2 to 1.2.5 suggested a number of possible hypotheses, but our prime focus is on team training in organisations with different combinations of structure and climate. We wish to use the resource variables mainly as exogenous variables about which we needed information for purposes of control - for example in matching the composition of trained and untrained groups. From the number of nominal variables shown in Figure V.1 it is clear that a great many relationships could be examined if the empirical data are not confounded by too many errors arising from poor design. Before we discuss the design problem, however, we wish to describe the operational versions of the variables listed in Figure V.1.

### 3. THE OPERATIONAL DEPENDENT AND INDEPENDENT VARIABLES

Zetterberg (1965) defines validity as 'the extent to which an indicator (operational definition) corresponds to the (nominal) definition of the variable. The chief problems in obtaining such correspondence are those of exhaustiveness (covering in the operations the whole content of the nominal definition) and exclusiveness (leaving out<sup>of</sup> the operations elements not included in the nominal definition).

#### 3.1 The dependent variables

Our difficulties in operationalising our dependent variables of analytical behaviour and social behaviour are described in Chapter Six. At one point we had two distinct six-item scales, one for each type of behaviour. Our final version, however, included both types of behaviour in a single eight-item scale, making testing of hypotheses (2) and (3) in Section V.2.2.1 above impossible.

Managers' analytical behaviour and managers' social behaviour were finally jointly measured by 'The Managers' Activities and Methods of Working Questionnaire' (MAM). The behaviour targets were measured by a parallel questionnaire given to trainers which asked about the behaviour they desired from ex-trainees. This version was called 'Managers' Activities and Training Objectives' (MAT). Chapter Six gives a full account of the development of both questionnaires, from which the reader can decide how closely the final questions correspond to the definition of analytical behaviour as, 'action which creates or follows systematic procedures' and social behaviour as, 'action which exhibits and encourages open expression of feelings'.



### 3.2 The independent resource variables

#### 3.2.1 Parent organisation

In all those cases where the unit of organisation studied was part of a larger manufacturing group, the information on the size of the parent, in terms of number of employees, group turnover, and capital employed was taken from the Times 1,000 listing of companies for the year 1970-71. Chapter Eight of Part Three of this dissertation gives details of our sample.

#### 3.2.2 Own organisation

We interviewed a knowledgeable member of the top management group to obtain the information about the unit of organisation. For memberships, we asked whether the unit itself was a corporate member of any educational association, any research association, any trade association, and any management association. If the interviewee replied affirmatively, we asked him to name the association. (In the previous Aston research there was a correlation of 0.56 between membership of BACIE and structuring of activities and also a correlation of 0.56 between membership of BIM or RIPA and structuring of activities) In the Aston study, however, the information on memberships was obtained from the various associations and not from the company (or organisation) studied. We left open the question whether or not the separate memberships could be combined to form an index of extensiveness of external affiliations.

Size of the organisation was measured by the number of employees as given by our informant. We asked that part-timers should be counted as half.

The measures of interdependence and technology are those used



in the short-form of the Aston interview schedule. Further details are given in Pheysey et al. (1973), and the scales and evidence of their validity are given in Appendix V.1.

### 3.2.3 Group

Size was the number of persons from the same unit of organisation who (1) replied to our questionnaire, and (2) worked together.

Where the number of persons who replied to the questionnaires was less than 100 per cent of those receiving questionnaires, we used the number actually replying, but we included response rate as an additional variable. The definition of 'working together' was left to the organisation concerned, but we checked out in each case the basis of group identity.

Our previous work (Payne and Pheysey, 1971b) had led us to the conclusion that the boundaries perceived by respondents probably coincide with those shown on an organisation chart in highly structured organisations, but that they may diverge in organisations where there is lower structuring. A sociometric analysis is time-consuming, and would not, we believed, serve our present purpose any better than simply asking the people themselves to identify their own grouping.

The type of team training received was classified as Analytical, Social, or Mixed. Details are given in Chapter Six. The categorisation of 'trained team' versus 'untrained team' is shown in Table VIII.2 and discussed in the text of Chapter Eight, section 2.1.

### 3.2.4 Individuals

Appendix V.2 gives the Personal Information Form and the scores derived therefrom. We wish here to comment on the scoring procedures chosen.

We studied the BSA publication (1972), 'Comparability in Social Research' with a view to using categories that would yield maximum comparability with other research, and we also looked at the possibility of contributing to the Essex data bank. Some of our categories, such as recent training, however, had to be based on the specific requirements of our research.

Under 'training' we wanted some indication of amount of recent exposure. On the assumption that job requirements would not be constant for more than five years at the most, we asked about short courses during this period. It could be argued that this period is too long, but the Henley follow up (Rapoport, 1970) indicated a pay-off some four years after course attendance. A count of 'number of courses' attended is very crude since we only set a minimum duration, viz. 30 hours. This would exclude one-day seminars, but could include long weekends, or one week of five six-hour working days. We did, however, ask for course titles and name of provider. For a single educational subject we set a minimum of ten hours which we regarded as the equivalent of one hour per week for a ten-week term. We were asked by one of our respondents whether 'reading a book by Drucker' could count as studying the subject of management. We explained that we had in mind more formal tuition, though possibly by correspondence, but that if he felt he had derived ten hours' worth of learning from Drucker, fair enough. We had no means of checking the basis of respondents' replies about subjects studied.

For qualifications we consulted the Civil Service list (1969) and the separate gradings made by two independent expert judges of a list which we asked them to rank. We combined the grades into

cruder categories until there were no discrepancies in the ordering of the assignments made.

Age was a relatively simple category which we assume was accurate to within twelve months at the time of asking.

Experience and current position were much more difficult to classify. Some of the divisions as between, for example, 'technical management' (with an engineering or natural science usage) and 'management services' (with OR, work study and production control) were not always obvious. We relied on respondents to classify their own past experience on the basis of forced choices and since some included present post we added it in cases where it had been omitted.

We did not obtain any of our personal information from company records, so we had also to consider acceptability to respondents of the questions asked about earnings. It was for this reason, for example, that we selected £500 salary bands rather than actual salaries. We did not ask about fringe benefits, so there may be quite a large error in attempting salary comparisons.

For family background we used the Registrar General's classification of socio-economic class, but in several instances we had to guess, for example, what kind of an establishment the respondent's father might have been a manager in, or whether 'army' meant 'private soldier', and so on. We also asked, rather clumsily as it turned out, about sibling status, because of the volume of research (see Sutton-Smith and Rosenberg, 1970) which has been done in this area. Our final scoring was first-born versus the rest as this was the best discrimination in our sample.

In the case of beliefs there were insufficient numbers endorsing membership of any political party to make it worth while to distinguish



between, say, 'radicals' and 'conservatives'. We therefore only used the simple dichotomy, member of any political party versus non-member. Similarly we distinguished between those with a religious affiliation (defined as four attendances per year minimum) and those without.

### 3.3 The independent structure variables

#### 3.3.1 Own organisation

Structuring of activities was measured by the combined scores on two component scales - functional specialisation (a 16-category scale) and formalisation of role definition (a 10-category scale). Appendix V.3 gives full details together with evidence of validity and reliability.

Concentration of authority was measured by a 23-category scale which is also described in Appendix V.3.

The short form of the Aston interview schedule was used for both structuring of activities and concentration of authority.

#### 3.3.2 Group

Initially we intended to measure hierarchical levels through the paradigm developed in the Aston studies for comparing levels of authority to take decisions (in organisations with differing vertical hierarchies). Under this schema, however, a boss and his subordinate could fall into the same category. If we wanted a within group index of stratification we could simply use the organisation chart and job titles to count the number of reporting levels: peers equals one level; boss and immediate subordinate equals two levels; boss, subordinate, and subordinate's subordinate

equals three levels; and so on. To place the group as a whole in terms of how high up they were, we found modal salary band as good an indicator as any. (See Appendix V.2 for individual salary scores.) Whistler (1964) has used the relative salary level of executives as a general measure of how influential they are.

There were two alternative ways of scoring functional differentiation. One was the number of different functional areas represented in the group (based on the classification of functions used for individuals in Appendix V.2). The other was the highest proportion of group members occupying a single functional area. The former is an index of heterogeneity and the latter of homogeneity, and, as expected, the two were inversely related.

### 3.4 The independent climate variables

#### 3.4.1 Own organisation

The instrument used to measure developmental and control press was the Business Organisation Climate Index (BOCI). In its current form it consists of 20 eight-item scales, though it had initially contained some scales of more than eight items, and some of fewer than eight items. The early version of the BOCI also had 24 scales, but four of these were subsequently dropped. Appendix V.4 shows the information on the BOCI which we submitted to our sponsors at the start of the project. During the study we had access to the norms developed on the newer version by Roy Payne at the University of Sheffield. We also established norms and factors for our own sample, and these will be given later when we discuss our findings

(Chapter Nine). It is preferable that the validity of instruments and the correctness of substantive hypotheses be tested independently of one another. In Appendix V.4 we present evidence for the validity of the BOCI. This evidence is not impaired by subsequent refinements to the scales.

### 3.4.2 Own group

The unanimity or diversity of perceptions within a group was to be measured by the size of the standard deviation on the BOCI scales - the smaller the standard deviation the more uniform the perceptions. (This was the intention. A simpler procedure was eventually used. It is described in Chapter Nine, section 2.3.)

## 4. THE OPERATIONAL HYPOTHESES

In section V.2.2 above we gave five hypotheses, but these were not expressed in operational terms. We propose, however, to defer their translation until we discuss results (Chapter Nine, section 3). As we mentioned, our thinking developed during the course of the project, and the hypotheses which we put forward in our initial project submission were reformulated by the time we had collected most of the data. In this chapter we have been concerned to set out our thinking prior to the study.

## 5. LEVELS OF ANALYSIS

Figure V.1 indicated that the independent variables would refer to organisations (own and 'parent', if there was one), to groups, and to individuals. The dependent variable is prefaced by the word 'managers' in the plural, because the intention (as indicated in the



hypotheses) has been to study the analytical and social behaviour of trained and untrained groups of managers - hence the title of the thesis, Teamwork in Management.

Figure V.1 makes only one reference to the training (via the group variable, 'team training received'). However, another part of the research involved classifying the training itself and obtaining information from trainers not only on their target behaviour but also on the types of business organisation climate which they regarded as ideal. This aspect of the study is included in Figure V.4.

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See Figure V.4

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Figure V.4 presents in tabular form the different types of data collected (in columns a to h) and the levels of analysis that are possible, using the terminology of Lazarsfeld and Menzel (1961). Mean scores are referred to in the analytical rows, but this does not imply that the only operation that will be performed will be averaging, or that all the data can be classed as interval data from a metric point of view. We may use medians, or frequency counts, or other ways of summarising the data from members.

Figure V.4 opens up a range of possibilities. Our intention was to concentrate on the global, structural and analytical properties of groups, and our initial submission spoke of attempting to collect this data for '40-80' groups in '20-30' companies. Had we been successful in this we could have done more at the organisational level of analysis, using the global, structural and analytical properties of companies. As we have, in fact, only half the minimum



FIGURE V.4

KEY: The titles for the properties are taken from P F Lazarsfeld and H Münzel 'On the relation of individual and collective properties', publication A322 of the Bureau of Applied Social Research, Columbia University. BOCI = Business Organisational Climate Index; MAM = Manager's Activities and Methods of Working Questionnaire; col. = colleagues; boss = superior; Personal Information = Personal Information Sheet; BOCII = BOCI Ideal; MAT = Managers' Activities and Training Objectives Questionnaire.

DATA COLLECTED AND PROPERTIES OF ORGANISATIONS, GROUPS AND INDIVIDUALS								
Properties of:	Questionnaires from Company				Trainer and Company		Questionnaires from Trainers.	
	(a) Interview	(b) BOCI	(c) MAM Col.: Boss	(d) Personal Information	(e) BOCII-BOCI = dependent variable	(f) MAT-MAM = dependent variable	(g) BOCII	(h) MAT
<b>1. Companies</b>								
<b>1.1 Global</b> not based on information about properties of the members	size technology memberships dependence structuring concentration performance							
<b>1.2 Structural</b> properties obtained by performing some operation on data about the relation of a member group to another member group	Trained group v. control group size, hierarchy, span, etc. differences	Between group differences in perceived BOCI	Between group differences in perceived MAM	Between group differences in membership: salary age qualifications etc.	Between group differences in BOCII minus BOCI	Between group differences in MAT minus MAM	Differences between analytical mixed and social trainer groups on BOCII	Differences between analytical mixed and social trainer groups on MAT
<b>1.3 Analytical</b> obtained by performing some operation on some property of each member group	Mean size, mean hierarchy, mean span, etc. of the groups	Mean BOCI score of the groups	Mean MAM score of the groups	Mean age salary qualifications etc., of the groups	Mean BOCII-BOCI scores of the groups	Mean MAT-MAM scores of the groups	Mean BOCII scores of different trainer groups	Mean MAT scores of different trainer groups
<b>2. Groups</b>								
<b>2.1 Global</b> (scores from 1.1.a can describe type of organisation to which group belongs)	Trainer group: analytical mixed or social. Company group: type of training received, or control group							
<b>2.2 Structural</b> from data about the relation of an individual to other individual member(s)	size span hierarchy proportion trained in trained group, etc.	within group differences on BOCI	within group differences on MAM	within group differences of age salary, etc.	within group BOCII-BOCI differences	within group MAT-MAM differences	within trainer group BOCII differences	within trainer group MAT differences
<b>2.3 Analytical</b> from data about each single member		Mean BOCI scores of members	Mean MAM scores of members	Mean age salary of members etc.	Mean BOCII-BOCI scores of members	Mean MAT-MAM scores of members	Mean of members of group of trainers on BOCII	Mean score of members of a group of trainers on MAT
<b>3. Individuals</b>								
<b>3.1 Contextual</b> individual described by a property of his his collective (see 1.1 and 2.1 above)	global org. and global group scores, e.g. whether member of trained or control group							
<b>3.2 Comparative</b> member's value on some property and distribution of this property over group he belongs to, e.g. sibling status	status in group, e.g. boss, subordinate or both	distance of individual score from group mean BOCI	distance of individual score from group mean MAM	distance of individual score from group mean age, etc.	distance of individual score from group mean BOCII-BOCI	distance of individual score from group mean MAT-MAM	distance of individual trainer from his group's mean on BOCII	distance of an individual trainer from his group's mean on MAT
<b>3.3 Relational</b> (bosses only) e.g. popularity as indicated by recd choices			mean MAM score given to boss by his own subordinates					
<b>3.4 Absolute</b> not from data about the organisation or about other members		how individual sees the organisation BOCI	how individual sees his colleagues and boss MAM	individual's score on all biographical data, age, salary, qualifications etc.	difference between individual's trainer BOCII-BOCI	difference between individual & trainer MAT-MAM	Individual trainer's scores on BOCII	individual trainer's scores on MAT

number of groups we had aspired to, we may well find that some of our analysis will be at the individual level. Blau (1960) illustrates what can be done, for example, by relating data in row 2.2 and rows 3.2 and 3.4 of Figure V.4. He argues that the social values that prevail in a group may affect the individual directly, inversely, or contingently, depending partly on whether he is in a minority or majority position in the group. Figure V.4 illustrates in operational terms what Figure V.1 was expressing in conceptual terms only, and suggests further re-arrangements of variables. (In Chapter Nine we present the results for rows 2.1, 2.2 and 2.3 of Figure V.4.)

Even if Figure V.1 were well grounded in theory - which it is not, and even if the operational definitions were valid, which is only partly the case, we do not have a satisfactory research design until we can show how we propose to eliminate competing hypotheses, and what are the limits of generalisability to which we lay claim. To these problems we now turn.

## 6. RESEARCH DESIGN

### 6.1 Two-stage sampling

#### 6.1.1 The first stage

Our first problem was that we do not know how many intact groups of team-trained managers there are in British manufacturing industry. One document which we had to guide us was a BIM Survey (1968) on 217 companies (the 44 per cent responding) out of 493 companies 'chosen as being those most likely to be active in the field of Management Development and Training'. Unfortunately the Survey did not ask whether companies used team training, in the sense of exposing all



the members of an intact group of managers to a common learning experience. Question 18 of the Survey did, however, provide relevant information. It asked, 'Please tick any of the management consultants whose services have been used by your company'. The consultants' names and the number of companies using them are given as:

Kepner-Tregoe (Problem analysis and decision making)	16
Blake (Managerial Grid)	18
Reddin (Three-dimensional Grid)	0
Coverdale (Teamwork training)	11
Others	63

(NB The Survey does not say whether any firms ticked more than one category.)

The BIM Survey also shows that 116 of the 217 replies were from firms employing more than 5,000 people, and that the three industries best represented were: engineering, food drink and tobacco and chemical and allied products.

We decided to use The Times 1,000 list of organisations 1970-1971 because this contained relevant financial information and also the names of the Chairman or Managing Director. We would use the ranking by turnover, and would work down the list, starting with the biggest firm until we had located, hopefully, 20-30 companies who had 'used one of the named managerial skills programmes in the previous 18 months' for groups of managers. (The quotation is from our initial project submission.) In effect, we attempted saturation sampling of all manufacturing organisations in the top 50, and 34% of the remainder with a turnover of over £40 million per annum. The response rate to our preliminary enquiry was 70 per cent. Chapter Eight gives the number of firms we visited

for background information and the number who co-operated fully in the research.

#### 6.1.2 The second stage of sampling

In the second sampling stage we intended to ask each company which had used the relevant types of training to nominate a group, or groups (which had had the programme a minimum of six months previously and a maximum of 18 months previously). We would also ask the company to nominate another group, with as many similarities as possible to the trained group(s), but which had not been exposed to any form of training for at least two years. We hoped the final design would look like Figure V.5.

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See Figure V.5

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#### 6.2 The static group comparison design

From this point on the design was to be what Campbell (1957) calls The Static Group Comparison, replicated as many times as possible. (Our initial submission hoped for 40-80 groups.)

Since it was impossible to use probability sampling when the location of the population of trained teams was not known, and since we were seeking to evaluate training received by intact groups, not randomly assigned individuals, we had a design which was poor with respect to at least three of Campbell's sources of invalidity - selection, mortality, and subject-method interaction. Also it would be quite impossible to keep all the independent variables shown in Figure V.1 quite constant while we varied only the type of training for its effect upon behaviour.

Figure V.5

THE INTENDED STATIC GROUP COMPARISON DESIGN

Type of team training	Trained groups	Control groups	Total groups
Analytical skills	a b c d e	a <sub>1</sub> b <sub>1</sub> c <sub>1</sub> d <sub>1</sub> e <sub>1</sub>	10
Mixed skills	f g h i j k l m n o	f <sub>1</sub> g <sub>1</sub> h <sub>1</sub> i <sub>1</sub> j <sub>1</sub> k <sub>1</sub> l <sub>1</sub> m <sub>1</sub> n <sub>1</sub> o <sub>1</sub>	20
Social skills	p q r s t	p <sub>1</sub> q <sub>1</sub> r <sub>1</sub> s <sub>1</sub> t <sub>1</sub>	10
Total	20	20	40



Sjoberg and Nett (1968), writing on sampling problems, comment,

'Although the primary goal of sociology is the formulation of valid propositions concerning the nature of social organisation, a sound method for selecting respondents (or the events to be observed) within the system under study has yet to be devised. Probability sampling, as presently constituted, contributes little to the resolution of this problem ..... Members of a social organisation possess unequal knowledge about its operation. Large-scale governmental, business education and religious bureaucracies are after all nondemocratic ..... Nevertheless ..... one of the assumptions underlying probability sampling is that the units are equal.'

We hoped to have enough teams in our non-representative sample to constitute a small universe which we could describe in its own right. Blalock (1963) has suggested that we de-emphasise our concern with relating samples to their working universe and focus instead upon the analysis of interrelationships among variables. Thus we hoped to be able to say whether the trained groups are closer to targets than untrained groups in each case, but without backing our assertions with specific confidence levels. This would be an evaluation for the companies and programmes concerned. Elucidation is more difficult. In the last resort we appeal to Dubin's (1969) defence of descriptive research:

'No theory was good enough to tell us the nature of the moon's surface. An elaborate, purely descriptive experiment in landing a vehicle on the moon and having its instruments "feel" the surface materials had also to be carried out to provide information on which to base a theory of how man could get there and survive.'

We similarly lack a theory good enough to tell us how team training can bring about social change. In Chapter Seven we shall outline the further thoughts we have had about this, and in Part Three we shall present our results. Meanwhile our next chapter describes the problems we had in operationalising our dependent variables - managers' analytical behaviour and managers' social behaviour.

1. A quotation from Gross et al. (1958) is apt.

'That members of a social system, whether a dyad or a total society, must agree among themselves to some extent on values or expectations is a matter of definition. The point we have been trying to underscore is that the degree of consensus on expectations associated with positions is an empirical variable, whose theoretical possibilities until recently have remained relatively untapped.'

2. See Chapter Four, Section 2.2, where Selznick is quoted as referring to 'personal loyalties which transform the organisation - into something having a sacred status'.



CHAPTER SIX

PROBLEMS OF DEVELOPING A PERFORMANCE MEASURE: THE HISTORY  
OF THE QUESTIONNAIRE ON 'MANAGERS' ACTIVITIES AND METHODS  
OF WORKING'

1. THE AIMS OF TRAINING
  - 1.1 Analytical skills programmes
  - 1.2 Social skills programme
  - 1.3 Mixed programmes
2. REQUIREMENTS FOR CONVERTING AIMS INTO MEASURABLE OBJECTIVES
  - 2.1 Mager's criteria
3. THE SEARCH FOR A READymADE QUESTIONNAIRE
  - 3.1 The Executive Position Description Questionnaire
    - 3.1.1 A byproduct for trainers - proficiency tests
    - 3.1.2 Reasons for not using the proficiency tests here
  - 3.2 Bunker's method
  - 3.3 Oshry and Harrison's method
  - 3.4 Further search - Bloom's taxonomy
    - 3.4.1 Rejection of personality measures for training evaluation
    - 3.4.2 An alternative use for personality tests
  - 3.5 Some possible measures of behaviour
    - 3.5.1 The Leader Behaviour Description Questionnaire
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4. DEVELOPING THE MANAGERS' ACTIVITIES AND METHODS OF WORKING QUESTIONNAIRE (MAM)
  - 4.1 The first draft
    - 4.1.1 Selection of possible activities
    - 4.1.2 Checking the centrality of the activities



- 4.1.3 Selection of descriptions of behaviour
- 4.2 Preparations for the first pilot study
- 4.3 The first pilot study
  - 4.3.1 Abandonment of the semantic differential
- 4.4 Preparation for the second pilot study
  - 4.4.1 Revision of the behaviour descriptions for methods of working
  - 4.4.2 Replacement of the rating scale
  - 4.4.3 Determining objectives for the second pilot study
- 4.5 The second pilot study
  - 4.5.1 The sample
  - 4.5.2 Conclusions from the second pilot study
- 4.6 Preparation for the third pilot study
  - 4.6.1 A fresh start
  - 4.6.2 A revised questionnaire
  - 4.6.3 The final version ready for testing
- 4.7 The third pilot study
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- 5. THE FINAL MAM ITEMS IN RELATION TO THE AIMS OF THE COURSES
  - 5.1 The analytical programmes and MAM
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  - 5.4 Discrimination among the programmes
- 6. THE ABILITY OF MAM TO DISCRIMINATE BETWEEN HIGH AND LOW PERFORMANCE
- 7. SOME GENERAL CONCLUSIONS ABOUT PERFORMANCE MEASURES
  - 7.1 The purpose of performance measures
  - 7.2 MAM as a performance measure for trainers
  - 7.3 MAM as a research instrument

## CHAPTER SIX

PROBLEMS OF DEVELOPING A PERFORMANCE MEASURE: THE HISTORY  
OF THE QUESTIONNAIRE ON 'MANAGERS' ACTIVITIES AND METHODS  
OF WORKING'

He does much, that does well what he does

Thomas a Kempis

### 1. THE AIMS OF TRAINING

We decided that the quantification of performance must be in terms of the degree of approximation to the targets of the training programmes. This meant that both targets and performance would have to be assessed in the same units and on the same dimensions. We would need a criterion referenced measure, not a norm referenced measure. That is to say, the performance would be assessed in relation to some ideal rather than in relation to the average performance of a particular sample. Criterion referenced tests 'lend themselves more readily to identifying when and in what direction changes have been brought about, but at present the techniques for the production of such tests and the efficacy of them in practice have been relatively unexplored' according to Roebuck (1972). (Appendix VI.1 contains an additional bibliography.)

The first step was to find out what were the stated aims of training, and then to see whether these aims could be grouped into categories. Seven programmes of behavioural training for managers were the focus of the research effort. For each of these seven programmes there was a published handout describing the methods that were employed on a course, and what the aims were. We have

extracted the relevant phrases, and we reproduce them below.

### 1.1 'Analytical Skills' programme (our generic term)

Managers should learn how to:

sift out and refine short-term priorities and long-term goals;

gather facts;

set objectives and standards;

ask questions;

define responsibilities;

analyse results;

review performance. (From one course brochure)

Managers should learn how to:

improve speed of attack on situations;

specify a problem;

develop an eye for relevance of information;

analyse for distinction and changes;

find the cause;

list the cause;

apply results to job;

develop disciplined handling of information of all kinds;

develop a healthy approach to planning and the management of risk.

(From another course brochure)

Provisionally, all the above aims were categorised as being concerned with systematic and analytical methods for making decisions.

### 1.2 'Social Skills' programme

Another programme specified aims which were concerned with what are variously called interactive, interpersonal, or social skills.



The objectives were that managers should learn how to:

gain co-operation;

find acceptance;

achieve understanding;

appreciate how others are reacting to one's own behaviour;

gauge the state of relationships between others;

be more aware of one's own feelings and behaviour;

give and receive helpful criticism.

These aims were provisionally categorised as being concerned with sensitivity to feelings and with openness to others.

### 1.3 Mixed programmes

The other four programmes exhibited some of the characteristics of both the previous types. Their objectives were that managers should learn how to:

apply a systematic approach to difficulties;

try out ideas and analyse what happens;

see and hear by observing and listening;

build up a common language;

perceive talents and capabilities in others;

develop talents and capabilities in others;

---

change from autocratic style to greater group participation and involvement;

define and explain tasks;

act on individual suggestions;

---

gain insight into a manager's role within a company organisation;

achieve tasks;

understand some of the factors which influence the attitudes and behaviour of people;

manage groups;

---

solve problems;

cope efficiently and logically with a variety of situations;

understand group processes better - especially intergroup conflict and co-operation;

be more aware of the way people work in organisations.

## 2. REQUIREMENTS FOR CONVERTING AIMS INTO MEASURABLE OBJECTIVES

None of the aims listed by any of the programmes can, as they stand, indicate the difference between good performance and a poor performance. This is so because they do not satisfy Mager's (1962) criteria.

### 2.1 Mager's criteria

To be measurable, an objective must:

- (1) identify and name the observable act(s) that will be accepted as evidence that the learner has achieved the objective, or
- (2) describe the conditions (givens and restrictions) necessary to exclude acts that will be not accepted as evidence that the learner has achieved the objective.

Morgan (1971) in his 'critical survey of training in interactive skills' draws attention to this problem. He asks, 'What can the manager do, or what is he willing to do - in actions that can be observed - at the end of training that he was unable or unwilling to do before?' This question is seldom asked. Put in another way it becomes, 'In what way will he act, and when will he act in this way?'

### 3. THE SEARCH FOR A READYMAD E QUESTIONNAIRE

Whitelaw (1972) describes assessment sheets, which have been used by an observer, to evaluate appraisal interviewing skill, or skill demonstrated in a standardised role-playing situation. When the assessment is to be made on the job, however, reliance is generally placed on indirect observations of behaviour; partly because direct observation of a number of managers is 'too costly and time-consuming to be of practical use in the industrial evaluation situation', and partly because of the effect on a manager of being shadowed by an observer. What we were looking for was, therefore, a questionnaire which would elicit indirect reports on whether trained managers were, or were not, acting in the manner which accorded with the objectives of the training programmes. The questions should concentrate attention on those instances where the specific behaviour to be looked for was most likely to occur.

#### 3.1 The Executive Position Description Questionnaire

A useful questionnaire in helping to focus attention on 'the conditions necessary to exclude acts that will not be accepted as evidence that the learner has achieved the objective' is J. K. Hemphill's (1960) Executive Position Description Questionnaire. It specifies the activities in which different types of managers engage, and could be adapted to our purpose. It is, however, devoid of performance criteria.

##### 3.1.1 A byproduct for trainers - proficiency tests

Nevertheless, it would be quite feasible for anyone engaged



in training to devise an end-of-course test based on a combination of their aims and some of Hemphill's items. Suggestions for eighteen such proficiency tests are set out in Appendix<sup>VI</sup> 2, 'Definition of Testable Training Objectives by Hemphill Items'.

### 3.1.2 Reasons for not using the proficiency tests here

These ideas could not be used in the current research however. The chief reason is that test materials would have had to be specially constructed to relate to the specific content of each course, and then be administered to batches of trainees. Scoring procedures would have had to be worked out and standardised in each case. For a comparative study of different programmes and companies the preparatory work would have been beyond the scope of the research budget. It could, however, be done by a company training department for its own use in conjunction with courses it runs internally. We were looking for an instrument which could be used without interrupting the on-going work of the managers concerned.

### 3.2 Bunker's method

The method used by Bunker (1965) was one that came to mind. He asked those who had been trained, and several work associates of those who had been trained, to note, on an open-ended report form, any changes they had observed in the ex-trainee's behaviour. Different judges independently categorised the responses as a basis for scoring. It was felt that this approach would be unsuitable in the present study for which the instrument had to be capable of a double duty - distinguishing between trained and

untrained groups and standardising the objectives of seven different training programmes. We did, however, retain the idea of reporting by associates.

### 3.3 Oshry and Harrison's method

Nevertheless, it would have been helpful to have an instrument of proven reliability and validity which would differentiate among the kinds of performance which training was seeking to foster. We had already provisionally classed the programmes as 'Analytical Skills', 'Social Skills' and 'Mixed Skills' programmes, so the Problem Analysis Questionnaire of Oshry and Harrison (1966), which was designed to measure rational-technical competence and interpersonal competence, initially looked promising. However, an examination of the published items revealed that they did not fit the objectives of our programmes as closely as had been hoped.

Participants at a T-group were asked when the group commenced, to write about an important unresolved problem at work, in which at least one other person besides themselves was involved. They were asked to rate various contributory causes on a five-point scale. The training was expected, among other things, to bring about changes in their perceptions of the problem as follows:

- (1) increase in perceived importance of self as cause
- (2) decrease in perceived importance of other(s) as cause
- (3) decrease in perceived importance of environmental factors as causes.

It was therefore necessary to have at least two administrations of Oshry and Harrison's questionnaire, the first to establish a base-line and the second to show the direction and amount of movement



from this base line. In Roebuck's (see section 1) terms, their's was a norm-referenced rather than a criterion referenced measure, the pre-training answer being the norm.

### 3.4 Further search - Bloom's taxonomy

#### 3.4.1 Rejection of personality measures for training evaluation

We turn next to Bloom's (1964) Taxonomy of Educational Objectives, which lists a number of personality tests, inventories of preferences and values, and projective tests. The drawbacks of the last-named have been well described by Barnsley (1972), and we felt they were unsuited to the task of evaluating training. Nevertheless, several firms that we visited during the research do, in fact, make use of personality measures for their own purposes. It is, however, our view that great caution needs to be exercised in interpreting results. The reviews in the Mental Measurements Yearbook (1967) can help in sifting tests on the basis of how they have performed under repeated administrations, and with varying samples, and of how they intercorrelate with other measures, but the credibility of the theories from which the measures originate is perhaps too seldom questioned.<sup>1</sup>

The writer of this report finds George Kelly's (1957) Personal Construct theory among the more plausible of personality theories. Kelly's Role Construct Repertory Test elicits constructs from the subject instead of providing him with some readymade. Its basic use is in clinical psychology, but other psychologists (Bieri et al. 1966) have adopted the grid format of the 'Rep Test', supplied some constructs of their own, and used the instrument to study differences in thinking and judgment. It was, in fact, suggested



to us that we might use a grid format, though of a different kind, in our performance measure, using analytical and social axes in the way that Blake and Mouton (1964) use concern for people and concern for production. We did not feel, however, that we could adequately represent the training aims in this way.

At this point, because of the way we have seen personality tests used in industry, we should like to make another small digression. We all of us make judgments about other people, and about what we consider to be desirable and undesirable characteristics. We also have our own ideas about what constitutes effective or ineffective behaviour, from a company point of view. Rackham et al. (1971) in fact recommend that a company trainer should conduct an organisation behaviour survey to discover what people in his own organisation believe to be the difference between effective and less effective managers. In discussing the findings some agreement can emerge about what behaviours the training might be designed to influence. We would endorse this type of procedure. It is very different from basing one's training on a concept of 'the ideal personality type', or even on a concept of 'the ideal for Mr. X'. One trainer we met, was, with the best of intentions, doing just this, and using a personality test to judge his success.

#### 3.4.2. An alternative use for personality tests

One area where legitimate use of personality testing has been made is for research into how variations in the composition of a group seem to affect group decision making (Stager 1967) and learning (Smith 1971). It may well be that if the Central Training Council Training Survey Unit's (1971) recommendations that 'priority

should be given to the problem of learning' is implemented, trainers will one day have a sound basis for optimising the composition of their syndicate groups on the basis of test results. Such tests are at present still very much the province of experts. Meanwhile Rackham (1971) has suggested a way of putting people into those groups where they will learn most which does not resort to testing of any kind. His method uses a very simple index of contribution rates in the early stages of a course as a basis for reshuffling (with the agreement and full understanding of participants) at a later stage.

### 3.5 Some possible measures of behaviour

For a comparative study such as the present research, we decided that there were overwhelming reasons against the kinds of instruments cited in Bloom et al.'s taxonomy. None of the measures met the conditions specified by Mager (see 2 above). We decided that the questionnaire must enable managers to report on instances of behaviour which would be consistent with the aims expressed in the training brochures. The reports from different managers must also be comparable. Therefore we turned to an instrument that does refer to behaviour.

#### 3.5.1 The Leader Behaviour Description Questionnaire (LBDQ)

None of the nine dimensions from which the LBDQ was constructed (Stogdill and Coons 1957) was explicitly related to systematic and analytical kinds of behaviour nor to behaviour which is characteristically sensitive and open, but the two factors which emerged - 'initiation' and 'consideration' might perhaps be thought



consonant with the aims of the seven training programmes. The majority of the items turned out, however, to be conceptually quite unlike the things mentioned in the training brochures, for example, 'he encourages overtime work' (initiation); 'he treats all his foremen as his equal' (consideration). Moreover, a detailed review by Korman (1966) of research in the late nineteen fifties and early sixties that had used the LBDQ concluded that, before it was utilised further as the dependent variable in applied training programmes, much more work needed to be done to establish its validity. It was obvious that the LBDQ did not suit our requirements.

### 3.5.2 The Semantic Differential

Osgood et al. (1957) describe how they assessed the meaning which particular concepts have for different people, by asking respondents to rate each concept on a seven-point scale. The poles of the scale were paired adjectives - good/bad; weak/strong; active/passive, and so on. Perhaps we could use the technique, not to assess meanings but to find out how much methodical and systematic behaviour the analytical training programmes aimed to produce for specified activities, and how much sensitivity to feelings the social skill programme hoped to develop for specified inter-personal situations. We therefore decided to combine the semantic differential technique with the specifications of the Hemphill Executive Position Description Questionnaire (see 3.1 above) in designing a purpose-built questionnaire which would be called 'Managers Activities and Methods of Working' (or MAM).



## 4. DEVELOPING THE MANAGERS' ACTIVITIES AND METHODS OF WORKING

## QUESTIONNAIRE (MAM)

4.1 The first draft

The questionnaire would have two sections, the first, on activities, to indicate when training objectives might be relevant, and the second, on methods, to indicate how managers would act if training objectives were achieved. It will hereafter be known as the MAM.

4.1.1 Selection of possible activities

A list of eighteen activities was taken from J. K. Hemphill's Executive Position Description Questionnaire (see 3.1 above).

They are the same 18 activities which we suggested could form the basis of some proficiency tests (see Appendix <sup>VI</sup> 2) and they were chosen because at least half of Hemphill's managers reported that the activity was 'a substantial part' of their positions.

This list was then shortened to ten activities which seemed to provide special scope for the exercise of analytical or social skills. They are:

Activities with scope for Analytical Skills

investigating problems  
 setting goals for future performance  
 interpreting performance reports  
 planning one's own activities  
 making use of specialists

Activities with scope for Social Skills

briefing subordinates  
 reviewing the progress of subordinates  
 advising on personal problems of subordinates  
 conducting meetings  
 co-ordinating people's activities

4.1.2 Checking the centrality of the activities

We needed to be sure that the behaviour which the training

programmes wanted to influence would be demonstrated in activities which were central to managers' jobs, and not just peripheral to those jobs. The first half of our questionnaire would seek to establish this for British managers, and for different kinds of management positions. We could not be sure that Hemphill's findings would be true for our sample.

We therefore selected five pairs of adjectives which would help us to assess the magnitude of an activity. The adjectives were:

important	unimportant
obligatory	optional
time-consuming	not time consuming
frequent	infrequent
routine	non-routine.

Managers would be asked to place a ranking on a seven-point scale between these pairs of adjectives for each of the ten activities with reference to their own jobs.<sup>2</sup>

#### 4.1.3 Selections of descriptions of behaviour

The training brochures (see 1.1, 1.2, and 1.3 above) did not specify how managers should act if their aims were achieved. What we now needed to do was to generate some descriptions of the way people might act when carrying out the ten activities we had selected (see 4.1.1 above). As we had made a provisional decision to use the semantic differential technique, we needed pairs of adjectives which might reflect the training aims. We looked first at adjectives used by Osgood et al. (1957) but we found none to suit our purpose. Eventually, after further scanning of the training

evaluation literature (shown in Appendix<sup>VI</sup>,1) and with the help of Roget's Thesaurus, we settled on twelve pairs. This would generate 120 behaviour descriptions (12 behaviours in 10 activities).

The adjectives were:

<u>Analytical pairs</u>	<u>Social pairs</u>	<u>Suited to either or both</u>
methodical/unmethodical	sensitive/insensitive	appropriate/inappropriate
thorough/casual	frank/guarded	effective/ineffective
realistic/unrealistic	concerned/unconcerned	(these would be anchors
logical/illogical	trusting/suspicious	for the rest)
direct/devious	self-reliant/dependent on others	

At this stage it was intended to ask trainers to rate how they thought managers typically behaved prior to training, and how they hoped they would behave after training, the discrepancies between the two sets of ratings would give the direction and extent of change in behaviour that was aimed at. More work was, however, required before the questionnaire was ready for testing. (It was, in fact, never used in its first draft form, but this is reproduced in Appendix<sup>VI</sup>,3 for the curious.)

#### 4.2 Preparation for the first pilot study

The first draft was discussed with colleagues and former colleagues, and as a result a second draft was prepared. The chief alterations at this stage were aimed firstly at reducing the load on respondents, and secondly at sharpening the distinctions supposed to exist between the analytical skills programmes and the social skills programme.

The number of activities was reduced from ten (see 4.1.1 above) to six (see Appendix<sup>VI</sup>,4) and the wording was slightly changed.



The number of pairs of adjectives relating directly to the activities was reduced from five pairs (see 4.1.2 above) to three pairs, and the number of pairs of adjectives describing behaviour (see 4.1.3 above) was reduced from twelve pairs to the following four:

intuitive/methodical	guarded/frank
systematic/flexible	sensitive to feelings/ indifferent to feelings

It was hoped the these four sets would be sufficient to discriminate among the objectives of different trainers.

#### 4.3 The first pilot study

The questionnaire, as used at this stage, is shown in Appendix VI 4. The sample was fifty teachers from the Department of Industrial Administration at the University of Aston in Birmingham, the Graduate Centre for Management Studies in Birmingham (now both incorporated in the University of Aston Management Centre), and from the London Graduate School of Business Studies. Twentyone questionnaires were returned. The findings have been reported elsewhere (Gibson 1970), so they will not be repeated in detail here. The important conclusions were that the six activities chosen could form the basis of future questionnaire design. It was also established that the ratings given to the importance, obligatoryness, and time consumption of an activity could be aggregated to provide a single index of the extent to which that activity is a major or minor one for the manager concerned. Subsequent pilot studies confirmed this. The statistical evidence is presented in Appendix VI 5. The 'Managers' Activities' section was therefore retained in substantially its present form in the later pilot studies and in the main research. The section on methods of working was not satisfactory, however. It could not

provide suitable objectives for the three types of programme described in sections 1.1, 1.2 and 1.3. The reasons for this conclusion are set out below.

#### 4.3.1 Abandonment of the semantic differential

The semantic differential was designed to tap the kinds of meanings which people assign to different aspects of their surroundings or to different abstract ideas. Osgood et al. (see 4.1.2 above) found that three factors of meaning, which they called evaluative, potency, and activity, seemed to recur with widely different populations and cultures. It would seem that the 'evaluative meaning' factor was confounding the responses in the first pilot study. For example, it is 'good' to be methodical and 'bad' (for a manager) to be intuitive, so teachers could readily tick the methodical extreme on the scale between this pair.

Since systematic was thought to be a synonym for methodical, the wish was to tick this, too; but the word at the opposite end of the scale turned out to be 'flexible', and, as this is also a 'good' thing, one wanted to tick both extremes. When presented with a single forced choice, one put a tick in the middle - an unsatisfactory compromise. The problem of finding suitable neutral pairs of words seemed insuperable. If one picked a 'goodie' and a 'baddie', everyone would tick the goodie, and if one picked two 'goodies' everyone would tick the middle and feel cheated into the bargain. (There was no point in putting pairs of 'baddies'.) We had hoped to find pairs which would pull analytical trainers to one side of centre and social skills trainers to the other side of centre, so that discrimination between the two types of training could be achieved. (It

was, in fact, a mistake to think these programmes are situated at different points on a common dimension, as the second pilot showed - see 4.5.2.) Our first pilot respondents were university teachers who were primarily concerned with imparting knowledge rather than skills. This expedient was necessary because we could not carry out a pilot study on the trainers from the seven programmes which were the subject of the main enquiry, since there were too few of these trainers to be sampled more than once. We did, however, send a slightly amended version of the questionnaire to twelve persons engaged in other skills-type programmes for managers. They too reported difficulties in spite of the minor revisions (shown on pages 3 and 4 of Appendix VI.4).

Heise (1969) reviews research on the semantic differential and concludes that biased errors may arise in S.D. data because of social desirability effects or because of scale checking styles. A substantial proportion of the variation in S.D. ratings is due, he says, to individual differences and temporal variations in responses. He cautions that 'the existence of real scale-concept interactions demands tailoring the S.D. to stimulus domains, but the studies required for this must be carried out with considerable care'.

Perhaps it would be as well to make clear, at this point, that the difficulties we had with the semantic differential method were difficulties of our own making. We were attempting to use it to indicate behaviour changes whereas it is essentially an instrument for measuring attitude change. Thus, as Hamblin (1970) points out, it can still be very useful for gauging reactions to a course of training, or at the immediate evaluation level, to see whether



opinions concerning the subject matter of a course have been changed through the training. Our research was focused on behaviour at the intermediate outcome level (see Warr, Bird and Räckham, 1970, for the distinctions among levels of evaluation) and it was here that the semantic differential was unsuited to our purpose. Heise (1969) stated that the metric assumptions in the S.D. scales are adequate for many applications.

#### 4.4 Preparation for the second pilot study

##### 4.4.1 Revision of the behavioural descriptions for methods of working

It was decided to attempt to re-examine the four pairs of adjectives used to describe behaviour (see 4.2). In doing this we still wanted to retain a means for generating unidimensional scales if possible. With this in mind, being methodical was re-interpreted as 'preferring to adhere to (versus willingness to depart from) a prepared strategy when something unforeseen occurs'. Systematic was re-interpreted as 'using (versus not using) a standard step-by-step procedure'. Sensitive to feelings was re-interpreted as 'taking people's feelings fully into account (versus leaving people's feelings out of account)'. Frank was re-interpreted as 'being frank and open in front of others (versus being wary in word and deed in front of others)'. It was felt that it might be a good idea to check out whether these re-interpretations did, in fact, come closer to the dimensions by which we had originally classified the training programmes - viz 'concerned with systematic and analytical methods' (see 1.1) and 'concerned with sensitivity to feelings and with openness to others' (see 1.2). We therefore put in two extra items:

'pay much attention to analysing facts (versus pay little attention to analysing facts)' and 'encourage people to express their feelings (versus discourage people from expressing their feelings)'. These innovations are open to criticism and were, in fact, later abandoned - see 4.6.1.

#### 4.4.2 Replacement of the rating scale

Since we had given up the semantic differential format some standard wording was required to represent the intervals between the extremes. A seven-fold gradation was cumbersome in this respect since the use of particular prefixes did not fit all items equally well - for example, one could not invariably use the following time prefixes: always, very often, fairly often, sometimes, rarely, very rarely, never. We reduced the categories from seven to four, representing the two extremes by the introduction, 'as far as possible', and the two intermediate categories by, 'on the whole'. This meant that there was no completely neutral position. It might be that we could get a clearer polarisation without creating resistance on the part of respondents. If necessary, a middle point could be reintroduced by a phrase such as 'as often as not'.

#### 4.4.3 Determining objectives for the second pilot study

The questionnaire in its revised form was deliberately longer than its predecessor. It contained 36 items (6 activities x 6 sets of behaviour descriptions). This was because we wanted to see whether the behaviour items could cluster together, irrespective of activity, or whether some of the behavioural responses appeared to be activity specific. This analysis would give us

some guidance in the construction of a final shortened version. We needed a rather larger sample than we had obtained for the first pilot, so we decided to seek the co-operation of managers who were attending classes. The questionnaire, as administered, is given in Appendix VI.6.

#### 4.5 The second pilot study

##### 4.5.1 The sample

The sample consisted of post-experience students attending management courses at the University of Aston in Birmingham and at the City of Manchester Polytechnic. In terms of jobs and sector of employment the sample was extremely diverse, as can be seen from the list below:

<u>Type of job</u>	<u>Number of respondents</u>
Group, plant or factory manager	3
Production management	9
Group services	2
Work study and O & M	6
Engineers (mostly with an electricity board)	8
Maintenance management	3
Personnel and industrial relations	3
Sales management or sales representative	3
Civil engineer (site agent)	1
Manager of public baths	1
Head brewer	1
Postal controller	1
Buyer	1
Accountant	1
Systems analyst	1
Graduate trainees	5
Lecturer	1
	<hr/>
	50



#### 4.5.2 Conclusions from the second pilot study

(1) Two key dimensions, systematic behaviour and guarded behaviour.

Two clusters of items emerged which could form the basis for the next revision of the questionnaire. One cluster comprised all those six items which referred to systematic behaviour (solve problems through a standard step-by-step procedure versus solve problems without resort to a standard step-by-step procedure). The other cluster comprised all those six items which referred to guarded behaviour (are wary of what we say or do in front of others versus are frank and open with others in word and deed). The two clusters had high intra-cluster correlations, but the correlations between items in one cluster and any item in the other cluster were very low. The questionnaire was obviously measuring more than one dimension.

Full details of the statistical tests made are given in Appendix VI.7.

(2) Discrimination between high and low scores.

The twelve items in the two clusters discriminated very well among the respondents in the sample. For each item the scores were scattered across all four points in the range provided, and the standard deviation was large in relation to the mean (see Appendix VI.7.)

The real question to be decided, before compiling a final version of the questionnaire, was whether we had enough evidence to be satisfied that the behaviour factors we had isolated were those which the analytical and social skills and mixed skills training programmes would recognise as factors they were trying to influence through their training. Scale scores for each cluster could then

provide the criterion-based performance measure we needed (see (1) above).

#### 4.6 Preparation for the third pilot study

##### 4.6.1 A fresh start

Although it appeared from the second pilot survey that we had an instrument to measure guarded behaviour and systematic behaviour of good reliability (see Appendix VI) it was suggested at this point by the principal investigator that the pilot results were spurious. A 'wording factor' was probably responsible for the clusters obtained. (See 4.4.1 and 4.4.2, and Appendix VI) Speak (1967) describes how wording affects responses. Also the items which had been included specifically to 'anchor' the measures to the concepts of analytical and social skills had not discriminated. All those items which were worded 'pay little attention to analysing facts versus much attention to analysing facts' were scored as 'much attention', and all those items which were worded 'encourage people to express their feelings versus discourage them from expressing their feelings' were scored as 'encourage'. No one either ignored facts or actively discouraged the expression of feelings! We were still tapping the 'evaluative meaning' for these items. The abandonment of the semantic differential and its replacement by descriptive statements had, however, produced good discrimination for the other four concepts: guarded, systematic, methodical and insensitive behaviour. (There were insufficient of the methodical and insensitive items in their respective clusters to form separate subscales however.) We would therefore concentrate on trying to reproduce the major clusters obtained in the second pilot but by other means. We needed to produce a new

form of wording which would avoid the repetition of the same phrases across different activities. Only then could we meet the criticism that high internal consistency of response was an artifact arising from common phraseology.

#### 4.6.2 A revised questionnaire

Appendix VI 8 shows the next draft that was produced for discussion. It is of interest only in so far as it provides a half-way stage between the format used in the second pilot study, and that used in the third. The first idea behind this draft was that we should no longer try to relate every type of behaviour to every activity. We had earlier listed the activities themselves in two groups (see 4.1.1 above) according to whether we thought a priori that they would give more scope to analytical skills or social skills.

The draft produced between the second and third pilot studies related the methods of working concepts to the activities as follows: guarded versus frank behaviour when:

- (1) briefing subordinates
- (2) taking an interest in the personal problems of subordinates

and (3) reviewing the progress of subordinates.

(It was assumed that the social skills programme would wish to encourage frankness in all these circumstances.) Systematic versus unsystematic behaviour was linked with:

- (1) trouble shooting
- (2) forward planning

and (3) chairing meetings.

(It was assumed the analytical skills programmes would wish to



encourage systematic behaviour in all these circumstances.) The behaviour descriptions differed according to which activity they were linked with. Gradations of behaviour were represented by fairly detailed modulations in the description provided. For example, the concept of guarded behaviour in reviewing a subordinate's progress was graded as follows:

(1) The manager tells the subordinate what he (the manager) thinks of his (the subordinate's) progress. The manager is prepared to clarify his assessment but not to discuss it.

(2) In addition to (1) the manager will also give further information on request.

(3) The manager takes the subordinate fully into his confidence, and encourages a free and frank discussion of the total situation. The draft (shown in full in Appendix VIII) was discussed with one or two company training officers. The questionnaire was felt to be too cumbersome, and also, when creating scores, it would be difficult to justify the equal interval assumption. The general question of making interval assumptions with ordinal data is treated in measurement text books. (See for example Guilford, 1954, chapter 1.)

#### 4.6.3 The final version ready for testing in the third pilot study

The items finally used were as follows:

##### Analytical items (systematic versus non-systematic behaviour)

1. Decide on and follow a fact-finding sequence in trouble shooting.
2. Make sure people keep to the point in meetings.
3. Explain how they've measured performance when reviewing subordinate's progress.
4. Follow no particular fact finding sequence in trouble shooting. (False scored high)

5. Use predetermined decision rules in forward planning.
6. Use assumptions from past experience as chief guide to future targets when planning.

Social items (frank versus guarded behaviour)

1. Disclose a minimum of information when briefing subordinates.  
(False scored high)
2. Take subordinates fully into their confidence when briefing them.
3. Encourage a frank discussion when reviewing subordinate's progress.
4. Make time for the employee to have his say when taking an interest in personal problems.
5. Let the discussion develop spontaneously in meetings.
6. Keep discussion as brief as they can when taking an interest in personal problems.  
(False scored high)

Gradations were provided by allowing respondents to select from among the following five responses for each item: definitely true; mostly true; neither true nor false; mostly false; and definitely false.

One other point about the questionnaire needs to be made at this stage. It concerns who is reporting on whom. The research design involved studying trained groups. The minimal criterion for a trained group was that the superordinate manager and at least one of his subordinates had received the same training. (The preferred criterion was that most or all members should have been trained.) Each manager was asked to report on the methods of working of his immediate colleagues, collectively, and of his immediate superior as an individual. The entire questionnaire is reproduced in Appendix VI.9.

The aim of the third pilot study was to produce two valid and reliable scalable dimensions which could be used to represent the objectives of the training programmes and to score managers'

performance in relation to those objectives.

#### 4.7 The third pilot study

##### 4.7.1 The sample

As in the case of the second pilot study, the sample consisted of post-experience management students (see 4.5.1) though on this occasion all of them were from the Midlands. They were attending the University of Aston. Details of their jobs are given below:

<u>Type of job</u>	<u>No. of managers</u>
Production	4
Production planning and control	6
Design and development	6
Technical services	4
Director	1
Work study	1
Buying	1
Sales	1
Commercial	2
All jobs	Total
	<u>26</u>

##### 4.7.2 The results of the third pilot study

###### 4.7.2.1 Four poor items

Four of the twelve 'methods of working' items had very low mean inter-correlations with all the other items (see details in Appendix VI.10) These were the items numbered 5 and 6 in each of the two lists given in section 4.6.3 above. They were, however, retained in the questionnaire, for the small size of the pilot study



meant that we could not tell how these items might change with larger numbers. They would provide a floating reference point in further work with the questionnaire. (They did, in fact, remain uncorrelated in later analyses.)

#### 4.7.2.1 Eight satisfactory items

It looked as though we could go ahead and use the first four items under the heading 'Analytical Items' and the first four items under the heading 'Social Items' in section 4.6.3 above. The totals for the two sets were correlated 0.46 and it transpired that when scoring MAM, the manager's version of the questionnaire, the best solution was a single eight-item scale which had a reliability of 0.91. Full statistical measures of the reliability, validity and discriminatory power of these items are given in Appendix VI, 10. In MAT, the version designed for trainers and shown in Appendix 11, scoring of the two four-item subsets appeared to be justifiable in an attempt to obtain external validity. This attempt is described in section 5 below.

### 5. THE FINAL MAM ITEMS IN RELATION TO THE AIMS OF THE COURSES

One way in which we could obtain some external validation for the questionnaire would be to predict from the course brochures how the trainers would score on the methods of working section of the MAT.

#### 5.1 The analytical programmes

We predicted the trainers of the two analytical programmes would score between 16 and 20 points for the four analytical items -

i.e. they would like it to be mostly true, or definitely true that managers they had trained would:

1. decide on and follow a fact finding sequence in trouble shooting (because the brochure said - see 1.1 above - they were teaching students how to 'find the cause, list the cause, and apply results')
2. make sure people keep to the point in meetings (because the brochure said - see 1.1 above - 'develop disciplined handling of information')
3. explain how they've measured performance when reviewing a subordinate's progress (because the brochure said - see 1.1 above - 'set objectives and standards, define responsibilities, analyse results, review performance')
4. not follow no particular fact finding sequence in trouble shooting (because the brochure said - see 1.1 above - 'sift out and refine short-term priorities, and gather facts')

Ten trainers concerned with this type of training subsequently completed this questionnaire. Three of the ten scored 20 (the maximum) three scored 19, three scored 18, and one scored 16. The prediction was therefore upheld.

## 5.2 The social skills programme

We predicted that the trainers for the social skills programme would score between 16 and 20 for the four social items, i.e. they would like it to be mostly true or definitely true that managers they had trained would:

1. disclose (more than) a minimum of information when briefing subordinates (because the brochure said they were teaching

- see 1.2 above - how to 'gain co-operation and achieve understanding' and we assume people can understand and co-operate only when they have the facts)
2. make time for the employee to have his say when taking an interest in personal problems (because the brochure said - see 1.2 above - 'appreciate how others are reacting to one's own behaviour', and we assume this cannot be hurried)
  3. take subordinates fully into their confidence when briefing them (because the brochure said - see 1.2 above - 'find acceptance')
  4. encourage a frank discussion when reviewing a subordinate's progress (because the brochure said - see 1.2 above - 'give and receive helpful criticism').

There were only two trainers involved with this type of programme. They scored respectively 20 and 17, so the prediction was again upheld.

### 5.3 The mixed skills programme

We predicted that trainers for the mixed skills programmes would score high on both analytical and social items, and consequently that, for the combination of eight items, their scores would lie between 32 and 40 points. There were fifteen such trainers, and the prediction was upheld in every case. (Supporting statements for the eight items can be found from the brochures under 1.3 above.)

### 5.4 Discrimination among the programmes

The scores for the 27 trainers, spread across the seven different programmes, or divided into the three different types of



programmes were not significantly different from one another. The questionnaire therefore lacks discriminant validity. The instructions to trainers said, 'you are asked to indicate the degree to which YOU WOULD LIKE each statement to be true or false of the managers who have attended your courses'. With hindsight one can see that, because one has not asked for the specific contribution which they feel their course has made to the realisation of their wishes, they merely expressed preferences for certain types of behaviour over the other types of behaviour, irrespective of whether or not their programme was designed to influence the behaviour concerned. This is a drawback from the point of view of evaluating the training. It is less serious in relation to other research objectives - see 7.2 and 7.3 below.

#### 6. THE ABILITY OF THE MAM TO DISCRIMINATE BETWEEN HIGH AND LOW PERFORMERS

Roebuck (1972) whose paper was referred to in section VI.1, points out that when one's purpose is to indicate the effectiveness of training with a specific target population (as in this case), one requires a test which 'will test the learners as a group and will be sensitive to group achievement of the overall objectives and of the component skills'. The managers' activities and methods of working questionnaire does discriminate among different groups of managers, and also between all managers on the one hand and all trainers on the other. (Evidence of this will be presented in Appendix IX.1.) The point we wish to make here is that the questionnaire we developed does provide a quantified criterion against which different groups can be compared, but it is not sensitive to the component skills.

## 7. SOME CONCLUSIONS ABOUT PERFORMANCE MEASURES

### 7.1 The purpose of performance measures

The reason why anyone should want to measure performance is in order to control it. The type of control of interest to the company training officer is, however, different from that of the researcher. The former wants to monitor the results of his own activities in order that he may alter his programmes if necessary to make them more effective. The latter sees training as one of many possible influences upon performance, and wishes to find out whether performance can be predicted from training at all. The trainer is concerned with intervention, and the researcher is concerned with prediction. The trainer takes it for granted that his activities will have some effect, and he wants to maximise what he regards as desirable consequences and minimise the undesirable ones. The researcher must entertain the possibility that training has no effect, or that its effects are infinitesimally small in comparison with the effects of other variables which are operating in any given situation. He would like to know how much variance in performance he can attribute to different predictors.

### 7.2 The Managers' Activities and Methods of Working Questionnaire

#### (MAM) as a performance measure for trainers

Most of the literature on the evaluation of training (see Appendix VI.1) recommends that trainers should:

- (1) assess immediate outcomes (usually through the difference between pre and post tests) and we suggested some proficiency tests for this purpose (see section VI.3.1.1 and Appendix VI.2);

- (2) assess intermediate outcomes (by a follow-up at a later date for on-the-job differences) as, for example, in Bunker's method (described in VI.3.2 above); and
- (3) if possible relate the immediate and intermediate results to some ultimate changes in the operating performance of the organisation.

The MAM could be used by the trainers of the seven programmes as a means of assessing intermediate outcomes, but we do not recommend it. Our reason is that it is not sufficiently closely related to the content and methods of each individual programme. Suppose, for example, that managers who had worked through exercises to teach them to 'find the cause' of a difficulty, 'list the cause, and apply results to job', said, in answer to the questions on analytical methods of working, that they did not use a fact-finding sequence when trouble shooting. What does this tell the trainer about whether to alter his programme, and about how to alter it if need be? He cannot tell from the questionnaire response whether (1) the technique he taught was inappropriate to this type of trouble shooting, or (2) the technique would have been appropriate but managers had not been able to transfer their class-room learning to an on-the-job situation.

We would recommend that company trainers should take a lot of trouble in identifying training needs and relating their objectives to those needs and then design tailor-made performance measures. The bibliography in Appendix VI.1 has some examples of where this has been done.

In all this, one is, of course, making the assumption that the gains to be achieved through evaluating training are greater than



the cost to be incurred. This is touched on in the literature, but usually in terms of balancing the value of knowledge of training results against the costs of collecting the data needed for evaluation. We know rather less about any psychological or sociological dysfunctions of the evaluation process as such. That there may be some dysfunctions is suggested by research into the effects of audits and appraisals. (For some references on this see Appendix VI.1) Sayles and Chandler (1971) go so far as to say 'we will have to make basic changes in our present approach to the administration of responsibility'.

### 7.3 The MAM as a research instrument

In section 3 above we stated that we were looking for a questionnaire which would elicit indirect reports on whether trained managers were, or were not, acting in a manner which accorded with the objectives of the seven training programmes.

The Managers' Activities and Training Objectives (MAT) version of the questionnaire (see Appendix VI.11) was endorsed by all the trainers irrespective of programme (as described in section 5 above). The important question from a research point of view is whether the adoption of the trainers' scores as a criterion measure is heuristically useful for the purpose of the research. This question can only be answered in the light of the research design and of the findings as a whole.

Whereas trainers need a tailor-made performance measure, the MAM makes certain universalistic assumptions. These assumptions, if tenable, can be useful for research work. We thought we were tapping some generally approved behaviour. We can, if we wish,

for research purposes, regard departures from the trainers' targets as instances of 'poor performance', but we are not bound to do so. We can, instead, assume that the scope for analytical methods and for social methods varies with the circumstances, and we can regard departures from trainers' targets as instances of lack of scope for the prescribed behaviour rather than as 'incompetence'.

We took a lot of trouble to discuss with all the University of Aston management students in the pilot studies what their reactions had been to the questions themselves, and we asked them to give examples of a 'fact-finding sequence' for trouble shooting, a 'decision rule' for forward planning for the next quarter, and so on. The chief point to emerge from these discussions was that there are different kinds of meetings, trouble spots, plans, and so on, some of which are susceptible to the analytical approach and some not. Similarly, for the briefing and review situations, much depended on the nature of the work being given out or appraised. The five-point gradation (definitely true, mostly true, neither true nor false, mostly false and definitely false) was used to reflect what managers took to be the usual case in situations with which they were familiar.

The fact that indirect reports may state what people believe might be the case, rather than what is in fact the case, is not a serious drawback provided one compares like with like. We assumed that the trainers' scores on the MAT were an index of the perceived importance to them of the behaviour in question, and the managers' scores on the MAM were their perceptions of the extent to which such behaviour was observable in colleagues and superiors. It is quite legitimate to compare various sets of perceptions and

to comment on the degree of congruence that one finds among them. We felt the MAM and the MAT could serve this purpose reasonably well.



1. Guion and Gottier (1965) recommend that personality measures should not be used as instruments of decision because they lack cross-validated predictive validity and utilise complex and ambiguous constructs. For example, many instruments in use (e.g. Cattell's 16 PF) are based on 'trait' or 'needs' theories of personality, which presuppose a fairly stable condition (though Cattell believes some traits are more stable than others). An alternative view, 'The open system in personality theory' is discussed by Allport (1960). The key problem, according to Allport, is 'What makes the system cohere in any one person?' Why is 'whatever is inside' one person's skin his 'personality'? Yet another conception of personality is put forward by Wallace (1966). This is the abilities conception. Wallace asserts that 'whether we choose to search for man "as he really is" or for "that of which he is capable" is of the utmost importance. Construing personality as a response capability re-emphasises the importance of stimulus conditions'. A view which seems to us to include the abilities conception but to go beyond it is that of George Kelly. His cardinal tenet is that 'a person's processes are psychologically channelised by the ways in which he anticipates events'. To Kelly, every person is an 'experimenter'. This seems to us to be consistent with the Christian and Jewish viewpoint that man is made in the image of God - the Creator - though Kelly himself described his psychology as humanistic, not theistic.
2. Haas et al. (1969) carried out a study in which they asked managers for an estimate of the time they spent on different activities. Their results were in accord with their predictions for the variations at different levels in the hierarchy. However, we believe that the weight of evidence is likely to support the contention of Campbell et al. (1970) that 'different observers differ considerably in their ability to do an effective, reliable, and valid job of observing and recording the job behaviour of other persons' or of themselves (we would add). We would therefore have to look for self-consistency across categories for the self reports, and for inter-rater consistency for colleague reports. The initial results on the self reports were given in Pheysey (1972) and the consistency of ratings on colleague behaviour is given in Appendix IX.1.

## CHAPTER SEVEN

## SECOND THOUGHTS ON THE CONCEPTUAL SCHEME

1. TWO BY TWO MATRICES
  - 1.1 Categories we used
  - 1.2 Reddin's Management Style Typology
  - 1.3 Kotze's Situational Change Typology
  - 1.4 Extension of the two-by-two typologies
2. THREE INFORMATION CHARACTERISTICS
3. A FUNCTIONAL SYSTEMS PERSPECTIVE
  - 3.1 The intra-personal system of information processing
  - 3.2 Group and organisational information processing
  - 3.3 Direct, inverse, or conditional relationships between behaviour, structure, and climate?
  - 3.4 Provision for iterative changes within a functional system
    - 3.4.1 An illustration of the central cycle of Figure VII.2.
    - 3.4.2 The remainder of the conceptual scheme
4. REVISING THE HYPOTHESES
  - 4.1 The relationships between structure and climate and analytical behaviour
  - 4.2 The relationships between structure and climate and social behaviour
5. COMPARISON WITH OTHERS' THEORIES
  - 5.1 Fiedler's Contingency Theory of Leader Effectiveness
  - 5.2 Korman's 'suggestions toward an integrated theory'
6. THE REVISED CONCEPTUAL FRAMEWORK
  - 6.1 Critical values for the system states



6.2 The relationship between values on different internal dimensions

6.3 The relationship between systems at different levels

6.4 Duration or change among system states

7. CONCLUDING REMARKS



## CHAPTER SEVEN

SECOND THOUGHTS ON THE CONCEPTUAL SCHEME

A motion and a spirit that impels  
All thinking things, all objects of all thought .....

W Wordsworth

In this chapter we shall relate the ideas already presented in Chapter Five to the work of other writers, and we shall show the ensuing developments in our own conceptual framework.

## 1. TWO-BY-TWO MATRICES

## 1.1 Categories used

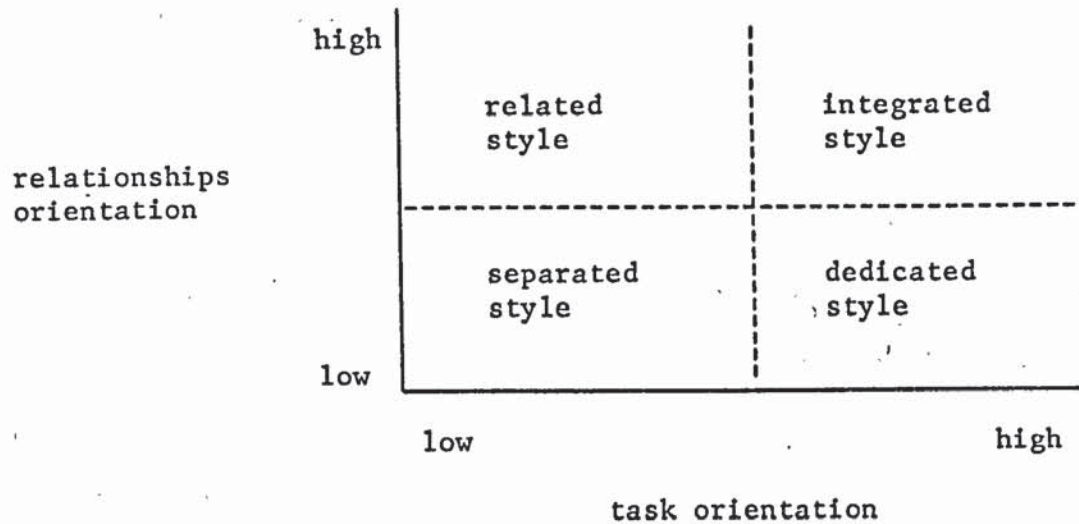
The simple two-by-two matrix has an immense fascination<sup>1</sup> and we are not immune to its attractions. Chapter Six, section 4, described the search for open versus guarded social behaviour, and systematic versus flexible analytical behaviour. These behaviours could then be placed in the form of a simple matrix:

social behaviour	open flexible	open systematic
	guarded flexible	guarded systematic
	analytical behaviour	

It was from such a simple beginning that Figure V.3 was developed. We should like to compare it with the work of other writers.

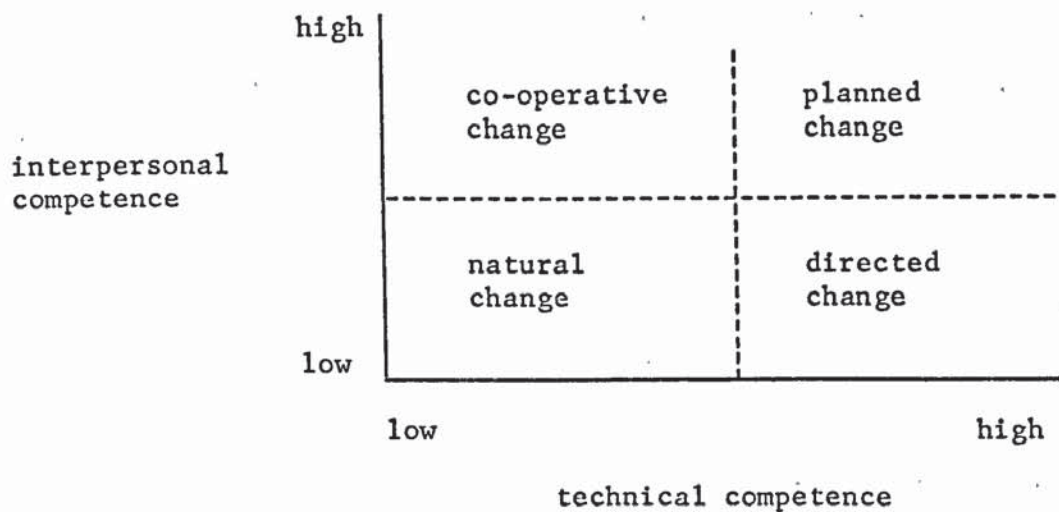
### 1.2 Reddin's Management Style Typology

Reddin (1970) has two co-ordinates similar to social behaviour and analytical behaviour. He calls them 'relationships orientation' and 'task orientation'. From them he derives the following matrix.



### 1.3 Kotze's Situational Change Typology

Kotze (1972) suggested that Reddin's typology could be reconceptualised as an organisational change typology. His matrix is as follows:



Kotze takes the terms 'interpersonal competence' and 'technical competence' as used by Argyris (1962). Kotze argues, 'Training

programmes can be designed to increase awareness of an organisation's existing competence mix so that commitment to an appropriate change strategy may be obtained. Or it can be used to alter the competence mix of various members of the organisation in order to optimise the effectiveness of the chosen change strategy. Or it can be used to decide on one change strategy rather than another by fitting the strategy to the competence mix'. It seems that he must conclude that co-operative change requires lower technical competence than planned change, and that directed change requires lower interpersonal competence than planned change. Is this so? It is partly a question of definitions, but these 'requirements' are by no means self evident.

#### 1.4 Extension of the two-by-two typologies

Reddin has extended his typology by adding what he considers to be a more effective version and a less effective version of each style, and he has developed an instrument, the 'Management Style Diagnosis Test' which has been 'taken' by over 80,000 managers. No doubt Kotze could also subdivide each of his change categories into more effective and less effective ones. The point we should like to make about both of these typologies, and about many more like them (see Footnote 1), is that while they may be heuristically useful, most have a strong ideological bias towards a preferred style. This is quite explicit in Blake and Mouton's (1964) grid, for example.

## 2. THREE INFORMATION CHARACTERISTICS

At quite a late stage in our thinking we were struck by the fact that whereas Figure V.2 was dynamic, Figure V.3 was static. How could we combine the two? The ideas of systematic or spontaneous information processing and of emotionally open or closed processing



were contained in both figures, but whereas the arrows in Figure V.2 suggested cycles, there was nothing in Figure V.3 to suggest cyclical repetition of activities, or that cycles occurred in the structure and climate of groups. How then could we incorporate the idea of time in Figure V.3?

The first solution was to divide Figure V.2 into an upper and a lower half, and to regard the upper half as three stages in the elaboration and the lower half as three stages in the reduction of information.

This led to the development of the revised conceptual framework, shown in Figure VII.1 below, but this deals with the intra-personal and organisation level systems only, and not with the two levels to be studied directly.

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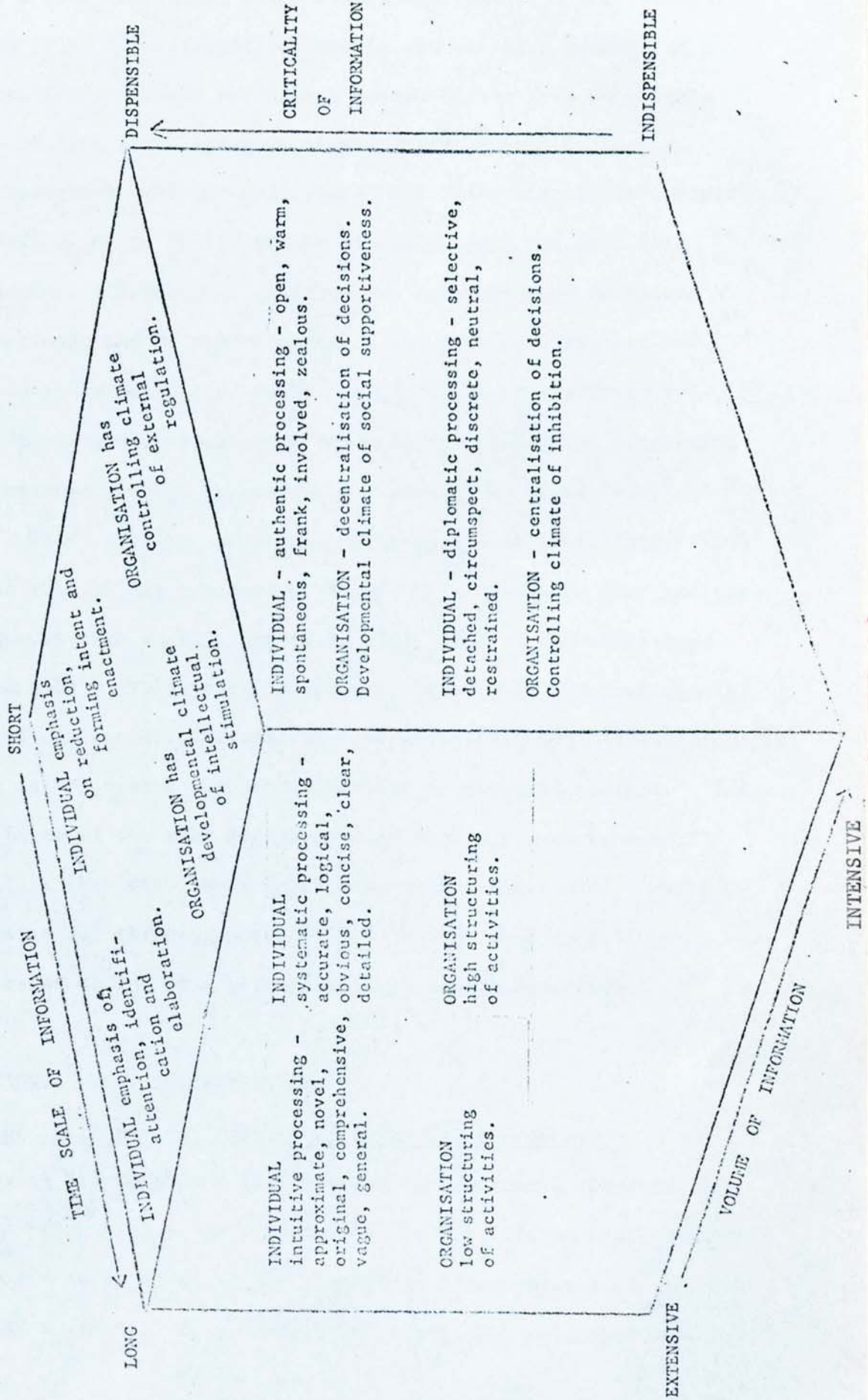
See Figure VII.1

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In Figure VII.1 our innovation-versus-certainty dimension becomes associated with the extensiveness or intensity of information,<sup>2</sup> shown in the left-hand face of the cube: our risk-versus-security becomes associated with the criticality of information shown on the right-hand face of the cube: and elaboration-versus-reduction becomes associated with the time scale of information, shown at the top.<sup>3</sup> Each form of processing is followed by evaluative adjectives. The reason for these descriptions is given in Pheysey (1973)<sup>4</sup>.

Our decision to present our revised ideas in a cube diagram probably owes much to Ramstrom's (1967) mammoth work on communication and decision making in organisations. He has a spatial

Figure VII.1 INFORMATION SKILLS AND ORGANISATIONAL CHARACTERISTICS





dimension, a time dimension, and a functional dimension for relevant information (i.e. for information used in the decision process of a certain activity). There are enough possibilities from Ramstrom's compact theorising about information and organisations to keep a team of researchers busy for many years, but unfortunately few people have the dedication to follow single mindedly along the path laid down by another. Ramstrom's research was on programmed decisions in organisations, and he concentrated on the cognitive aspects and specifically excluded what he calls 'motivational or conflict variables'. We see such variables as integral to information processing and are therefore seeking to develop a framework which includes emotions. We do this at the expense of a much less dense theoretical integration than he has achieved. Figure VII.1 above is very sketchy. Notice, however, the social, empathic, skill area on the right-hand side of the cube. This skill is now associated with its predisposing situation of dispensible information (secure situations); and diplomatic processing is associated with indispensable (risky) information. The other two faces of the cube are associated with their environmental results rather than with their environmental preconditions. Pheysey (1973) explains our thinking more fully. We now wish to re-examine the ideas expressed so far from a functional systems perspective.

### 3. A FUNCTIONAL SYSTEMS PERSPECTIVE

#### 3.1 The intra-personal system of information processing

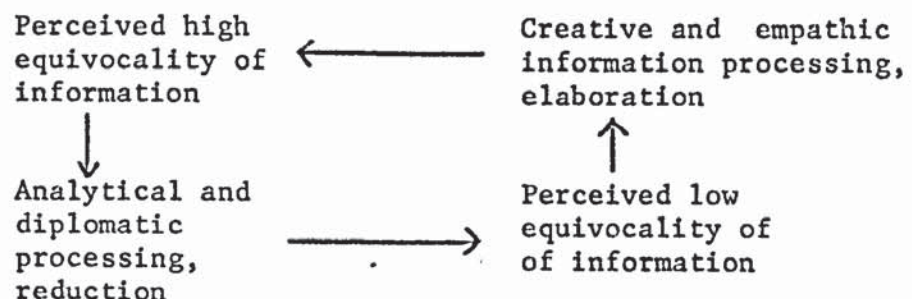
In Figure V.2 we showed intellectual and emotional elements in information processing. We put forward, in V.1.1.1, the basic postulate that 'persons seek to maintain for themselves a homeostasis of thought, feeling, and action'. If we regard intra-personal information



processing as a functional system (see also the centre of Figure V.3), then according to Nagel's (1956) definition, we must specify two types of variables for it: G's and state co-ordinates. G is the property of the system that is maintained, and state co-ordinates determine the presence or absence of G.

We suggest that G for the intra-personal information processing system might be the person's psychological well-being. The relevant state co-ordinates are: (1) perceived equivocality of information inputs (extensiveness, indispensability, and time scale); (2) analytical thinking; (3) creative thinking; (4) diplomatic social skill; and (5) empathic social skill; (6) reduction; (7) elaboration.

The values of state co-ordinates may vary to such an extent that the maintenance of G is threatened, but when one exceeds safe limits for G the others compensate and G is maintained. In this case, as perceived equivocality increases it is counteracted by increased analytical thinking and diplomatic skill, and as perceived equivocality decreases it is counteracted by increased creative thinking and empathic skill. Diagrammatically the balanced intra-personal information-processing system that is functional with respect to the person's psychological well-being would look like this:<sup>5</sup>



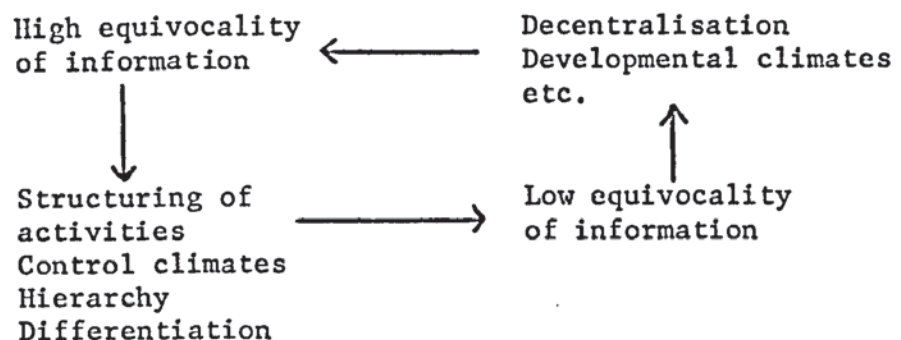
Change within a system refers to change that does not alter the system's basic structure. In a functional system this means changes in state co-ordinates for which compensation is possible.

Change of a system includes the disappearance of G, the appearance of new state co-ordinates, or the disappearance of old ones, and change in the range of variation of state co-ordinates for which compensation is possible.

Management skills training, in this terminology, would alter the state of the system by changing the range of variation of state co-ordinates. The more analytically skilled person can cope with greater equivocality, for example.

### 3.2 Group and organisational information processing

Let G now represent a given level of safety and certainty for the group or organisation. The state co-ordinates are: (1) equivocality of information (indirectly measured by the resource variables in Figure V.1); (2) structuring of activities and concentration of authority; (3) developmental and control climates; (4) group hierarchy and differentiation; (5) group consensus. The balanced group and organisational information processing system might look like this:



High equivocality of information is countered by structuring of activities, etc., and low equivocality is countered by decentralisation, etc. If there has been a change in the intra-personal subsystem such that managers can now cope with a wider range of uncertainties and certainties, then the G of the supra-system might be superseded, and

change of the group and organisational information processing system accomplished.

On the other hand, we could regard the co-ordinates of the supra-system as setting limits (functional for the supra-system G) on the range of variation of the co-ordinates of the subsystem. The consensus and structure of the group could keep the amount of analytical and social behaviour of the individuals within the limits of what is functional for preservation of the group's safety and certainty, for example.

### 3.3 Direct, inverse, or conditional relationships between behaviour, structure and climate?

We wish now to redefine the notion of 'compatibility' (from V.2.2.1) between the training programme targets and the organisation, as 'compatibility with the existing information processing characteristics', and not as compatibility with the nature of the information itself. We believe, for example, that one of the reasons why large bureaucracies continue to flourish is that they have been able to make their own certainties. Simon (1960), for example, says:

'An organisation will tend to assume hierarchical form whenever the task environment is complex relative to the problem-solving and communicating powers of the organisation members and their tools. Hierarchy is the adaptive form for finite intelligence to assume in the face of complexity.'

Analytical skills are compatible with the task of reducing problematic information to short-term and intensive certainty. Social skill is compatible with rendering unequivocal information less sure by enlarging interpersonal awareness. The two types of skill are therefore hypothesised to be directly related to the parallel information processing characteristics at the group and organisational levels.



### 3.4 Provision for iterative changes within a functional system

We have been very much impressed by Braybrooke and Lindblom's (1970) description of the incremental decision maker. We feel that it can be applied to our own mental operations in trying to do research, and also that it fits the activity of information processing by managers. They say

'The concept of problem solving by the strategy (of disjointed incrementalism) is this: the analyst makes an incremental move in the desired direction without taking upon himself the difficulties of finding a solution. He disregards many other possible moves because they are too costly (in time, energy, or money) to examine. For the move he makes, he does not trouble to find out (again, because it is too costly to do so) what its consequences are. If his move fails or is attended by unanticipated adverse consequences, he assumes that someone's (perhaps even his own) next move will take care of the resulting problem. If his policy-making is remedial and serial his assumptions are usually correct.'

The important point is that the serial movement takes the whole process forward not in a closed circle but in an upward spiral. One traverses the same terrain but never from the same perspective. What the Braybrooke and Lindblom description excludes, however, is an account of the 'hedonic tone' which is part and parcel of such mental activity.

So much has been written about information processing from so many perspectives that we feel a certain temerity in putting forward a point of view without detailed study of the literature. We are, however, encouraged by a stimulating review of over 300 articles and books on the subject (Slovic and Lichtenstein, 1971) which concludes

'The evidence to date seems to indicate that subjects are processing information in ways fundamentally different from Bayesian and regression models.'

They advocate 'more molecular analyses of the heuristic strategies

that subjects employ when they integrate information'. Perhaps Figure VII.2 below may not turn out to be excessively naive after all!

-----  
 See Figure VII.2  
 -----

Figure VII.2 contains, in the centre, the same six stages of processing information that were in Figure V.2 and V.3 and in the top of the cube of Figure VII.1. The stages are: (1) attention, (2) identification, (3) elaboration, (4) reduction, (5) forming intent, and (6) enactment. They have, however, been split into the cognitive and emotional aspects described in Pheysey(1973). That is to say, attention has been shown as both observation and reception; identification includes interpersonal understanding; elaboration is both idea generation and interpersonal consultation; reduction involves selectivity and also negotiating with others, forming an intent includes its promulgation, and enactment by others involves explanation to them and disengagement of oneself. It is suggested that there is a build-up of affect during the elaboration phase to crisis point where reduction must begin, and that emotion is discharged during the final culmination and denouement. Everything inside the inner rectangle is purely speculative. All the structure, climate, and behaviour dimensions have, however, been measured in the research. The results are given in Chapter Nine.

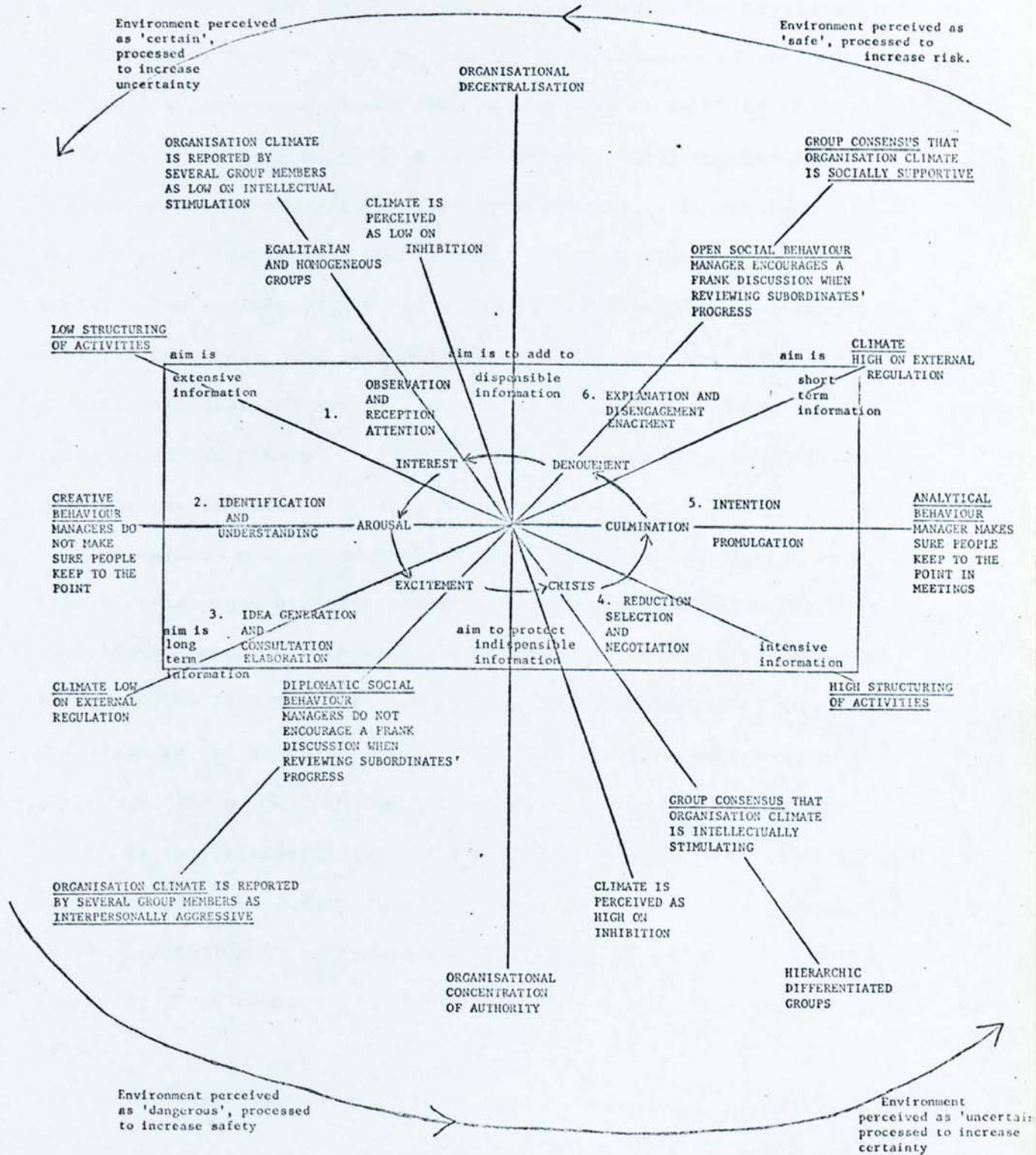
#### 3.4.1 An illustration of the central cycle of Figure VII.2

We cannot, at this point, resist an illustration of the first



Figure VII.2

INFORMATION PROCESSING AND SYSTEM STATES





three stages of the cycle which we witnessed personally. The occasion was a seminar led by a T-group trainer. The venue was a London hotel. The seminar members were organisation development practitioners, and six of them (all men) had volunteered for 'an exercise' which was to be observed by the rest of us. In the adjoining room there were two more volunteer groups engaged in similar exercises and also watched by observers. In our room the six participants were seated round all four sides of a small table. The trainer walked to the table and placed on it a sealed foolscap envelope. He said only these words, and then retired to a chair some distance away, 'The task is to produce as many four letter words as possible. Two minutes after the opening of this envelope the exercise will stop.'

We decided not to use a check list, or coded observation form, but we wrote down, at three minute intervals, the actual words that were being spoken. Alongside these words we put our interpretation, influenced by Bion's (1961) theories of group processes. Sometimes the words in the group were about the task and sometimes they were expressing the mood. In the latter case we put them in the same column as our interpretations. The result is shown in Exhibit VII.1. We have headed the columns with the terms we are now using for stages in the processing of information. All words in quotation marks were spoken by group members. All other words are comments we made at the time.

---

See Exhibit VII.1

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THE FOUR LETTER WORD EXERCISE

Cognitive attention, identification and elaboration	Emotional reception, understanding and consultation	Time elapsed
		Minutes
1. 'Take any word and rewrite it' 2. 'Any language' 3. 'Must it have meaning or be in code?' 'What are the rules?'	Testing out: Dare we defy the rules? How powerful are the rule makers?	3
'The envelope contains Lego bricks' (from feeling the outside and making pencil rubbings)	Opening the envelope is taboo (it would destroy the group)	6
'What are the rules?' 'Write any word over and over' 'Which word shall it be?'	Fight. 'The rules are intolerable' (loud laughter) F...? (loud laughter) 'Why are you all being so difficult?' We are impotent. Crisis.	9
'What are we trying to achieve?' 'Is this a competition?'	Laughter from the next room reminds them of other groups - how are they faring in relation to them? Success or failure?	12
4. 'We could just open the envelope and wait for two minutes'	Flight. Depression and apathy. 'I'm not interested' 'We can end without doing anything' Task avoidance.	15
5. 'Anybody can write any words he likes'	Fear of disintegration. 'What does the group want?' 'I don't see it as a group'	17
6. 'We could get help from the observers' 'It's up to "them" to sort out what they want'	Dependence. Counter-dependence. Regression (sweets handed round to suck)	18
7. 'The word is "hell" ' 'There are no success criteria, so we cannot solve the problem'	We are in hell. Crisis.	
8. 'Let's make X do all the writing'	Look for a saviour. 'Do we have to do what we have been told, invited, pressurised into?' Counterdependence. We can remain in a state of disobedience. We don't need a saviour.	20
'We ought to have a summary' 9. 'Let's pretend (we've done the task)'	Rehabilitation. Pairing. 'This has been a very enjoyable and satisfying experience' 'To end the game would be an anticlimax' (denial of unpleasant, hellish experience)	23
'We ought to have a summary' 9. 'Let's pretend (we've done the task)'	(loud laughter, then silence) We are being childish.	27
----- Sliding doors opened to reveal other groups had completed their tasks -----		
Suggestion from the opener that the group might ask the observers to comment.		
10. 'Let's sublet the task to the observers'	We are still in command. We have won out in refusing to do what he wanted.	



The exercise changed after 28 minutes to include contributions from the observers. The trainer commented that although the group did not act, they were very fertile in ideas (numbered 1 to 10 in Exhibit VII.1). Discussion of the ideas was a very effective means of avoiding the task. It could be that specialists in organisational development resisted the task of making 'as many four-letter words as possible' because they expect their work to be non-routine and self-directed, and this task was simple and imposed. Korman (1971) argues that man is motivated to achieve consistent outcomes, and that, for some people, 'what might be regarded as a consistent outcome is a world of change, expectancies of independent behaviour, and variability'. For such persons an environment of non-change, non-independence and non-variability would be anxiety provoking and dissatisfying. In our terms, these men were more at home with the elaboration phase of information processing and less happy with rapid reduction and enactment. They therefore treated the whole exercise as one which required creative thinking rather than quick action. They resisted the threatened two-minute closure.

This was an egalitarian, homogeneous group with a norm of open social behaviour such as is shown at the top right corner of Figure VII.2. They exhibited the interest, arousal and excitement, of information processing, but when the crisis of reduction threatened they withdrew to a more satisfying phase.

#### 3.4.2 The remainder of the conceptual scheme

We have described the centre of Figure VII.2 in some detail and must now show its implications for the two systems of crucial concern in our research, namely the behaviour system (the methods



of working of managers) and the structure and climate of groups.

The arrows are meant to indicate an iterative cycle, but at any given time, different parts of an organisation may be at different stages. The example of the OD practitioners, given above, suggests that in their normal work they perceive the too certain environment as in need of innovation, and they prefer to process their information to make it more extensive and long term. Very senior managers, on the other hand, may perceive their environments as highly equivocal, and may welcome the relief which more intensive processing provides. (Could this be the reason why Ramstrom, 1967, found much more 'file' information at senior levels than he expected? File information, in Ramstrom's terminology, has high intensiveness, and 'survey' information has high extension.)

These are illustrations of possible interactions between modes of processing information and function or level in the hierarchy. In a book dealing with 'Organizational Intelligence', Wilensky (1967) says

'Given the urgency of so many big decisions, what counts is the top executive's preconceptions - what he has in mind when he enters the room and must act. The role of experts and intellectuals in shaping these preconceptions, in and out of the organization, is little understood.'

Krouse (1972), an economist, has presented a model in which there is

'explicit treatment of the decision-making concept to mean a sequence of decisions by which the organization makes a commitment to a tentative scheme of resource allocations and enacts experiments to gather information as a basis for further decision-making.'

He argues that

'if the model formulation is appropriate, one might, for example, proceed further than the current practice of only general ties between short-run adaptation and the omniscient rationality in the organization. This is possible since

the present model formulation implies a continuous and systematic ..... iterative review by top management of assigned targets.'

Krouse's views of what we have earlier (Chapter Four) called 'strategic activity' seem in accordance with Braybrooke and Lindblom's strategy of disjointed incrementalism to which we referred in section 2.3.1 above. Strategic activity was defined in Chapter Four as 'thinking, feeling and doing'. The actions affect the system states in Figure VII.2. An anti-clockwise sequence is suggested there, but the various axes in Figure VII.2 may be rotating at different speeds so that the distance between them is not constant. Some parts of an organisation (or even a whole organisation) may experience no movement at all: other parts (or organisations) may experience all of the system states over an extended time period. Nevertheless, for the purpose of our current research we can explain the possible homology between the system states by showing the states in tabular form.

---

See Figure VII.3

---

The columns in Figure VII.3 present three pairs of information processing characteristics. They are the same pairs that were shown in Figure VII.1, and they also appear in Figure VII.2. The volume of information can be intensive (column a) or extensive (column d); the time scale can be short-term (column b) or long-term (column e); and the information criticality can be either dispensible (column c) or indispensable (column f). These characteristics are by no means pure dichotomies in practice, and, in the case of volume, it is possible to have both extensiveness and intensity. Also we can

Figure VII.3\* INFORMATION PROCESSING AIMS AND CHARACTERISTICS

INFORMATION PROCESSING CHARACTERISTICS	INFORMATION PROCESSING AIMS					
	a To make intensive	b To reduce to short-term	c To add to the dispensible	d To make extensive	e To make long-term	f To protect the indispensable
1. Processing cycle	Form intent Promulgate	Enact Withdraw	Attend Observe	Identify Understand	Ideate Consult	Select Negotiate
2. Managers' behaviour**	High analytic	High analytic High social	High social	Low analytic	Low analytic Low social	Low social
3. Group structure and climate**	Hierarchic Differentiated	Hierarchic Differentiated	High consensus on norms	Egalitarian Homogeneous	Egalitarian Homogeneous	Low consensus on norms
4. Organisational structure and climate**	High structuring High stimulation	High structuring High external regulation	Low concentration of authority Low inhibition High support	Low structuring Low stimulation	Low structuring external regulation	High concentration of authority High inhibition Low support

\* This figure should be read in conjunction with Figure VII.2. The categories in column (a) are in the lower right diagonal of Figure VII.2, and the rest follow in order of anticlockwise rotation.

\*\* Analytical and social behaviour have the limited connotation given in Chapter Five, section 1.1.1 (first paragraph), as measured by the 8 items given in Chapter Six, sections 5.1 and 5.2. The measures of group structure and climate and organisation structure and climate are in Chapter Five, sections 3.3 and 3.4.



arrange the pairs to give eight different combinations. Ramstrom (1967) has done this kind of thing to good effect. We do not believe, however, that adding further complications will solve our current difficulties. Instead, we propose to reconsider the hypotheses put forward in Chapter Five, section 2.2.1, in the light of Figure VII.3.

#### 4. REVISING THE HYPOTHESES

##### 4.1 The relationships between structure and climate and analytical behaviour

The hypotheses suggested by Figure VII.3 are that there will be a positive association between analytic behaviour and:

- (1) hierarchic groups (column a, row 3)
- (2) differentiated groups (column a, row 3)
- (3) organisational structuring (column a, row 4)
- (4) a climate of stimulation (column a, row 4)
- (5) a climate of external regulation (column b, row 4).

##### 4.2 The relationships between structure and climate and social behaviour

There will be a positive association between social behaviour and:

- (6) group norm consensus (column c, row 3)
- (7) low organisational cocentration of authority (i.e. decentralisation) (column c, row 4)
- (8) a climate of low inhibition (column c, row 4)
- (9) a climate of social supportiveness (column c, row 4).

We could add that we expect these relationships to be positive for both trained and untrained groups if environmental compatibility

(with information processing) is assumed to be a necessary condition for learning.

Of course, it is possible to combine the characteristics of columns (a), (b) and (c) in Figure VII.3. We then find that hypotheses (3), (4) and (9) above are equivalent, when combined, to the first hypothesis of Chapter Five (2.2.1). The refinement is that the nature of the developmental climate has now been specified as 'social supportiveness' (hypothesis 9).

It was, indeed, the empirical separation of each of the original organisational climate factors into two sub-types of control and two sub-types of development that led to the conceptual elaboration of Figures VII.2 and VII.3 compared with the crudity of Figure IV.1 (Figure V.3 represented the interim stage). Various combinations of the nine hypotheses above give greater precision to the five that were suggested in Chapter Five.

We wish now to compare Figure VII.3 with others' theories.

## 5. COMPARISON WITH OTHERS' THEORIES

### 5.1 Fiedler's Contingency Theory of Leader Effectiveness

In a recent article Fiedler (1972) asks why it is that most empirical studies have failed to show that leadership training and experience improve organisational performance. He answers this question in terms of his theory of leader effectiveness. The theory says that situations are most favourable to a leader when (1) members like him and are prepared to be influenced by him, (2) the group's task is structured, and (3) he has rewards and sanctions available to him as a result of his position. A strong versus weak dichotomy on each of these three positions gives eight



grades of favourableness. Leaders who are task oriented do best, Fiedler says, in the extreme conditions (of weakness on all the above or strength on all the above), and relationships oriented leaders do best in situations of moderate favourableness. Presumably in Figure VII.3, columns d and e would be unstructured and column f poor member relations, and hence situationally unfavourable; while column a and column b would be structured and column c good member relations, and hence favourable.

Training, according to Fiedler, needs 'to be viewed as a means for improving situation favourableness'. Analytical training (our term) makes the situation more structured, and social skill training (our term) makes the group more ready to be influenced. If you have a considerate type inexperienced man who is in the worst situational state, then, by training him, you move him to an intermediate state where considerate leaders do best, so your results will be satisfactory. If, however, the man you pick is a task-oriented man, you improve his situation from highly unfavourable to moderately favourable, his performance would deteriorate! You would have to improve his situation right up to the extreme of favourability to get him performing well again. Also you would have to be very careful not to improve the situation of the considerate man too much or he will be less effective again. Since some people are performing worse and some better after training, the results naturally cancel out!

Fiedler presents a lot of research data in support of these views, but he fails, in our opinion, to say how training the man acts directly on the situation. It may alter the man's perception of the situation, but is it true that his group's task will be more structured or that his group will be on better terms with him?



There are a lot of statistics, but Fiedler must have met the same criterion problem that we have met (see the whole of Chapter Six). And how does he relate such quantities of training as 'from zero to fortyeight weeks', 'with a mean of eleven weeks', to the amount of additional structuring and the quantitative increment in good member relations brought about in the situation?

Fiedler claims that, 'The theory makes possible important predictions that cannot be made at present on the basis of other theories'. These predictions concern those individuals who will benefit and those who will not, as judged by: the MPC (most preferred coworker) and LPC (least preferred coworker) scales which are his measures of task and relationships orientation; and by the group atmosphere and leader position power scales, which are his measures of the situation. We have used all of these measures and reported on group atmosphere in previous work (Pheysey and Payne, 1970) but would be very hesitant to make a training recommendation based upon them. In the first place the nature of the relationship between the operational measures Fiedler uses and the nominal descriptions he gives them is less than clear.<sup>6</sup> In the second place, the theory asserts that the leader has more power in a structured situation, which is why it is more favourable to him, but Crozier (1964) has written plausibly to the effect that it is the ability to manipulate uncertainty for others which gives a person power. The association of favourableness and structure is crucial to Fiedler's position, yet he has no uniform measure of structure. Finally, we find that Fiedler's theory suffers from some of the same flaws as our own conceptual scheme, to which we shall be returning presently. In the meantime, however, we would

like to say something about Korman's (1971) ideas since these also have affinities with what we are trying to do.

### 5.2 Korman's 'suggestions toward an integrated theory'

Korman (1971) would appear to favour column c of Figure VII.3, and to want to change the situation represented by column b. (Also he would put low stimulation in column a and high stimulation in column d.)

His basic assumptions are two: '(1) Man is motivated to seek a stable world; hence will attempt to seek outcomes consistent with belief systems, and (2) Man's belief systems are a function of environmental experience and learning'.

He then cites numerous research propositions which separately support pairs of relationships which he puts forward under the heading 'Consequences of Different Environments for Behavior'.

#### 'Environmental characteristic

- (1) High hierarchical control of behavior
- (2) High programming and routinisation of activities
- (3) High specialization and non-variability of activities

#### Consequent Belief Systems

- (1) Man (both self and others) are undesirable since they must be controlled
- (2) There are universal rules and principles which one should use as a guide to behavior - these principles are universal, permanent, and apply to everyone as guides to behavior.

#### Behavior

- (1) Low achievement
- (2) High aggression toward the self and others
- (3) Hostility toward "change" and "variation"
- (4) Non-creative problem solving and behavior.'

Environmental characteristics the reverse of those given above have opposite consequences. The closed loop system must be broken, presumably by training, but he does not in this article say how the



intervention is to be initiated. His dependent variables are: achievement, aggression and creativity, but, as he himself admits, he has had 'little to say about such questions as the role of cognitive factors in creativity, and how alienation from norms in general can serve as a stimulant to aggressiveness'. His paper is valuable in bringing together some 80 research studies. His contention, basically, is that if you organise on theory Y lines (McGregor, 1960) you will come to hold theory Y beliefs. The trouble is that in selecting this particular set of independent and dependent variables he has ignored, as we all do, a very large potential set. Such excluded variables might materially alter the conclusions reached. We shall present some evidence from our study that environmental conditions and beliefs are not always associated in the ways he suggests.

From this short critique of the work of others we return now to assess the development of our own framework.

## 6. THE REVISED CONCEPTUAL FRAMEWORK

In order to consider whether progress has been made between Figure V.3 and Figure VII.2 we shall consider four requirements for theory building stated by Dubin (1969).

### 6.1 Critical values for the system states

In section VII.3.2 we did not specify quantitatively a value for G, the safety and certainty of the management group. Empirically, in one of our organisations, a group was 'destroyed', but we do not know which of the coordinates went outside the range of variation for which compensation is possible. We can only hazard some guesses when we describe the results of the research.



## 6.2 The relationship between values on different internal dimensions

Some progress has been made here in that we have introduced the idea that systematic analytical behaviour is compensating for too much uncertainty, and open, empathic, social behaviour is compensating for too much security.

## 6.3 The relationship between systems at different levels

The relationships presented in Figure V.3 have been extended in two ways: first, a homology has been presented in terms of information processing goals, as depicted in Figure VII.3; and secondly, relationships have been spelled out in the nine hypotheses listed in section VII.4, for the independent variables and the dependent variables. The formulation is a refinement on the one presented in Chapter Five.

## 6.4 Duration or change among system states

We have provided for within system change in terms of the postulated processing cycle, and for changes of a system in terms of the possibility of management training changing the range of variation of state coordinates, for which compensation is possible. We also suggest that the system may cease to function so as to maintain G (in that the information processing coordinates may fail to compensate for the degree of equivocality experienced).

## 7. CONCLUDING REMARKS

Dubin says that the researcher may set himself the task of proving the adequacy of his model, or of improving upon his starting

model. We take the improvement stance, and are encouraged by such writers as Weick (1969) and Cangelosi and Dill (1965) to believe that this is an avenue worthy of continued exploration. We are inclined to think, however, that the search for a fully integrated theory may lead us to accept too simplistic a model. In Part III we shall present such results as we have in terms of their intrinsic interest, and hope that they do not contradict the assumptions we have made. If they do, we shall revise our assumptions. We continue, that is, in the Braybrooke and Lindblom tradition of disjointed incrementalism - a few ideas here, and some data gathered there, hoping always that our efforts are in some sense meliorative, though they cannot ever be conclusive.

1. Some examples are:

Douglas (1971)

Private

Control by  
others

Pressure on  
others

Public

Her concept of 'absolute zero' as a kind of ecstasy is interesting.

Braybrooke and Lindblom (1967)

High  
understanding

Incremental  
change

Large change

Low  
understanding

Perrow (1967)

Unanalysable

Few  
exceptions

Many  
exceptions

Analysable

Shull (1965)

Goal  
proliferation

Insulated  
static  
environment

Exposed  
dynamic  
environment

Goal  
reductionism

Woodward (1970)

Single  
system

Personal

Mechanical

Multisystem



2. We have, throughout, been using the term information in the popular sense and not in the technical sense in which it is used in information theory. One would hope, however, that the various branches of knowledge interested in describing and studying human and artificial information processing may gradually converge. We regard Van Heerden (1968) as a step in this direction.
3. Galbraith (1969) makes the point that the information processing requirements of an organisational design are a function of three variables: (1) the degree of uncertainty concerning the task; (2) the number of elements, and (3) the degree of interdependence among elements. These categories are not unlike the time-scale, extensiveness and indispensibility of Figure VII.1, in that long time scale is probably less certain; extensiveness covers number of different elements (areas), and information is indispensable when everything depends on it.
4. The categories in the Personnel Review article, Figure 8, differ slightly from those shown in Figure VII.1. Figure VII.1 is a later version.
5. Superficially this diagram bears similarities to the balance models of Harary et al. (1965). One could insert alternate plus and minus signs. However, we do not equate well-being with harmony, but with a periodicity of tension build up and release. We agree with Sperlich (1970) when he says, 'Without contrast there can be no perception, . . . . without friction no movement, without differentiation, no identity, without obstacles no accomplishment.'
6. An interesting discussion of possible meaning of Fiedler's LPC and MPC scales is to be found in Fishbein et al. (1969). They review the literature which indicates the multidimensionality of the scales. It is not just a question of subtracting LPC scores from MPC scores. The referent is different. Nevertheless, Fiedler continues to use the scales as if they were equivalent to 'initiating structure' and 'consideration'. For the problems here see Chapter VI.3.5.1.

## PART THREE

### THE RESEARCH PRODUCT

PART TWO (1) traced the progress in our thinking, (2) introduced the variables and research design and (3) described the problems of developing a performance measure.

PART THREE (1) describes the groups and companies that took part, and the design that was actually obtained; (2) gives the results of the analyses carried out, and (3) shows how the conceptual framework can interpret the results and reconcile the apparently contradictory hypotheses with which the research began. Part Three closes with (4) some comments for practitioners.



CHAPTER EIGHT

A HISTORY OF DATA COLLECTION

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## CHAPTER EIGHT

A HISTORY OF DATA COLLECTION

For everything there is a season  
And a time for every matter under heaven

Ecclesiastes

## 1. THE INITIAL PLAN

In Chapter Five (section 6.2) we explained that we were ignorant of the total number of intact manager groups who had received the types of training of concern to this research. Probability sampling would therefore not be possible. Team training, we expected, would be the exception, rather than the rule, in management training. So we began with a list of 60 likely firms (submitted in our initial research proposal because they had been cited in the brochures of certain training consultants, or in the BIM survey, or were known to our Research Unit as having used analytical or social skills programmes). We would work down this list to see how many trained groups we could find. The sampling would be in two stages: an initial discussion of company training policy, followed by a selection of groups for study if such were available.

In Chapter Three, Appendix III.2, we showed our introductory letter to chief executives and some of their replies. We sent out a small batch of these letters at a time because we did not want to arouse interest unless we could visit promptly. In the first six months we had contacted only twenty firms and had had preliminary discussions and obtained agreement to co-operate from two. It had been our aim to be at work in about ten firms by this time. (Our timetable is shown in Appendix VIII.1.)

By the end of twelve months it occurred to us (with a ratio of 33 contacts made to only five trained teams located) that we would have to increase our mailing substantially. It was then that we decided to use the Times 1,000 list of leading companies, for it turned out that all those to whom we had written were already among the top fifty in this list. We would carry out saturation sampling of manufacturing firms in this category. (To have included service industries would have added to the diversity of categories without providing an adequate number of examples for any one of them.)

After exhausting the 'Largest 50 by Turnover' section of the Times 1,000, we continued writing to likely firms in the 51 to 300 range. (It will be recalled that the BIM survey, referred to in section V.6.1 approached 493 companies.) In Table VIII.1 we show the distribution of firms approached and firms co-operating. The total approached is in column e, and full and partial co-operation in columns a and b respectively.

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See Table VIII.1

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We have headed column c 'not suitable'. This means that we received a reply giving us reasons why a visit would be inappropriate. (A sample of such replies was reproduced in Appendix III.2.) In several cases there had been recent research conducted by another university or by a research institute or by consultants.

It would, we think, be legitimate to include these courteous letters as 'responses' to our initial enquiry. On this basis, if we sum columns a, b, and c, and express them as a proportion of column e, we have an initial response rate of 72 per cent, (6 + 25 + 22 = 53 which is 72% of 75).



Table VIII.1

DISTRIBUTION OF FIRMS WITHIN THE MANUFACTURING SUBSET OF FIRMS\*  
 RANKED IN THE TOP 300 FOR TURNOVER 1971-1972 BY 'THE TIMES  
 1,000 LEADING COMPANIES IN BRITAIN'

	a	b	c	d	e	f	g
	Took part	Visited	Not suitable	No reply	Total approached	Not approached	Combined total
Turnover size band 1-50							
Number of firms	3	13	9	8	33	0	33
Percentage of all firms in band	10	39	27	24	100	0	100
Turnover size band 51-300							
Number of firms selected by random number table	3	8	12	9	32	49	81
Percentage of all firms so selected	4	10	15	11	40	60	100
Number of firms not selected by random number table	0	4	1	5	10	33	43
Percentage of firms in non-selected category	0	9	2	12	23	77	100
Firms in size band	3	12	13	14	42	82	124
Percentage of all firms in size band	2	10	11	11	34	66	100
Turnover size band 1 - 300 Total firms							
Firms as percentage of total in band	6	25	22	22	75	82	157
	4	16	14	14	48	52	100

\* A 'Firm' is a headquarters establishment, often that for a group of companies. Thus although only six 'firms' took part (see column a) there were 15 sites taking part within these six.



Sometimes we were referred to contacts with subsidiary companies, and if we had included them as well, our 22 'not suitable' would have been swelled to 30.

We had no success at all when we went outside the top 300. Of 16 companies smaller than this, 13 did not reply and three were visited and found to be unsuitable. Our total contacts comprised 110 separate establishments, 75 of which counted as 'firms' in the Times 1,000, and are shown as such at the bottom of Table VIII.1 (column e).

Of the top 300 companies, only 157 were 'eligible' in our terms, that is, engaged in manufacturing. The rest were merchants, brokers, distributors, wholesalers, retailers, transport, shipping, finance houses, entertainment, mining, farming, dairying, exploration, etc. We approached all 33 eligible companies in the 'top group' and one-third of the 124 firms in the next range shown. To indicate the extent to which the 42 firms that we approached in the 51-300 size band differed from a random selection, we subsequently listed all eligible firms, numbered them in sequence from 1 to 124, and then applied a random number table to see which would have been selected had we picked two-thirds at random (instead of one-third non-randomly). Given time, we could approach the 49 shown in column f. We had visited four firms (column b) that would not have been included in the random number selection.

We do not, however, feel there is much to be gained by defining the population of firms as 'manufacturing firms with a turnover of more than £40 million', and trying to establish a basis for randomising here, when there is no chance at all of selecting the intact manager groups randomly at the second stage of sampling.

The cases which we shall cite are not, therefore, representative of the 157 biggest manufacturing firms. They do, however, have importance for our understanding of the job context of training in some of the most sophisticated firms. These firms are likely to be trend setters if we are to believe the economists. Whittington (1972) has carried out an analysis of the top 100 companies in 1948 and 1968, and especially the top twelve companies. He concluded that the very largest firms grew roughly nine times in size from 1948 to 1968, compared with 'a growth factor of only 3.4 in the gross stock of reproducible fixed assets in manufacturing in the UK at current prices over the comparable period'. Also, 'the proportion of Total Net Assets in the quoted sector controlled by the top 100 was 0.46 in 1948, 0.51 in 1957, and 0.64 in 1968'. He draws the tentative conclusions, (1) 'that the very largest companies are becoming dominant in a wide area of manufacturing industry', and (2) 'However, the life of the giant firms does not seem to be the quiet life of the monopolist: the death rate amongst giant firms by takeover and acquisition produces a significant degree of insecurity. On the other hand, the consequence of takeovers and mergers is to make the giants still larger.'

We therefore make no apology for studying team training in a few giants. We propose, now, to describe how we came to study the six firms shown in column a of Table VIII.1, and what groups we obtained from them. We shall say less about the firms than about the groups, for we gave an undertaking not to identify firms, and in such an exposed sample very little is needed in the way of cues to provide identification. Later we shall, of course, be presenting the firms' scores on the independent variables of structure and



climate. We shall introduce the firms in the order in which we made their acquaintance.

## 2. THE MATCHED GROUPS IN THE SAMPLE

### 2.1 Delphi<sup>1</sup>

Delphi is an old friend. It co-operated with an earlier research project in 1963, and it provides student placements for the University. We were told that it had run an analytical skills programme, so we naturally phoned the group training manager to ask if we could talk with him about this. He confirmed that they had sent all the top management of two of the subsidiaries to seminars run by outside consultants. However, the total time spent at these seminars was less than the five days per head, which we had intended to set as our absolute lower limit. Should we relax this constraint? The training manager explained that the external training was being backed by an intensive on-the-job programme designed to institute management by objectives throughout these two companies, working from the top downwards. One of the two companies had been acquired only recently. It had previously belonged to another of the 'Big Fifty' in the Times list. Delphi had reorganised itself, following this acquisition, by grouping companies making related products into a common division. One division (now headed by a director brought in from yet another of the Big Fifty) was selected for the M by O initiative, as it was thought that it needed a common more rational approach to the problems of the division subsequent to the reorganisation.

The two subsidiaries which had had the programme, Delphi W and Delphi T, could be matched by a third company, Delphi R, in the same



division which had not had the programme. They were each headed by a general manager, who had production, accounts, engineering, and personnel executives reporting directly to him. The companies were of similar size. The training manager argued that the brevity of the period of formal training was more than offset by the fact that they were learning together to put analytical procedures into practice, backed by a formal appraisal system. We decided to accept his argument, and arranged a second meeting with him to find out about the administrative structure of the division. (He was himself an executive director and had detailed knowledge of the group.) At this second meeting, he told us that the three general managers were prepared for us to meet them, and he gave us their names and telephone numbers.

The general manager of Delphi W gave us initially about two hours of his time to explain how the company he now headed came to be acquired by the Delphi group, and what its present structure was like. He produced all the documentation associated with the management by objectives exercise, and expressed interest in the rest of the research project.

On our next visit we met the top group, and their subordinates, at one of their regular management meetings. We were to be allowed about fifteen minutes of the time on their agenda to introduce the project and request their co-operation. We therefore gave a very brief explanation of what we were trying to do, and why Delphi had agreed in principle to co-operate. We left the research questionnaires with them for completion in their own time. Stamped addressed envelopes were provided. In the event, ten people in Delphi W returned the BOCI, representing three levels of management, but

only the general manager and his two closest subordinates (half the very top group) completed the MAM and personal information questionnaire as well.

We were told that our best contact at Delphi R would be the personnel manager who would 'have an appreciation of social science'. He had recently joined Delphi and had worked previously for yet another of the Big Fifty.<sup>2</sup> As a comparative newcomer, however, he could not fill in the picture of the administrative structure so well as the general manager. At this stage we had to decide whether our 'organisation' was the division which embraced all three companies, or each company on its own. We decided we would, as a general rule, take whatever unit subsumed both our 'trained' and 'control' groups. In this case it would be the division, which was intermediate between the parent and the subsidiaries. In this case we need not trouble the general managers of Delphi R and Delphi T to supply this particular information. (We regretted this later but this is one of the hazards of doing research on a population whose identity is problematic.)

The personnel manager at Delphi R arranged for us to meet the entire top group, including the general manager, at one of their regular meetings. They showed more interest than their opposite numbers, and this was reflected in the fact that they all six returned all the questionnaires. It was also this group which invited us back after we had sent them our report, to discuss it with us. (They seemed to show more independence of spirit vis-a-vis the division than did Delphi W or Delphi T.) These managers were seen by headquarters in the division as 'backwoodsmen' because they did not want to go along with the M by O scheme. At the second meeting they had with us they described their own way of setting targets, which they



regarded as better than the proposed new scheme. (Chapter Three, Appendix III.3, refers to this.)

At Delphi T the general manager was very proud of a new plant that had recently been inaugurated, and produced an article which he had written about it for a trade journal. Because of a spread of sites he suggested that the best intact group of top people was his factory manager with his three immediate subordinates. These four were running the new plant. They were doing it according to M by O principles from the start. I visited this plant and met three of the four. All four returned the set of questionnaires.

The age range of the managers across the three companies was 33 to 52 years. Most of them had three or four years full-time education (or five to nine years part-time) since leaving school. All had functional experience in at least two areas of management, and most in three or more. Their salaries were similar (around £2,500 to £3,000 in 1970). There did not appear to be any one characteristic which differentiated all the managers in one of the factories from all those at either of the other two. Length of service in position ranged from four months to 21 years, and service in the company from six months to 36 years, but the range was wide in all three.

Our report back to the company grouped the managers' activities results for the two M by O groups together and contrasted them with Delphi R, the 'control' group. We had to tell them that we could not 'find any reason for asserting that the M by O programme has affected these particular responses, whatever other effects it may have had'. We shall present the data for all the groups in Chapter Nine. Our concern here is with the history of the project and the



problems we encountered on the way.

### 2.1.1 Distinguishing between 'trained' and 'untrained'

The biggest problem, as it turned out, was how to distinguish a trained group from an untrained one. In the Delphi case we initially took the word of the headquarters training manager that 'all the top group' in company W and in company T had had the programme. When the personal information sheets for each man came back, only one man from the four-man group in Delphi T referred to this particular course. Did the others overlook it, because they knew we were aware of it, or did they not go? We suspect that replies about course attendance are not too reliable. (People tend to fill the amount of space available! We allowed five lines for five years and the average number of courses across the whole sample worked out at just over two courses per man in the period. We give more details in Appendix VIII.2.) In Delphi W the inner clique of three did all mention the course, so over 50 per cent of the combined T and W top men referred to it. However, on the basis of the personal information supplied by Delphi R, these men were in some respects more 'trained' than Delphi T.

The only distinctions we were finally able to maintain were that: (1) at least 45 per cent of the 'trained' group spontaneously referred to having attended the focal course between six months previously and 18 months previously (at the cost of amalgamating Delphi W and T be it noted); (2) none of the 'untrained' group had attended the focal course during this period (though one member, = 8 per cent, of an Octo group had attended within two years); (3) all the 'trained' groups had quantitatively more general courses in management skills over the

past five years than any 'untrained' group had had. The relevant information about all the matched groups we eventually procured is shown in columns g, h, i, and j of Table VIII.2. In the table the trained group is placed above the untrained group for the same firm.

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 See Table VIII.2  
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If Table VIII.2 is compared with the static group comparison design we had envisaged in Figure V.5, it can be seen that the distinction between analytical, mixed and social skills has disappeared. All the matched groups, save Delphi, were connected with mixed skills courses. We did eventually procure a social skills trained group (but only two members, = 33 per cent, had had the course), and another analytically trained group (but only three, = 33 per cent, had had the course). Neither of these groups was matched. We shall describe them later in this chapter (VIII.3.2 and 3.3). The point we are making here is that we really have only five pairs of groups (from four of the companies shown in Table VIII.1, column a). The groups are contrasted largely on the basis of general management skills training versus functional techniques training (rather than versus no training. Details are given in Appendix VIII.2.) The fifth and sixth companies in Table VIII.1, column a, made unique contributions which we shall describe in due course (VIII.3.1 and 3.4).

We shall now explain the circumstances in which the other groups shown in Table VIII.2 came to take part.

## 2.2 Eton

Our introduction to Eton happened as a result of a meeting convened by the Association of Teachers of Management. A key

TABLE VIII.2

Group's name and number of members (a)	5 (years) x number of members (b)	COURSE EXPERIENCE 'MATCHED' GROUPS										Last 18 months experience of particular course to be evaluated (j)
		Courses taken during last five years					General courses					
		All courses (d)		Functional courses (e)		(f)	Number of courses (g)		As % of (b) (h)		(i)	
Number of courses (e) + (g)		As % of (b)		Number of courses		As % of (b)	Number of courses		As % of (b)		Number of members taking course	Number taking course as % of (a)
*Delphi W (n=3) and	15	8	53	2	13	6	40	3	100			
*Delphi T (n=4) versus	20	5	25	2	10	3	15	1	25			57
†Delphi R(6)	30	10	33	7	23	3	10	0	0			0
*Eton O (n = 11) versus	55	36	65	14	25	22	40	11	100			100
†Eton P(3)	15	3	20	1	7	2	13	0	0			0
*Noah O (n = 4) versus	20	6	30	1	5	5	25	2	50			50
†Noah U(4)	20	4	20	3	15	1	5	0	0			0
*Octo L (n = 12) versus	60	35	54	26	40	9	14	7	58			58
†Octo A (n = 15)	75	28	38	26	35	2	3	0	0			0
*Octo N (n = 13) versus	65	33	55	21	35	12	20	6	46			46
†Octo S (n = 12)	60	34	56	29	38	5	8	0	0			0

\* = trained group

† = untrained group



member of Eton's management training section sat next to me at lunch, and, on being told about the research, said he thought his company would be interested in taking part. (Appendix III.3 gives Eton's reasons.)

At Eton a small committee acts in the capacity of managing director. A member of the committee gave me the information I needed about the company's operations and administrative structure.

It was not difficult to select a headquarters group at Eton which had had the focal training programme, a mixed skills course. The problem was to find a group which had not been 'contaminated'. The solution is shown in Table VIII.2 where the 'control' group, Eton P, had only three members, two of whom were graduates. These men were peers. They had just had a change of superior, but, as yet, had not met him nor he them. (He was finishing a business school higher degree course.) In the MAM questionnaire, when reporting on superior's behaviour, they therefore referred to the outgoing superior. There should have been a fourth subordinate, but, because of illness, he was unable to be present when we met the group. Table VIII.2 shows that the three men who replied from this group had, between them, had one course each over the least five years, but none had had the focal course during the two most recent years. One member had taken the focal course three years previously (see Appendix VIII.2). All the members were concerned in one way or another with the purchasing of supplies and capital equipment. I met the manager to whom Eton P's superior would be reporting, and this man arranged my meeting with the group.

The focal group, Eton O, was a very highly qualified team incorporating three levels of management. Only one of the eleven

members was a non-graduate, and five members had higher degrees. Their work involved long range planning, national co-ordination of transport for the company's products and similar logistical problems, and also negotiating arrangements with competitors (for rationalising the product distribution). My meeting with this group lasted for about one and a half hours during which time they asked questions about the theory underlying the research project, the way in which the findings would be written up, the nature and validity of the instruments used, and the status of social science generally. One hundred per cent co-operation was obtained from this group. They were seen some time before it was possible to complete arrangements to meet Eton P, and they therefore received two reports: an interim report and a sequel to this, when the results for both groups were available. Both reports were courteously acknowledged by the most senior man in the group.

### 2.3 Noah

We had made various attempts to interest one of Noah's two parents (each owns 50 per cent of the share capital) in the research, but it was not until a relatively late stage that Noah was involved. The fact that Noah agreed to co-operate was again partly through the good offices of ATM. I travelled back on the train after an ATM meeting with a newly appointed director of the group residential training centre. This man was interested in the evaluation of his own training centre's courses. His predecessor, whom I knew, had moved into a senior line post in one of the companies in the group, and would therefore be sympathetic to attempts to evaluate training. I renewed my contact with the training centre staff, and eventually

they were able to introduce me to the personnel manager and training manager at Noah.

Once again, the problem of finding matched 'trained' and 'untrained' groups proved difficult. The selection of managers to attend the training centre's courses had been based on analysis of individual training needs rather than on the overall needs of the section to which a manager belonged. Thus, even though we found a group where the senior man and one of his three subordinates had been trained in the relevant time period, the focal training, a mixed skills programme, was not strictly 'team training'. It also transpired that both Noah O and Noah U had been recently involved in a job evaluation scheme introduced by an external consultant. Noah wondered whether the training received by Noah O would make for greater acceptance of the job evaluation than would be found in Noah U. (In fact, Noah O did find the consultant scheme more acceptable, but the relevant factor was most probably the differential way in which the scheme rewarded the two groups. Training was just another privilege accorded to Noah O and denied to Noah U.)

Noah O was a group whose members had no formal qualifications, but who had experience of at least a couple of functional areas of management. They were now in a production planning role. Noah U, by contrast, were graduates in chemistry, yet all save one of them had remained in the same quality-and-development function throughout their working career. In age and in salary the groups were directly comparable, but the chemists felt under-utilised whereas the planners were more satisfied with their work.

I attended joint meetings of the groups both before and after the study, and have the somewhat guilty feeling of having served the



purpose of forcing the managers to confront issues they would rather have avoided. The training centre staff were criticised for not having appropriate ideals. The report to the training centre showed that the trained group did come slightly closer to their targets than did the untrained group, but that we suspected the results were not attributable to the training but to the initial disparity between the groups in terms of perceived privilege and deprivation heightened by the job evaluation problem. This was, of course, outside the training centre's jurisdiction.

#### 2.4 Octo

Octo is a subsidiary of a division of a large group of companies. We wrote to the chief executive of the group who referred us to the group management development and training specialist, who, in turn, referred us to the organisational development manager of this subsidiary. This is a highly profitable company in a stable industry and for many years it has done an enormous amount of management training. Thoughts were now turning from management development to organisational development, as reflected in the title given to the executive concerned. Our letter had arrived at an opportune moment, as the board of the subsidiary was giving active consideration to the question of how to relate training strategy to organisational requirements.

It was impossible, in this firm (as in Eton) to find anyone who had not had a management course of some kind, so the contrast had to be between those trained in functional knowledge and techniques and those who had attended the focal in-company course of mixed skills training. Details of all the training received are given in

Appendix VIII.2. Table VIII.2 shows the way in which the two groups with skills training, Octo L and Octo N were distinguished from the control groups, Octo A and Octo S.

There were two further complications in trying to evaluate the groups at Octo. The two trained groups were at one site, and the two untrained groups at another, and, secondly, the trained groups were in sales management and production management (including related personnel and service functions), and the control groups were in accountancy and systems analysis and operational research. Thus regional and functional differences might also be a very material consideration. In all other respects the groups were generally well matched, and the top man in both locations reported directly to a board member.

I explained to the management development manager that it would be impossible to draw conclusions about the general skills programme as such, but he was keen to go ahead to see whether there were differences among the groups even if we could not ascribe them to a given source. He arranged for me to interview a member of the board to obtain the information about the subsidiary's operations and administrative structure, and, on the same day, to meet all the accountants and systems personnel assembled together in a large meeting hall. I explained the nature of the project, and the management development manager explained why the company was interested and invited their co-operation. There would be no compulsion, and the identity of non-respondents would not be disclosed by the researcher to the company. They did, in fact, comply very readily in spite of having undergone a research exercise in the recent past from which many of them asserted they had subsequently heard nothing. The complainants

were assured that the results of the previous exercise (which was concerned with forms and destinations of transport used by company personnel) had appeared in the house journal.

A few days later I was entertained at the other site by the general manager and his immediate subordinates who joined me for lunch. Afterwards the remainder of the two trained groups joined us in the company's cinema. There were about 28 persons present, representing four levels of the hierarchy (inclusive of the general manager). This was not a special meeting, but a half-hour set aside from their normal monthly get-togethers. They raised a number of questions about the kind of inferences which could be drawn from questionnaires. They also commented freely upon their experiences of grid programmes, T-groups, and other short courses. This group was also highly co-operative.

The reports to Octo were graciously received by the general manager and by the management development manager, but none of the groups felt that any issues were raised which they subsequently wanted to discuss.

### 3. THE UNMATCHED GROUPS

We have given an account of the matched groups as if they were all contacted about the same time. This is not so. There was a gap of more than a year between the research at Eton and at Noah. The four companies so far discussed represent four of the six shown in column a of Table VIII.1. We shall now describe other groups that we worked with in the interim. As a result of the difficulties we had with finding matched pairs we modified our strategy so as to accept 'team training' whether there were controls or not. Table



VIII.3 presents the same particulars about the unmatched groups that were given in Table VIII.2 for the matched ones. Appendix VIII.2 details the course information for the unmatched groups.

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See Table VIII.3

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### 3.1 Focus, Ginger, Hora and Kab

Focus, Ginger, Hora and Kab are all wholly owned subsidiaries in the same group of twenty companies. The group constitutes a single company in 'The Times 1,000', and is the fifth in column a of Table VIII.1. As in the case of Noah, our initial letter to a senior person at group headquarters had drawn a blank. However, I knew that the group training manager was a fellow member both of ATM and of the Institute of Personnel Management. I wrote to tell him of what I was doing and he replied asking me to call.

He was himself running a mixed skills course for managers at the group headquarters. He had a large repertoire of structured experiential learning exercises, and the course consisted of five three-day periods, with an interval of one month between each period and the next. I met all the course members five months after their first three-day period of training. They were then at the training centre completing the final session.

The members were drawn from six companies in the group, but, as there was only one manager from Jet and one from Isis, these two companies have been excluded from the present analysis. Hora is a marginal case because the manager there got a close colleague to complete the questionnaires, which made a two-person group, only

TABLE VIII.3

## COURSE EXPERIENCE 'UNMATCHED' GROUPS

Group's name and number of members (a)	5 (years) x number of members (b)	Courses taken during last five years								Last 18 months experience of particular course to be evaluated	
		All courses		Functional courses		General courses		(i) Number of members taking course	(j) Number taking course as % of (a)		
		(c) Number of courses (e) + (g)	(d) As % of (b)	(e) Number of courses	(f) As % of (b)	(g) Number of courses	(h) As % of (b)				
Focus (n = 3)	15	11	73	5	33	6	40	3	100		
Ginger (n = 3)	15	3	20	1	7	2	13	2	66		
Hora (n = 2)	10	4	40	2	20	1	10	1	50		
Kab (n = 3)	15	10	66	6	40	4	26	2	66		
Larch (n = 6)	30	17	56	8	26	9	30	2	33		
Meteor (n = 9)	45	20	44	10	22	10	22	3	33		
Pitt (n = 19)	95	32	33	22	23	10	10	0	0		



one member of which had been trained. At Ginger, two trained men enrolled their closest colleague, and similarly at Kab. The MAM questionnaire asks people to report on superior and colleagues, so, in effect, in Focus, Ginger, Hora and Kab we have 'trained' men reporting on a largely 'untrained' colleague group.

However, the general managers of all these companies were willing to meet us to give us details of operating conditions and administrative structure, and the men themselves and the trainer were interested in finding out how an external researcher would interpret their impressions of the climate in these subsidiaries. Another attraction about this group of companies was that the group as a whole was experiencing serious financial loss, and, as a result, there were widespread redundancies in certain sections. It therefore made a marked performance contrast with Eton and Octo which were both experiencing rising turnover and profitability.

We were just preparing the reports to the participants when the manager training/(a long serving employee) was given notice that his services were no longer required. The general manager of Focus telephoned me to enlist my aid in stopping the dismissal of the trainer. He was trying to upgrade the capabilities of his own managers and had a training plan for the whole of the following year. This plan could not be put into effect if the trainer left.

I told him that the general tenor of the report could not be deflected to cope with this specific issue, but that I was prepared to send a summary divisional report to his boss (one of the directors of the group) and to the trainer's boss. His company had come out better than any of the others save Jet, for which there was only one man's report. To try to prevent a contest of one-upmanship among



general managers, the report grouped the six companies into their three divisional groupings, and indicated that there were strengths and weaknesses in each division, and that some of the weaknesses might be both cause and consequence of the group's current difficulties. Training was one means among others for overcoming weaknesses. The general managers of Hora, Isis and Kab (companies in the two weaker divisions) were not really in any position to take action until the boardroom reshuffle had taken place. I therefore reported to them the findings for their own company, with the comment that the rather uncomplimentary picture was hardly surprising under the circumstances, and that I was especially grateful to be allowed to be gathering information during such a stressful period. As expected, we heard nothing further from them.

The divisional report went to the director of the strongest division, to the two general managers concerned (Focus and Ginger), and to the trainer's boss. The director of the division asked me to call on him. He was genuinely distressed that he was not in a position to meet his subordinate's request for the retention of the trainer, as he personally believed that training was a good thing, even though he had reservations about the particular kinds of training which the company's headquarters had been providing. The trainer's boss did not contact us directly, but informed the trainer he had received the report but could not persuade his colleagues that training merited special consideration when so much else was being sacrificed. (We understand that some of the ex-trainees were also dismissed, thus breaking up at least one of the groups in this study.)

The general manager of Ginger, like his colleague in Focus, was also an advocate of training, though he did not consider that the

kind of training recently provided was as important as certain basic functional knowledge such as production control and accounting techniques. He did, however, spend some time discussing with me the report on his own company and specific things which might be done to remedy deficiencies of which he was already aware.

### 3.2 Larch

Larch is the management services division of a government owned establishment. It is not included in Table VIII.1. The head of the division had been recommended by an external consultant to get in touch with me about his problem. He himself, and one of his subordinates, had received T-group training, and both were very much impressed by the personal insights they felt they had gained. The trouble was that although they had changed, nothing else had! If they could show that their section as a whole had benefited in some tangible way, then they might be able to convert the clients of management services to the idea that they were missing out on something. A client who had been sensitised would then surely co-operate better with management services in the manifold problems of job grading and work study. Could one get quantitative information on the results of T-groups?

I spent an afternoon with the head in which I told him about the kinds of evaluation studies which had been undertaken, and explained that our own approach would hardly be likely to yield the kind of results for which he was looking. I suspected that there were a number of structural reasons why his department was out on a limb, and he might even be widening the gulf between his own section and his potential clients if his department became associated in their minds with the sensitivity training ethos. He felt, nevertheless,

that his section would like to know how they compared in social skills (as crudely measured by our MAM instrument) with groups in other companies, and that they would be happy to complete the BOCI with respect to their employing institution also.

About a month later he contacted us again to say that he had talked with all his staff about the project and that they would like to be involved. He undertook to distribute the questionnaires, if we would send them, and they would like, afterwards, to meet as a group to discuss the results with me, which they subsequently did. Initially we intended Larch to be a 'trained' group in social skills, but on the criteria established (VIII., 2.1.1) it was eventually classed as 'untrained'.

### 3.3 Meteor

The head of Meteor, a training establishment of a nationalised industry, came to see us as a result of a chain of contacts initiated by our sponsor, the Department of Employment. Meteor also is not shown in Table VIII.1. The director held a doctorate in one of the natural sciences, and had been brought into training after a wide ranging career in other functions in his industry. He was very knowledgeable about the various forms of 'package deal' training on the market, including at least one programme of which we were ignorant. (We knew the originator but not that his ideas had been marketed in this way. Other companies subsequently confirmed this.)

A number of Meteor training staff had themselves received consultant-based training in analytical skills, and were now running similar courses for their industry. He said that if we could persuade his staff that the project was useful, there was the possibility of finding trained and control groups from various



parts of the country.

I spent a day at his training centre, as a result of which the staff said they would like to try the whole thing out on themselves, both as recipients of training, and as persons with training targets and ideals. They therefore completed the BOCI actual and ideal versions, the MAM and the MAT questionnaires, and the personal information sheets.

After they had received my report they sent for me again, and I spent another whole day going over the findings. Meteor's group was mainly a graduate one (the non-graduate members were sensitive on this score), and, as Appendix VIII.2 shows, they had a high level of recent course experience including five university courses - for advanced management or executive development. Although I did not eventually pursue the research in their industry, since they (rightly) wanted the kind of evaluation which would tell them how to alter their own courses, I am grateful to them for the free exchange of ideas which took place. (See Chapter Six, section 7.2 for my reasons for regarding MAM as an unsuitable instrument for trainers.) Meteor is also represented in ATM. Meteor, like Larch, was finally classed as 'untrained' with respect to the focal programme, as only 33 per cent of its members had attended.

### 3.4 Pitt

Pitt is the sixth company from column a in Table VIII.1. We wrote to the chief executive of the group of companies, and he referred us to his group personnel manager. This man invited me to call and introduced me to an assistant whom he called the management development officer. My impression was that the personnel manager himself did not

favour this kind of research partly because of an unfortunate experience with a package (about which the Meteor director had spoken). However, he was called away to deal with urgent industrial relations business, and, during his absence, his subordinate suggested an approach to a training manager in one of the divisions who was doing interesting things and who would probably welcome help with evaluating his efforts.

We wrote to this training manager who subsequently told me that he regarded our letter as 'heaven sent', since the divisional managing director and all the top management were about to submit themselves to a 'package deal' programme, and they were wondering how they should decide whether or not to adopt the programme throughout the division. He introduced me to the divisional personnel manager, and I explained to the two of them the limitations of MAM and the BOCI for their purposes. MAM would give a few pointers as to how the members of the top group saw each other, and the BOCI would reflect their impressions of what the division was like. How could this form the basis of a training decision? They said they would like to see whether there was consensus on weaker and stronger aspects of the climate and activities. They would like this before the course, and then again about four months later to see if things changed in the interval. In discussing when feedback should be given, they said that they wanted the first report as soon as possible after the course so they could decide what they wanted to do. In this case, I pointed out, the research would be part of the training, since any changes four months afterwards would be related to decisions they took about the previous feedback. They said this did not matter to them. Evaluation was less important than action.



As far as the present study is concerned, the results from Pitt, presented in Chapter Nine, are those supplied by the top management group the week before they went for the three-day training session. We have thus called them a 'pre-trained' group, though it can be seen from Appendix VIII.2 that they have attended a large number of courses. They are mostly graduates and a fifth of them have business school postgraduate training. They have each worked in an average of 3.5 functional areas of management, and are the best paid group in the research.

The week before their course I spent about twenty minutes with each of the managers individually, in his own office, at the end of which time I left the questionnaires with him for completion before the course began. The replies came in promptly, and we were able to process them and have a report in their hands within two weeks. A copy of this report also went to the consultant who conducted the three-day training. The report indicated that although, as one of them wrote, 'we came out of it pretty well', it was doubtful if their impression of the organisational climate would be widely shared at lower levels. They took up this challenge, and 17 of the middle managers and 15 of the junior managers voluntarily filled in the BOCI. We sent a second report with the scores of different levels set out in adjacent columns. The trainer then got permission from top management to invite the lower ranks to comment freely on the two items in the BOCI questionnaire for which the discrepancy between the top and the rest was greatest. We were asked to receive these essays and collate them for anonymous presentation. A selection from the points made by the seventeen managers who responded to this open invitation is shown in Appendix VIII.3. The responses are typical of those we received



orally in post-training sessions at Noah and Ginger also. At the time of writing I have met ten of the top group at Pitt to present these views. It was a very constructive meeting in that they made three action decisions regarding their management succession policies.

#### 4. THE REVISED DESIGN

In this chapter we have introduced eleven matched groups (see Table VIII.2) and seven unmatched groups (see Table VIII.3). We have explained that the empirical demarcation between team training and individual training is tenuous, and that most of our managers (121 out of 132) have been exposed to at least one course during the last five years. Most of them are also senior people, reporting to directors or general managers. The exceptions are the managers from Focus, Ginger, Hora and Kab, who are in junior and middle level posts. All the companies, except for the government establishments, Larch and Meteor, are in the 'Times 1,000' top 300.

The design which we originally proposed for examining training effectiveness was shown in Figure V.5. The present chapter describes what we actually obtained. It is summarised in Figure VIII.1.

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See Figure VIII.1

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Before we present an analysis of results, there is an aspect of the history of the project which we have not yet described. It concerns the trainers.

#### 5. THE TRAINERS

Concurrently with our approaches to firms we attempted to meet

FIGURE VIII.1

THE REVISED GROUP COMPARISON DESIGN

Type of team training	Matched Groups		Total
	More than 46% received focal programme	No members received focal programme	
General management skills	Delphi W+ T Eton O Noah O Octo L Octo N Total = 5	Delphi R Eton P Noah U Octo A Octo S Total = 5	10
	Unmatched Groups		
	Focus Ginger Hora Kab Total = 4	Fewer than 35% received focal programme  Larch Meteor Pitt Total = 3	7
Total	9	8	17

and talk about our work with as many trainers as possible. We have mentioned that Meteor was both a trained organisation and a training organisation. (It also had three members who had received a common training course.) It co-operated in both capacities. The originator of the analytical skills programme adopted by Meteor in this country was also one of the trainers who kindly completed our questionnaires. We also had co-operation from two T-group trainers, and from the entire staff of one of the training consultants involved in a mixed skills programme. These persons represented the full range of skills training. We also had the support of the external training consultant who was concerned with Pitt, and of all the in-company trainers for Delphi, Eton, Focus, Ginger, Hora, Isis, Jet, Kab, Noah and Octo. Chapter Six, section 5, gives the analysis of the MAT questionnaire replies of the trainers.

The way in which trainers scored the BOCI ideal version will be described along with the other BOCI results in Chapter Nine. To this chapter we now turn.



FOOTNOTES

1. In a previous project Derek Pugh suggested that we nickname our two companies Aston and Brum. When we added a third firm we called it Carrs, and in the current research we have taken a new letter of the alphabet for each subsequent firm. We progressed as far as 'P'. Thus the chronology of a company's appearance is indicated by first letter of company code name.
  
2. In several of the companies we visited for background information people volunteered that they had 'previously worked for so-and-so' in the top fifty. It might be interesting to see if personnel records substantiate this anecdotal evidence of the circulation of big-company men within this 'charmed circle'.

CHAPTER NINE

THE RESEARCH FINDINGS

1. THE GROUPS CLASSIFIED GLOBALLY BY ULTIMATE AND IMMEDIATE 'PARENT' CHARACTERISTICS
  - 1.1 Resource characteristics of the ultimate organisation: Times 1,000 details and the criterion
    - 1.1.1 Size, turnover, capital employed and profit of ultimate parent organisation
  - 1.2 Resource characteristics of the immediate organisation and the criterion
    - 1.2.1 Memberships and interdependence
    - 1.2.2 Size of own organisation
    - 1.2.3 Technology of own organisation
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2. ANALYTICAL PROPERTIES
  - 2.1 The BOCI Climate factors
  - 2.2 The organisations as characterised by selected groups of their managers
    - 2.2.1 Stimulating climate
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  - 2.3 Developmental and control climates and the criterion
    - 2.3.1 The developmental climates
    - 2.3.2 The control climates
3. GROUP RESOURCES AND STRUCTURE
  - 3.1 Training: the ten matched and seven unmatched groups
  - 3.2 Size, hierarchy, and functional differentiation



4. OTHER INDEPENDENT GROUP VARIABLES
  - 4.1 Unanimity or diversity of perceptions
  - 4.2 Membership
5. THE HYPOTHESES RE-EXAMINED



## CHAPTER NINE

THE RESEARCH FINDINGS

Vether it's worth goin' through so much,  
to learn so little

C Dickens

1. THE GROUPS CLASSIFIED GLOBALLY BY ULTIMATE AND IMMEDIATE PARENT CHARACTERISTICS

It is our intention, in presenting the results of the research, to work systematically through the independent variables shown in Figure V.1. In each case we shall indicate the relationship, if any, that was found between the independent variable and the criterion of managers' methods of working. (The way in which the scores for the criterion were derived is fully explained in Appendix IX.1.) We shall start with global classification of the resource and structural variables of the ultimate parent organisation, and then of the immediate organisation. We shall then describe the climates attributed to the immediate organisation by the individual members. Finally we shall deal with the global and analytical properties of the groups themselves in relation to the criterion.

In Chapter Five, sections 1.1.1 and 3.1, we define the criterion behaviour as 'action which creates or follows systematic procedures and action which exhibits and encourages open expression of feelings'. The operational definition boiled down to: using a fact-finding sequence in trouble shooting; keeping to the point in meetings; measuring performance; disclosing full information at briefing sessions; encouraging frankness in performance reviews; and making time for subordinates to have their say regarding personal problems. The nature of the criterion must not be forgotten in the discussion

which follows. In terms of Figure VII.3 the items are really confined to intensive and short-term information aims (columns a and b).

1.1 Resource characteristics of the ultimate organisation:

Times 1,000 details and the criterion

1.1.1 Size, turnover, capital employed and profit of ultimate parent organisation

The 'parents' of Delphi, Eton, Noah, Octo and Pitt each employ upwards of 20,000 people. Noah would be almost as large an employer as the Post Office if both its parents were included. In terms of turnover and of capital employed, Noah, Octo and Eton are considerably larger than Delphi and Pitt, but in terms of gross pre-tax profits Pitt moves into the top three. In all these respects, however, there is a very large gap between these colossal employing parent organisations and the organisation which owns Focus, Ginger, Hora and Kab:

As we explained, Larch and Meteor are both in the public sector (VIII., 3.2 and 3.3). If we contrast the groups in the four manufacturing organisations, Focus, Ginger, Hora and Kab, which have a smaller unprofitable parent, with the twelve groups in Delphi, Eton, Noah, Octo and Pitt, which have larger size, greater profitability and more resources, we obtain the following result using median scores for managers' methods of working in sixteen groups:

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SCORES FOR MAM IN FOCUS, GINGER, HORA AND KAB, versus ALL OTHER MANUFACTURING GROUPS

Source of variance	Sum of squares	d.f.	variance
between groups	127	1	127.00
within groups	<u>73</u>	<u>14</u>	5.21
Total	<u>200</u>	<u>15</u>	

F ratio = 24.20 (with 14 degrees of freedom an F ratio of 8.86 is significant at the 0.01 level)

---

We were also able to perform a simple rank order correlation<sup>1</sup> between gross pre-tax profit of the ultimate parent and the behaviour of managers for thirteen of the groups. The result was  $\rho = 0.68$ . This, of course, does not indicate that these small groups of managers in the wholly-owned subsidiaries of giant concerns contributed by their behaviour to the differing levels of profit. What we do think is plausible, however, though of course the correlation 'proves' nothing, is that the general resource ambience may have differed in the way we suggested in Chapter V.1.2.4 and 1.2.5.

## 1.2 Resource characteristics of the immediate organisation and the criterion

### 1.2.1 Memberships and interdependence

All the companies were at least two removes from the ultimate owning group. That is to say there was a divisional grouping between them and the main board of the parent. Octo and Eton were, technically, 'branches'. However, their link with their ultimate headquarters (through one intermediate board) was similar to the link which the other companies had with their ultimate headquarters (through one intermediate division) even though these other companies were technically wholly-owned subsidiaries. Thus the Aston short-form measure of interdependence really only discriminated among them in terms of relative size. Absolute size effects are much more pronounced, and we shall refer to these below.

In terms of memberships, the biggest 'joiners' were Octo and Noah which, according to our informants, belong to trade, research, management, and educational associations. Eton, Pitt and Delphi



came next with three memberships apiece, and the rest had only one or two memberships - none of them an educational association. Once again the split was between 'the big five' and the four constituent companies of the smaller sixth.

### 1.2.2 Size of own organisation

As mentioned in Chapter VIII.,2.1, we did not collect information about the immediate organisation for Delphi T and Delphi R, but only for Delphi W and for the parent of all three. Also we were unable to obtain this information for Kab. (We did have it for Isis, another company in the same conglomerate as Kab, but as our criterion variable at Isis was based on one man's report we have reluctantly omitted it from the analysis altogether.) Larch and Meteor, both in the public sector, are so divorced from the main operations of their employing institutions that we felt there was nothing to be gained by attempting to compare their non-manufacturing 'organisations' with the rest of the sample of manufacturing companies. We did not collect structural data from them. We are therefore left with only thirteen groups for global variables of 'own organisation'.

Table IX.1 presents the rank order correlations between the global scores on resources and structure and the analytically derived scores on the criterion.

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See Table IX.1

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It can be seen that size of own organisation has a stronger relationship with the criterion than any of the other variables have.

Table IX.1

RANK ORDER CORRELATION FOR 13 GROUPS\* BETWEEN RESOURCES AND  
STRUCTURE OF 'OWN COMPANY' AND THE TRAINING CRITERION

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Own company	Correlation with Boss's Behaviour	Correlation with Colleague Behaviour
Size (number of employees)	0.84	0.68
Technology (workflow integration)	0.64	0.54
Structuring of Activities	0.76	0.68
Concentration of Authority	-0.73	-0.56

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\* Delphi W; Eton O and P; Focus; Ginger; Hora; Noah O and U;  
Octo N, L, S and A; and Pitt.

### 1.2.3 Technology of own organisation

How technology was measured is explained in section 3 of Appendix V.1. It concerns the degree of automaticity in the equipping and sequencing of the manufacturing operations of the organisation. Octo and Eton have the most integrated technology (process type), Noah, Pitt and Ginger are intermediate, and Delphi joins Hora and Kab in being the least automated (batch production). None of them are in unit or jobbing manufacture. The fact that there is a positive correlation between technology (as measured) and the criterion variable, does not, of course, necessarily mean that there is any direct connection. The effect might well disappear altogether if one partialled out the effects of the other three variables shown in Table IX.1. This goes, too, for each of the other variables. With such a small sample, however, we consider that the calculation of partial coefficients would lend a spurious accuracy to the data.

## 1.3 Structural characteristics of the immediate organisation and the criterion

### 1.3.1 Structuring of activities and concentration of authority

Table IX.1 indicates that it is the behaviour reported of superiors which has the stronger relationship with the resource and structure variables. (In the case of the climate variables and ultimate parent variables the reverse is the case - the relationships are always stronger for colleague behaviour).

The range of raw scores on structuring of activities (see Appendix V.3) was from 15 (Kab and Hora) to 35 (Pitt). For concentration of authority the range was more restricted, with Eton



the most autonomous with a score of 23 internal decisions (to 0 external), and Hora the most centralised with 17 internal decisions (to 6 external). Octo ranks second in both structuring of activities and autonomy. Once again we have the phenomenon of the big workflow bureaucracies versus the implicitly structured organisations (see Pugh et al., 1969b). This can be seen in Figure IX.1 which shows standardised score profiles of the eight 'immediate' organisations ranked in order of size (the range being 11,000 employees to 300). Structuring of activities follows size, and then comes autonomy (the opposite pole of the concentration of authority dimension). Finally, there are four climate factors which have yet to be discussed (in section IX.2.1).

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 See Figure IX.1  
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Figure IX.1 shows clearly the relationship between structuring of activities and size ( $\rho = 0.81$  for the eight firms). It also shows the small range of variation on autonomy in this particular sample. All are within one standard deviation of the mean for the original population on which scores are based.<sup>2</sup> This is what we would expect from the fact that the interdependence of these units on their ultimate owning groups did not vary (except in terms of relative size). Interdependence was found by Pugh et al. (1969a) to be the best predictor of concentration of authority.

## 2. ANALYTICAL PROPERTIES

By analytical, in this context, we mean simply, derived from data supplied by the individual members (see Figure V.4).





### 2.1 The BOCI Climate factors

The items of the BOCI, together with the scoring procedure, are given in Appendix V.4, part 3. The 160 items produce 20 eight-item scales, and these scales load on five factors. (Appendix IX.2 gives full particulars) Table IX.2 shows the five factors together with three sets of scale loadings for each factor. It also shows Payne's<sup>3</sup> factors alongside.

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 See Table IX.2  
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It can be seen that Payne's study produced only four factors: stimulation, support, inhibition, and regulation. These are the four for which profiles are given in Figure IX.1. The fifth factor, public spirit, is probably a special feature of our big bureaucracies, Octo, Pitt and Eton, all of which are very public relations oriented. Their senior managers are frequently in demand as speakers by outside bodies, they help charities, and so on. They score highest on this factor; followed by the companies of intermediate size, Focus, Delphi, and Noah; and the bottom scorers are Ginger and Hora. Figure IX.1 shows only two developmental and two control climates. These are represented by the normalised scores on four scales<sup>4</sup> (the most strongly loaded for each factor) for which there was a direct comparison with Payne's data. Respondents were asked to describe the climate of their organisation (not of their group), but the data in Figure IX.1 are all taken from respondents at the same site within each organisation. (Octo is represented by the combined scores of Octo N and Octo L; Eton by Eton O; Noah by the combined scores of Noah O and U; and Delphi by Delphi W plus seven of their subordinates.)



Table IX.2

BOCI SCALES WITH HIGH LOADINGS ON FIVE FACTORS IN THE CURRENT STUDY COMPARED WITH FOUR FACTORS IN PAYNE'S SAMPLE (Varimax Rotation was used in both studies)

Factor title, and identification numbers and names of key scales	Percentage of variance of all 20 scales accounted for by the factor; and loadings of the key scales	
	Aston Sample n = 135 middle and senior managers	Payne's sample n = 351 employees at all levels
STIMULATION	22%	25%
19. Readiness to innovate	0.71	0.74
11. Task orientation	0.81	0.74
8. Scientific and technical orientation	0.69	0.76
SUPPORT	15%	16%
3. Egalitarianism	0.81	0.75
15. Interpersonal aggression	-0.78	-0.75
4. Management concern for employee involvement	0.62	0.60
PUBLIC SPIRIT	12%	not applicable
14. Sociability	0.78	n.a.
20. Community orientation	0.76	n.a.
13. Altruism	0.63	n.a.
INHIBITION	10%	10%
6. Emotional control	0.83	0.78
2. Questioning authority	-0.78	-0.77
5. Open mindedness	-0.63	-0.60
REGULATION	9%	12%
16. Rules orientation	0.84	0.77
17. Administrative efficiency	0.70	0.48
18. Conventionality	0.55	0.76
Total variance	65% (5 factors)	63% (4 factors)

The use of an average score to depict a climate seems justified if there is both representativeness and consensus among the respondents. We suspect that our respondents' views are not representative. They are almost certainly coloured by the managers' positions in the hierarchy. We now have ample evidence, for example, that Pitt's middle and junior managers perceive less stimulation and support than their seniors do (see Appendix VIII.3). Figure IX.1 should therefore be interpreted as the climate attributed to the organisation by a select group of its managers. Consensus is very high for public spirit, stimulation, and external regulation. For all these cases the within-group interquartile range was never more than one point on either side of the median for an eight-item scale. For the support climate there were two instances, Kab and Eton P, which were outside this range. Both are excluded from Figure IX.1. Inhibition is the one climate on which there can be said to be dissensus, in that the interquartile range for Eton O, Noah, Delphi and Hora is greater than plus or minus one point from the median.

Finally, it is usual to express scores in relation to the population from which they are derived. In examining the means and standard deviations for Payne's subjects, however, it was apparent that, for the four scales actually used, our subjects could be treated as if they belonged to the same group as his. This, in effect, extends the basis of comparison from eight companies to twenty companies, and from 132 respondents to 310 respondents. (See Appendix IX.3 for details. A set of 'ideal' scores is also given there for comparison.)



## 2.2 The organisations as characterised by selected groups of their managers

### 2.2.1 Stimulating climate

Figure IX.1 shows that for stimulation (as represented by task orientation) six of the eight organisations are similar to Payne's: they are within half a standard deviation from his mean. Hora and Ginger are about one standard deviation below the mean. Their scores may, in part, be a reflection of the fact that the five managers concerned were at relatively junior levels, and in part attributable to the operating situation, with both companies involved in the parent's losses.

### 2.2.2 Support climate

For support climate, only Noah and Hora are outside one standard deviation. Both are low. Noah, as explained in Chapter VIII., 2.3, had a very dissatisfied group, Noah U, whose perceptions affected the support score very markedly. They were unanimous in the low score they gave to Egalitarianism, the scale used. Hora was experiencing wholesale redundancies.

### 2.2.3 Inhibition

For inhibition, extreme scores on emotional control are recorded by Delphi and Eton on the one hand, and Hora on the other. Delphi was using management by objectives to rationalise its operations. (Note also its high score, for an organisation of its size, on structuring of activities.) Its inhibition possibly represents a norm of 'not rocking the boat' following its attempt to consolidate the advantages of divisional reorganisation. Also, for several of



these managers, Delphi was a 'step-parent' who had only recently taken over responsibility, and the 'divorce' from the former parent was a recent memory. Eton is in a high technology, science based industry, and Eton O is a mathematically minded group. The company was just pulling out of a period of reduced profit into one of exceptional gain. Displays of feeling were certainly not characteristic of the place. Hora, on the other hand, is in a craft industry and was known to be making big losses. People, as one manager described it, were 'knocked sideways' to discover, on returning from vacation, that many of their staff had been dismissed in their absence. In these circumstances uninhibited expression of feelings is to be expected.

#### 2.2.4 Regulation

For regulation, as represented by the scale of rules orientation, the extreme scorers are again Eton and Hora, but this time they both score low. Eton's headquarters organisation is largely doing 'think tank' work and is concerned with large scale issues and a long time span. Although it has a high score on structuring of activities, the attitude towards rules and regulations is anything but bureaucratic. Decision making involves the project orientation so well described by Sayles and Chandler (1971) in their account of NASA. People only feel constrained to conform to procedures when those procedures are furthering the ends they seek. In this respect Eton makes a very interesting contrast with Octo, whose environment is relatively stable, for whom procedures have become more sanctified.

Hora has a very low score on structuring of activities, so there are fewer rules toward which to have an orientation. Hora's very

existence appeared at that time to be problematic, and people were treating information as if time were temporarily suspended. There was no anchorage for rules. People were trying to interpret what was happening to them. It is necessary to understand before one can control (see Figure VII.2).

#### 2.2.5 Summary of the climate

With respect to Payne's sample, therefore, Eton and Hora are the deviant cases, with Noah having exceptionally low support and Delphi exceptionally high inhibition. With regard to the ideal climates preferred by trainers, however, most of the support and stimulation scores are low. (Pitt and Focus come out well here, but Pitt is seen by the men at the top. Focus has a very dynamic general manager, and although the conglomerate was losing money because of Hora's troubles, Focus was profitable and has a separate history and identity.) Trainers tend to prefer moderate amounts of inhibition and regulation, so they would not approve of the scores of Hora which is exceptionally low on both (see Appendix IX.3). In Eton's case the rather high score on inhibition is probably counterbalanced by the low one on regulation. Eton is, in fact, the organisation which, overall, comes closest to its trainers' ideal profile.

### 2.3 Developmental and control climates and the criterion

#### 2.3.1 The developmental climates

When analysing group perceptions of their organisations in relation to managers' methods of working, we combined the scores of two most strongly loaded scales for each climate factor. In



this way we extended the maximum range of scores to sixteen instead of eight. We then plotted the median climate scores on one axis and the behaviour scores on the other axis for all eighteen groups.

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See Figure IX.2

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Figure IX.2 shows the results for stimulation and public spirit. Is there a hint that the relationship between the training criterion and stimulation may be curvilinear? With so few cases one can only speculate. The kinds of behaviour (listed in section IX.1) are not particularly dynamic, so it could be that they are inappropriate in environments with maximal job challenge. There is, however, a linear relationship between the criterion behaviour and public spirit. The rank order correlation is 0.65. We suspect that this is the bureaucratic phenomenon referred to in section IX.2.1. The support climate was also correlated ( $\rho = 0.43$ ) with the criterion, (though with so few groups this correlation was not significantly different from zero). The scores shown in Figure IX.2 are those reported for colleagues. The relationships with boss behaviour were similar but weaker.

The picture is clearer if we look at the developmental climates in combination, rather than singly. Using the scores shown in Figure IX.2 for stimulation and public spirit and the scores for support, we obtained  $D^2$  measures as follows:

$$d_{ij}^2 = \sum_{k=1}^n (x_{ik} - x_{jk})^2 \quad i \neq j$$

where  $i$  and  $j$  = any two of the 18 groups in the study  
 $n$  = the number of factors  
 $x_{ik}$  = the score of group  $i$  on factor  $k$   
 $x_{jk}$  = the score of group  $j$  on factor  $k$



Figure IX.2

DISTRIBUTION OF SCORES OF 18 GROUPS ON THE CRITERION  
VARIABLE IN RELATION TO INTELLECTUAL STIMULATION  
AND PUBLIC SPIRIT CLIMATES

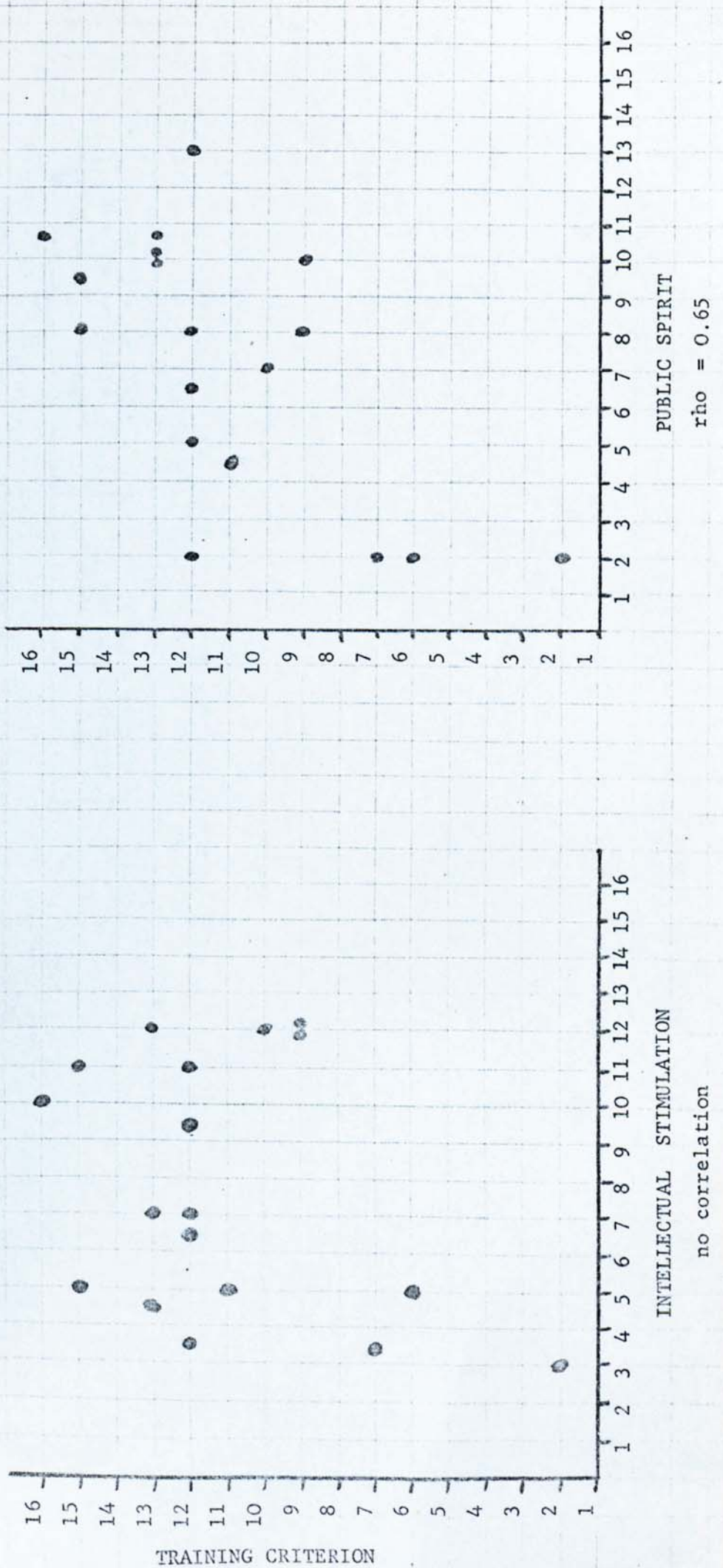
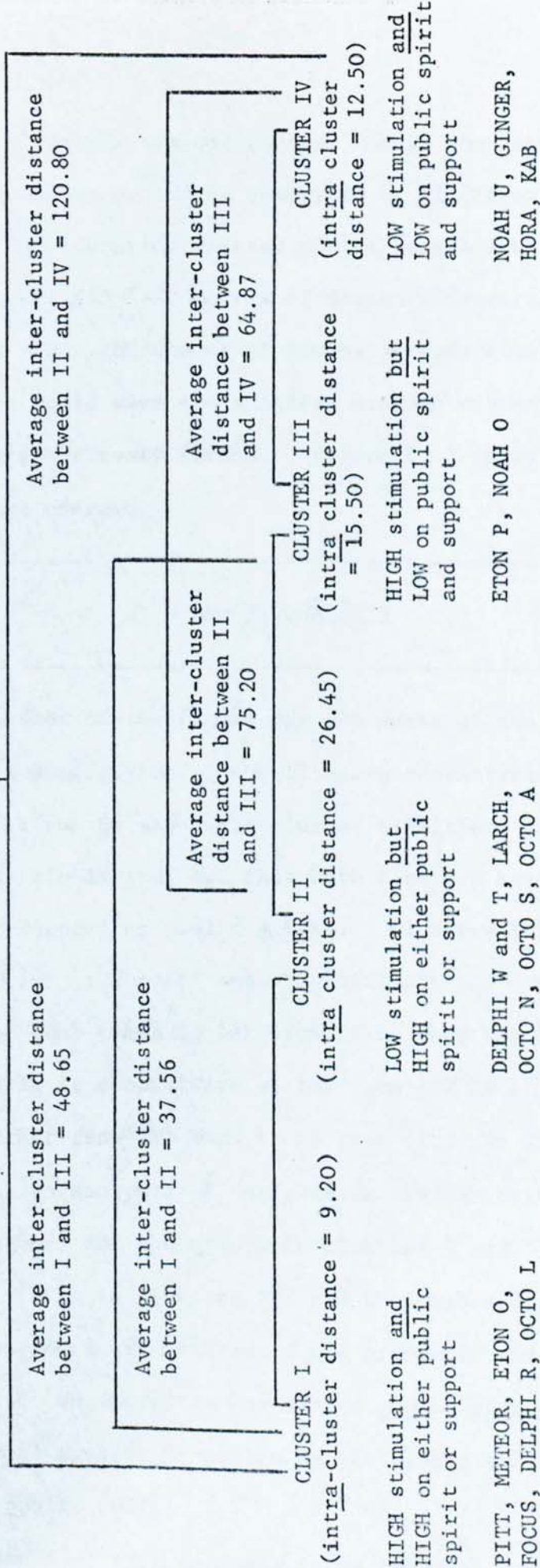


Figure IX.3 GROUPS CLUSTERED ACCORDING TO THE DEVELOPMENTAL CLIMATES THEY PERCEIVE IN THEIR ORGANISATIONS

Average inter-cluster distance between I and IV = 175.12





An  $18 \times 18 D^2$  matrix was calculated, and we then applied the iterative grouping procedure described by Findikyan and Sells (1965).<sup>5</sup> The iteration started with a search for the minimum distance in the  $N(N-1)/2$  matrix of distance measures. At each iteration a group, or number of groups already clustered, was sought which would have the smallest average distance from any of the clusters already formed. Figure IX.3 shows the four key clusters that emerged.

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See Figure IX.3

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At the foot of the figure are the names of the groups, and above them a description of the climates characteristic of that cluster. It can be seen that cluster II differs from cluster I in terms of stimulation, but that both clusters have scores which are high on support or public spirit. Clusters III and IV both have low scores on support and on public spirit. Clusters I and II are about four times as far from IV as they are from each other, and cluster II is about twice as far from III as it is from I. I is also farther from III than it is from II. We therefore decided to carry out an analysis of variance on the MAM criterion scores (for colleagues) for the groups in clusters I and II (combined) versus the groups in clusters III and IV (combined). Delphi W and T for MAM purposes are treated as one group for the reasons given in VIII.2.1. We therefore had eleven groups with perceived organisational support or public spirit versus six groups without support or public spirit.

The result of this analysis is as follows:



Source of variance	Sum of squares	d.f.	variance
between groups	30.42	1	30.42
within groups	20.30	15	1.35
Total	<u>50.72</u>	<u>16</u>	

The F ratio is 22.53

(With 15 degrees of freedom an F ratio of 8.86 is significant at the 0.01 level.)

In view of the results already presented in section IX.1, we cannot say that the distinctions between the groups in cluster I and II of Figure IX.3 and clusters III and IV are solely distinctions of supportive or non-supportive climates. We found when we contrasted only cluster I and cluster IV that the F ratio dropped to 3.44.

Another interesting feature of Figure IX.3 is the four cases where groups in the same company fall into a different cluster from their partners. Both Eton O and Eton P find the organisational climate stimulating, but Eton P finds it less supportive. Eton P, it will be remembered (see VIII.2.2) were about to begin work under a new superior. This man was coming in from one of the Business Schools, and there was the suggestion that he might be going to introduce changes. Eton P were older men who had practised in a specialised function for a long period, and it would be surprising if they were not a little apprehensive. Octo L was the only one of the four Octo groups to perceive the climate as high on stimulation. All Octo L members are in the sales force, and in this type of industry, where there is continuous production, the company is highly dependent on its marketing operation to keep its brand image before the public. Possibly their work is more interesting than that of their colleagues in accounts, production and systems analysis? Noah O perceived the

climate at Noah as more stimulating than did Noah U. The probable explanation is in VIII.2.3. Similarly we are not surprised that Delphi R reported higher stimulation than did Delphi W (see VIII.2.1).

### 2.3.2 The control climates

The plots of the scores on inhibition revealed no relationship with the training criterion. This is a climate factor where there is, in any case, within-group dissensus (see section IX.2.1), and where perceptions are probably based on particularised experiences.

For the external regulation climate, however, where we used the rules orientation and administrative efficiency scales, there was a clear linear relationship with reported colleague behaviour as shown in Figure IX.4. This was a climate with high within-group consensus. It has the strongest relationship of all the climate factors with the training criterion for colleagues and a similar relationship for bosses' behaviour.

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See Figure IX.4

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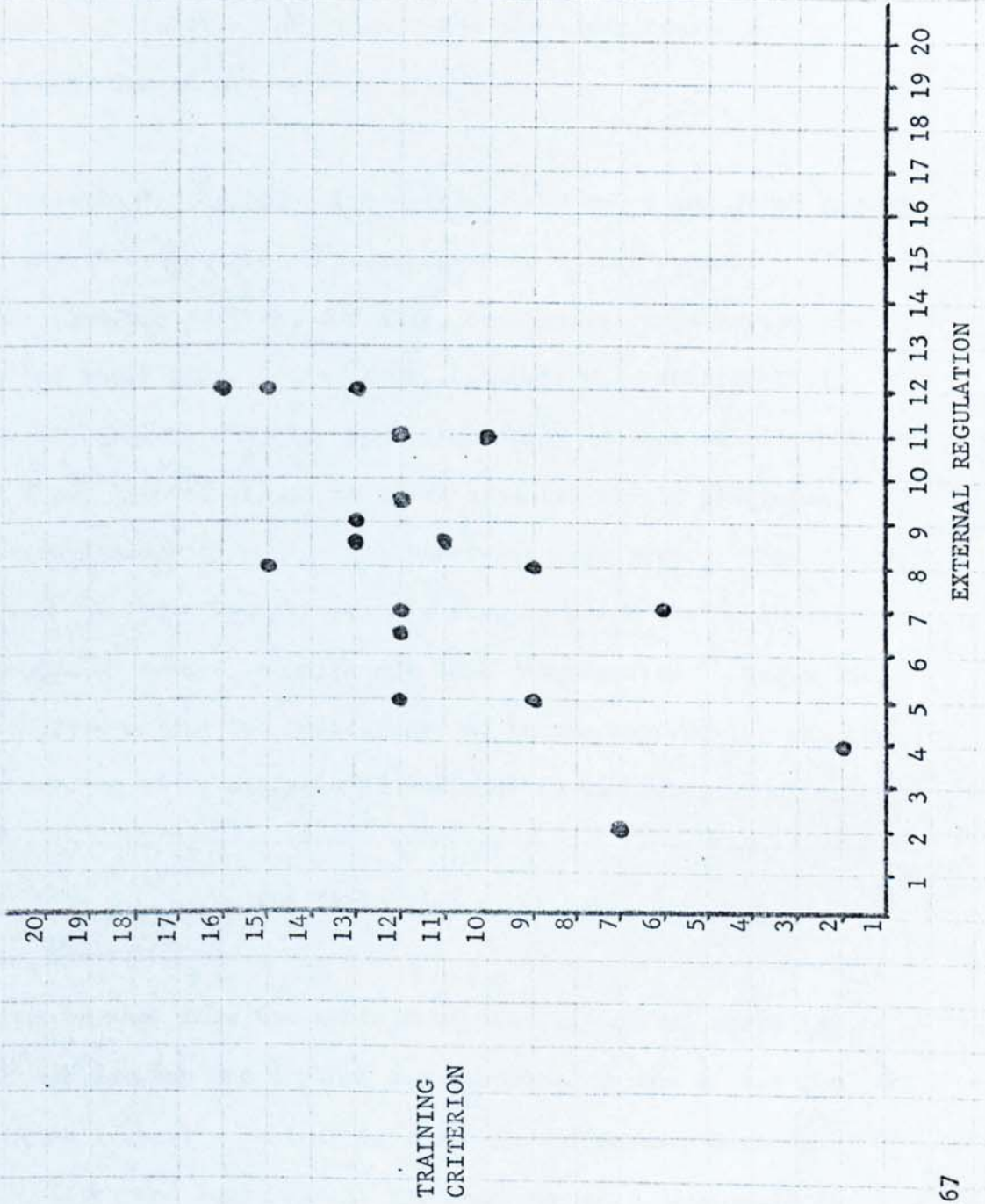
Now we are ready to present the results of the focal training.

### 3. GROUP RESOURCES AND STRUCTURE

Figure V.5 presented the intended 'static group comparison design', and Figure VIII.1 showed the revised group comparison design. We also pointed out in Appendix VIII.2 that all groups had members who had received training of some sort. The words 'trained' and 'untrained' in the following sections therefore refer to groups which have received the focal programme versus groups which have not. (Larch and Meteor

Figure IX.4.

DISTRIBUTION OF SCORES OF 18 GROUPS ON THE CRITERION VARIABLE  
IN RELATION TO A CLIMATE OF EXTERNAL REGULATION



$\rho = 0.67$



are classed as 'untrained' because only 33 per cent of their members had had the focal programme, and our lower limit for trained groups was 45 per cent.)

### 3.1 Training: the ten matched groups and seven unmatched groups

The MAM questionnaire asked managers to describe their colleagues' behaviour first, and then, separately, to describe the behaviour of their boss. The items, summarised in section IX.1, do not really reflect what is usually meant by 'social skill', but as none of the matched groups received a social skills programme, this is less serious than it might otherwise have been. The measure does at least isolate certain ways in which trainers would like managers to behave, as Appendix IX.1 demonstrates. Table IX.3 gives the group scores for colleagues and bosses separately, together with the results of an analysis of variance in each case.

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 See Table IX.3  
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It can be seen from the table that, statistically, there is no difference between the trained and untrained groups either for colleagues or bosses. Neither is there any difference between colleague scores and boss scores, for that matter. We cannot, of course, conclude that the training has failed. It is impossible to say, for example, how far the differences discussed in the previous sections stem from training. One might argue that it is unfair to expect reports on colleagues and bosses, rather than on 'Joe Smith who went on the course', to detect results. We would contend that asking about Joe Smith who went on the course is also unfair since

Table IX.3 MATCHED GROUPS' SCORES\* ON METHODS OF WORKING

		COLLEAGUES		BOSS	
'Trained'		'Untrained'	'Trained'	'Untrained'	
Delphi W + T**	12	Delphi R	Delphi W + T	Delphi R	13
Eton O	15	Eton P	Eton O	Eton P	15
Noah O	12	Noah U	Noah O	Noah U	10
Octo L	16	Octo A	Octo L	Octo A	14
Octo N	15	Octo S	Octo N	Octo S	15
Total	70		67		67
Mean	14.0	11.6	13.4		13.4
Source of variance	Sum of squares	Degrees of freedom	Variance	Note that the means for the reports on boss's methods are the same for 'trained' and 'untrained' groups.	
Between groups	23	1	23.00		
Within groups	67	8	8.35		
F ratio = 2.74 n.s.					

\* Maximum score = 20, which represents perfect target attainment.

\*\* Chapter VIII, section 2.1 explains why Delphi W was combined with Delphi T.







it implies that there must be something to be noticed. We would, however, agree, as we said in Chapter Six, that a criterion should be linked to the specific precourse objectives, and to the actual content of the training, and our criterion fails on both these counts. We also pointed out in VI.7.3 that low scores on the MAM questionnaire might reflect lack of opportunity for the behaviour rather than lack of skill. We think this explanation is especially likely in the case of Meteor (see Table IX.4), most of whose members seldom engaged in the activities referred to. It is hardly surprising, then, that the results for the unmatched groups are no 'better' than those for the matched groups. They are shown in Table IX.4.

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See Table IX.4

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### 3.2 Size, hierarchy, and functional differentiation

Table IX.5 gives the rank order correlations with the criterion (for the eighteen groups) for four independent variables: proportion of members trained by the focal programme, size of group, number of hierarchical levels, and functional differentiation.

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See Table IX.5

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The first correlation reinforces the results depicted in Tables IX.3 and IX.4. The other low correlation (-0.25 is not significantly different from zero) indicates that the proportion of members in the same function (homogeneity) is unrelated to the criterion behaviour.

Table IX.5

RANK ORDER CORRELATION FOR 18\* GROUPS BETWEEN RESOURCES  
AND STRUCTURE OF OWN GROUP AND THE TRAINING CRITERION

---

Group	Correlation with colleague behaviour
Proportion of members receiving focal training	0.07
Size	0.72
Number of hierarchical levels in the group	0.74
Functional differentiation within group	-0.25

---

\* For proportion receiving training Delphi W and T are  
treated as a single group and n is reduced to 17.

For size of group, and for number of levels in the group, the correlation with the criterion is positive. This reflects again the influence of the big bureaucracies, Octo, Pitt, and Eton, which have larger groups with more hierarchical levels. It should not surprise us that it is these groups which score higher on the criterion, if we re-read the operational definitions of the behaviours given in section IX.1. The status level of entire groups (as reflected in modal salary) is related to perceptions of the climate and will be described in section IX.4.2.

#### 4. OTHER INDEPENDENT GROUP VARIABLES

##### 4.1 Unanimity or diversity of perceptions

As explained in section IX.2.1, we calculated the degree of consensus in terms of closeness of the interquartile range to the median score. We did this both for the BOCI and for the MAM scores. In the case of the former we also constructed a composite index for each group of the number (out of the five possible) climates, on which there was consensus. The more functionally homogeneous groups had slightly higher consensus ( $\rho = 0.32$ ) but consensus as such was not related to the criterion. Lack of consensus, however, as already explained, may have contributed to the absence of any relation between the inhibition factor of climate and the criterion variable.

##### 4.2 Membership

The chief group effect arising from the characteristics of the members is that the modal salary is correlated 0.79 with public spirit, 0.60 with stimulation, and 0.43 with the criterion behaviour.



The better paid groups have a rosier view of their organisation, possibly because they identify more closely with it when they are at, or near, the top. Other composition scores, when plotted against the criterion, showed no clear relationship with it.

Scores on breadth of further education, qualifications, variety of experience, and salaries, are shown in Appendix IX.4.

## 5. THE HYPOTHESES RE-EXAMINED

The hypotheses for this research were first suggested in Chapter Four, sections 1.2.1, 1.2.2 and 1.2.3. They were developed in Chapter Five, section 2.2.1, and the final version appeared in Chapter Seven, section 2.4. It is the hypotheses as written in Chapter Seven that we shall now examine. These hypotheses separated out analytical from social behaviour, whereas, in practice, we have had to amalgamate these two types of behaviour within a single measure. We shall therefore look at all the nine independent variables that were hypothesised to be related to either type of behaviour assuming, first, that we are dealing with intensive and short-term information aims (columns a and b in Figure VII.3). In each case a positive association was predicted. The first five variables and the results are:

<u>Predictor variable</u>	<u>Result</u>
1. Hierarchic groups	Positive, rho = 0.74
2. Differentiated groups	No relation
3. Organisational structuring of activities	Positive, rho = 0.76
4. Stimulation in climate	Possibly curvilinear (Fig.IX.2)
5. External regulation climate	Positive, rho = 0.65

The remaining four hypotheses were really related to the idea of 'adding to dispensible information' (see column c of Figure VII.3).

This is not well represented in the criterion. However, the results are:

<u>Predictor variable</u>	<u>Result</u>
6. Group norm consensus	No relation
7. Concentration of authority (negative)	Negative, rho = -0.73
8. Inhibiting climate (negative)	No relation
9. Social supportive climate	Positive
	Public spirit, rho = 0.65
	Support, rho = 0.43

It was predicted that these relationships would hold for both 'trained' and 'untrained' groups, and this turned out to be the case. In addition, strong positive relationships were found with resources of owning group (F ratio 24), profitability (rho = 0.68), size of organisation (rho = 0.84), size of group (rho = 0.72), and with modal salary (rho = 0.43 with the criterion but there are stronger correlations with stimulating climate and public spirit). These resource variables are, to us, indirect indicators of the complex environments of the big bureaucracies in the lower right-hand quadrant of Figure VII.2. The criterion behaviours are those particularly favoured by the big bureaucracy.



1. We have used Spearman's (1910) rho, a non-parametric statistic because in several instances (e.g. size of organisation) the data are not normally distributed. According to Costner (1965) Spearman's rho may be given a 'proportional reduction in error' interpretation, which is one of Costner's criteria for measures of association. In general we have probably erred on the conservative side in using rho instead of a product moment correlation with the group scores. In Table IX.1 a product moment coefficient of 0.55 would have been significant at the 0.05 level and one of 0.68 at the 0.01 level. In Table IX.5 a product moment coefficient of 0.47 would have been significant at the 0.05 level and a correlation of 0.59 at the 0.01 level.
2. The relevant means and standard deviations of the raw scores for the 25 manufacturing firms are:

	Mean	S.D.
Size (logarithm of number of employees)	3.08	0.54
Structuring of activities	21.56	5.84
Autonomy	19.16	4.43

A list of these firms and their products and size is given in Appendix IX.5. Further information will be found in Inkson et al.(1970a).

3. I am grateful to Roy Payne for permitting me to use these data.
4. These four scales are shown marked with an asterisk in Appendix IX.3. The raw scores used as the norm are shown in the column headed n = 178 in that table.
5. Findikyan and Sells (1965) justify the use of 'unstandardised and correlated dimensions ..... if the investigator is willing, for one reason or another, to obtain distance measures that are partly a function of the variances of the dimensions along which the distance measure is obtained', and especially if the measure is for descriptive purposes rather than for probabilistic-inferential use.



CHAPTER TEN

CONCLUSIONS

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  - 1.2 Training for new entrants
  - 1.3 Management development
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## CHAPTER TEN

CONCLUSIONS

The end of all our exploring  
Will be to arrive where we started  
And know the place for the first time

T S Eliot

## 1. THE DATA COLLECTED FROM THE EXTENDED SAMPLE

1.1 The 'conservative' nature of management training

In addition to the more intensive study of the groups in six companies, I visited another 25 companies (see Table VIII.1), spending up to half a day with a senior manager responsible for management development, management services, organisational development, or management training. These men described their companies' training philosophies and practices, and gave me much supportive material: course programmes, appraisal forms, lecture notes, articles written by company personnel, brochures, evaluation documents, research reports of in-company investigations, and so on. How does the management training they described match the ideas we had at the start of the research?

In Figure V.3 we showed four skills which we identified as: analytical critical, creative critical, empathic social and diplomatic social. We subsequently (VI.1) cited excerpts from the brochures of seven training programmes which seemed to embody objectives of an analytical critical and empathic social nature, or mixtures of the two. We hoped to separate out the analytical and social objectives in terms of their postulated contribution to information processing. We thought the analytical contribution would be most suitable where



the aim is intensive and/or short-term processing (see Figure VII.3) and the empathic social contribution would be most suitable where the aim is to generate new information from a base of existing security. We thought, furthermore, that a management team might be able eventually to use these types of criteria in deciding what form of training to select for its own use.

While firms are using training as a means of standardising performance, and hence rendering it less equivocal, they are not using it to bring about change which will make current certainties problematic. A survey of European Managers' attitudes to their jobs and to training (MCE, 1972) puts it this way:

'The manager is seeking more in management courses and seminars than instruction in specific techniques and the acquisition of knowledge. He is looking for help, mental relief. He is looking for ways to achieve a better and easier future. He is looking for guiding lines, systems which can guarantee success. He is looking for a fountain of youth for his performance.'

This is especially so in the case of 'package programmes'. Even the increased awareness proffered by T-groups is sought as a chance of reducing ambiguity. Profile Training, described by Morris (1972), is even more explicit about 'actioning effective behaviour' (which seems to be a euphemism for 'getting your own way'). The behaviour isolated in the MAM criterion correlates with structuring of activities (Table IX.1) and with external regulation (Figure IX.4). It is unlikely to be in any sense disruptive.

In the big firms we visited the role of the training department in all this was usually that of broker. That is to say, clients were put in touch with suitable course vendors (who included the firm's own residential training staff). The rest of section X.1 will describe the types of provision made for different clients.

### 1.2 Training for new entrants

One firm has very detailed information for appointments boards, and runs a three-day familiarisation course during the Christmas vacation for university undergraduates. Women graduates are welcome to apply for direct entry to positions, as and when specific vacancies occur, or they can enrol for two-year training in the management services area. They cannot be trained for line management positions 'because of the obvious difficulties of employing them in some parts of the world'. The training manager said:

'We have a two-year graduate induction programme. We may interview as many as 100 graduates. Some of these come to the company for testing by an independent consultant, and for a group selection programme at which directors are present. Perhaps only eight to ten may be taken on. These are attached to senior managers in functions in which they have expressed interest, prior to being sent overseas. They can, if they wish, move out of the first function during the two-year induction period. They may then have two to five years overseas. On return they may take an in-company course before a lateral move, or go to a thirteen-week business school programme, prior to promotion, or to a senior management course to fill them in on functions of which they have insufficient knowledge.'

### 1.3 Management development

In another firm they said:

'We classify managers into three groups:

- (1) The directors of the nineteen subsidiary companies (ten in the UK and nine overseas).
- (2) Top management (i.e. those reporting to the directors). There are 294 managers in this group.
- (3) Other managers. There are approximately 1,500 of these. Most of them are ex-graduate apprentices who have been in post for at least two years since completing their traineeship.'

An appraisal scheme has been running there for eight years.

Appraisal forms are considered by a management development



committee which follows up the suggestions made by the immediate superior. The appraisal form, in its fourth section, asks for training needs to be specified under three headings:

- (1) On-the-job training
- (2) Off the job training
- (3) Further education.

Underneath is space for the action agreed upon by the review panel and the date.

The company can accommodate up to 25 trainees at its own non-residential training centre. If from eight to twelve people request a particular course it will be provided for them internally. If fewer than eight are involved they are referred to an outside source. People attending courses (internal or external) complete an evaluation form, which is introduced as follows:

'The Group Chairman has asked me to obtain reports from those who attend courses about content, presentation, value to the individual and general administrative arrangements. After your own course would you please complete this report form. One copy should go to your managing director and one should be sent to me. We shall use your report to help us to build up a library of information about courses which have been attended by employees ..... Additionally we may use part of your report to send one or two other companies with whom we have agreed to exchange reports in order to obtain as wide a cross-section of opinion as may be possible on the value of such courses.'

In another company, the retailing aspect of the trainer's role was emphasised more than the brokerage function vis-a-vis established managers. The head of training was a mechanical engineer who had previously been concerned with apprentice training. In this area they had been 'over training' as a number of award-winning apprentices exceeded the standards required by the vacancies available. Management and supervisor training has only been instituted since 1964. Their basic management course, for existing, newly appointed, and



potential managers, takes place on eighteen successive Friday mornings. Subjects covered include communications, financial techniques, decision making, etc. They are trying to arouse management interest through involving people in 'projects' of various kinds. Persons attending courses are given a certificate stating that they have satisfied course requirements and carried out practical work of the required standard. This has led to enquiries about the status of the certificate, and what it signifies.

Another large company has recruited a Management Development Officer from one of the Times 1,000 top fifty. This man spoke of his new employers as follows:

'The board consists of executive directors, each of whom chairs at least one division. Each division has a number of operating companies whose managing directors report to the divisional chairman. The group has grown very rapidly through acquisitions and modernisation, but most of its constituent companies are small, and the managers are mainly men who have risen through experience in the business. You can count the 'professionals' on the fingers of one hand. The great diversity of products means that the group have to deal with a number of industrial training boards. I am trying to make sure that new managers have the chance to go to a business school executive development programme. One has so far been to Bradford, and was very enthusiastic about the course.'

This man did not believe that much could be achieved by any external programme lasting less than thirteen weeks.

The most pessimistic training manager I met spoke in these terms:

'What is the function of training when the organisation is having redundancies? We employ a lot of scientists and technical people who regard a switch to management as a demotion, and who have difficulty in modifying a research leader's approach to suit the requirements of production management. In the past we have sent people to expensive university management courses. The net effect of this expenditure is nil.'

The issue of redundancies came up in a number of the firms. Another spokesman, the Manager of Personnel Services, in a different firm said:

'By and large, management training is not looked on favourably at the present time, as we have recently had a rather disastrous management development programme which raised expectations and failed to fulfil them. The exercise failed to take account of local differences, and has come to be regarded as a paper pushing exercise. In order to avoid a Rolls Royce situation the companies in the group have had to do a lot of reorganising, and some people have lost their jobs. The management development programme, which asked a lot of questions about the personal qualities of managers, got the blame for some of the sackings.'

Another company, rated in the top seven in a BIM survey of management practices in 300 companies, was more enthusiastic about its manager development programme. Everyone is under review. Few first-degree graduates are taken on, but in the last five years 13 MBAs have entered the company, and not one of them has left. All supervisors and managers receive appreciation courses in the range of functions; a specially popular course is finance for non-financial managers. The onus is on subordinates to write their own job descriptions and training needs and to have them agreed by their superiors.

Another company which uses the 'bottoms up' approach found that people sometimes asked for inappropriate courses because they were more prestigious, but this kind of problem could generally be resolved in discussion with the boss.

The types of training shown in Appendix VIII.2 appear to be fairly typical of what is encouraged by these top companies. The ratio of functional to general courses shown there was approximately 1.5 to 1. The subjects often mentioned in the interviews with the extended sample were finance, industrial relations, and work measure-



ment. The list in Appendix VIII.2 includes maths and statistics, computer courses, preproduction and design, production engineering, marketing, sales management, and so on.

#### 1.4 Organisational development

From only two of these 25 big companies did we get considered statements of the training function where the client is seen as the organisation rather than the managers. One of these (written) statements began:

'Many changes have taken place in our markets and our ways of managing our human resources over the last few years, and the division decided to investigate the potential contributions of different methods of management training as aids to the further development of the organisation.'

There followed an assessment of the merits and demerits of six different 'package programmes' in relation to the 'business needs of most interest to us at the time.'

The other document describes some efforts in part of another huge concern to use a 'system of group problem solving in both operational and behavioural terms to further improve the company's effectiveness ..... The latest experiment, which is still in progress, concerns the integration of three national management establishments into one regional establishment.'

When the client is the organisation, the training department's role tends to be that of a catalyst rather than that of a broker. These companies were the exception rather than the rule. Our impression was that most policies concentrate on giving people what they are thought to need to do well in their current jobs (as defined by performance appraisal). This provision is supplemented by 'cohort' training in those companies which have a large



and regular graduate intake, and by some talent spotting for accelerated progression through the system. This judgment could be biased by the particular contacts made. OD may exist outside the training department's jurisdiction, and be relatively little publicised.

### 1.5 Conclusions about the extended sample

It must be remembered that all the firms visited had annual turnovers in excess of £40 million per annum. Most of them have spent considerable sums on training. Nevertheless, with two exceptions, there was apparently very little team training being undertaken with a view to organisational development. The six firms in our intensive study also incorporate the types of training undertaken elsewhere: i.e. training for new entrants and management development linked to performance appraisal. The training efforts in the six and in the other twentyfive appeared to have much in common.

## 2. THE RESEARCH AS AN EVALUATION STUDY

### 2.1 Scarcity of team training

Chapter Three, section 3.1, described my state of mind at the beginning of the research as one of 'inner despair and outer assurance'. Section III.3.3 says:

'It would be extremely hard to establish any connection between job behaviour and training if we focused on isolated individuals, unless we also studied those individuals before, during, and after training. However, an alternative was to study group job behaviour in firms where training had been consciously employed to facilitate some form of organisational development, and where two or more managers who were working together had received the same training.'

Our initial premise concerning the number of large firms which would be using a genuine team training approach to the solution of organisational problems was mistaken. As explained in X.1.4 above, there were only two companies from the extended sample that were using this approach consistently. Eton and Delphi were using forms of near saturation training, and Pitt was considering doing so. This makes only five organisations out of the 75 which counted as 'firms' in the Times 1,000 top threehundred (see Table VIII.1, column e). Octo has managers working together who have had the same training, but the training has not been given with the team in view, though Octo is now seriously considering an organisational development approach. (Appendix III.2 and III.3 illustrate some reactions to the research.) We eventually obtained groups where a minimum of 45 per cent of the members had received a focal programme (see Table VIII.2), but this was not the same thing as using a package programme for organisational development.

A second failure of the research as an evaluation study lies in the criterion.

## 2.2 A poor criterion

The MAM questionnaire asked about behaviour in relation to specific activities. About half the managers said that one of these activities was not a substantial part of their jobs (Table X.1, p.242) and another activity was important for only two-thirds. People could be expected to have observed their superior's behaviour in the specified situations, but it is unlikely that they had actually been present when their colleagues were engaged in briefing sessions



and performance reviews for example. Reports of colleague behaviour are therefore almost certainly inferential. These sources of error are additional to the normal errors of judgment reported in the psychological literature.<sup>1</sup>

The final version of the MAT questionnaire did discriminate, initially among three different training programmes. The analytical programme trainer placed analytical skill ahead of social skill, the sensitivity trainers placed social skill ahead of analytical skill, and the mixed programme trainer gave equal emphasis to both skills. When we had results from trainers for seven programmes, however, it was no longer possible to make these discriminations. (VI.4.6.1 and VI.5.4 document these failures.)

The criterion therefore was simply people's perceptions of how their colleagues and superiors acted in relation to six trainer-approved injunctions (see IX.1). The applicability of these injunctions varies, but, from the data presented in Chapter Nine, it would appear that big bureaucracies with developmental climates offer most scope for them. Alternatively, managers in such organisations may be more likely to respond in trainer-approved ways, irrespective of their exposure to the focal programme, since their general level of contact with training of some kind is high (see Appendix VIII.2).

Since trainers had indicated that they approved of climates with high stimulation, high support, and high public spirit (see Appendix IX.3), it would have been possible to use the BOCI as a criterion measure. The results, however, would have been substantially the same as they were for the MAM questionnaire, and no more conclusive.



### 2.3 Lack of specific links to the focal training programme

A third failure was that, although we obtained trainer endorsement for the criterion, we did not investigate how the focal programmes fostered these particular behaviours during training (or even whether they did so at all! - see VI.5.4). Also, since we had no before training measure it was impossible to tell whether the behaviour described afterwards represented behaviour persistence or behaviour change.

The verdict on the research as an evaluation study must therefore be that it provided no basis for determining how well the seven focal training programmes achieved their objectives. We do not know whether they enabled managers to think more critically or to empathise more. Tables IX.3 and IX.4 do not answer this question, partly because of the deficiencies in the criterion measure, and partly because of the inability of the research design to isolate focally trained managers or to control for other variables through the 'matching' procedure.

Fortunately the research was not conceived of solely as an evaluation study (though this was the sponsor's prime interest). As explained in II.4, we also wished to investigate the 'conditions under which managers are likely to think critically, to empathise, and to work together as a team'. Another objective was to develop a conceptual framework to describe 'persons in groups in organisations which will tell us the conditions under which such persons will substitute a new way of doing things for their existing way of doing things'.

In X.3 we look at the nature of the data collected from individuals and in X.4 we shall consider how these data helped us to develop a conceptual framework.

### 3. THE NATURE OF THE DATA COLLECTED FROM THE INTENSIVE SAMPLE

#### 3.1 The managers' activities

An aspect of the MAM data to which we have so far paid little attention is that concerning the perceived importance of each of six activities in a manager's own job. It was hoped that aggregated own-job ratings for each group would provide an indication of the relevance of the 'methods of working' criterion for each group. In the event we did not use 'own-job' data in this way because they would not have effected any substantial improvement in the criterion, but the data of interest in themselves.

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 See Table X.1  
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Table X.1, column b, shows the proportion of managers in the present study who reported an activity as a substantial part of their job. (There were five instances of missing data, so 'n' is reduced to 127.) For comparison it also shows (column a) the figure obtained with our pilot study and with Hemphill's (1960) study (see VI.3.1). Teachers at the University of Aston and at the London Business School provided estimates of the importance of these activities for their own students. We give their views because 34 of our 127 managers had attended business school programmes during the last five years (see Appendix VIII.2).

The method of scoring used as the basis for these comparisons is fully explained in Pheysey (1972) where the same table, with the exception of column b, is presented (see also Appendix VI.5).

In spite of all the reservations which we have expressed about the MAM data as a whole, we think that the fact that the

Table X.1

COMPARISON OF 227 BRITISH AND 93 AMERICAN MANAGERS

Activity	% reporting that the activity is a substantial part of their job			
	(a) British (1969) n = 100 (b) British (1972) n = 127		American (Hemphill, 1959)	
	actual proportion		proportion expected by 21 British management teachers	
	(a)	(b)		
Trouble shooting	88	91	80	60
Forward planning	87	97	81	67
Briefing subordinates	86	88	77	76
Conducting meetings	57	65	62	51
Reviewing the progress of subordinates	60	81	75	71
Taking an interest in personal problems	45	54	57	51



figures in column b are consistently higher than in any of the other columns in the table reflects something of the character of the big bureaucracies, Octo, Eton, and Pitt which employ 85 of the 127 managers. All these companies have elaborate performance review procedures, for example.

In the article referred to (Pheysey, 1972), we explained that crude surveys such as this on managerial activities can nevertheless discriminate among functions. We can now analyse the data for the 227 managers (pilot plus main study) according to the functions the managers occupy. As might be expected from the scores in Table X.1, the variation is greater for the last three activities than for the first three.

Figure X.1 shows varying frequency distributions for the last three activities for managers in different functions from the pilot study data. The results of the main study have not yet been plotted, but the personnel managers are still the most given to chairing meetings and listening to personal problems: and managers in general administrative posts are more involved in reviewing the performance of subordinates than are technical managers.

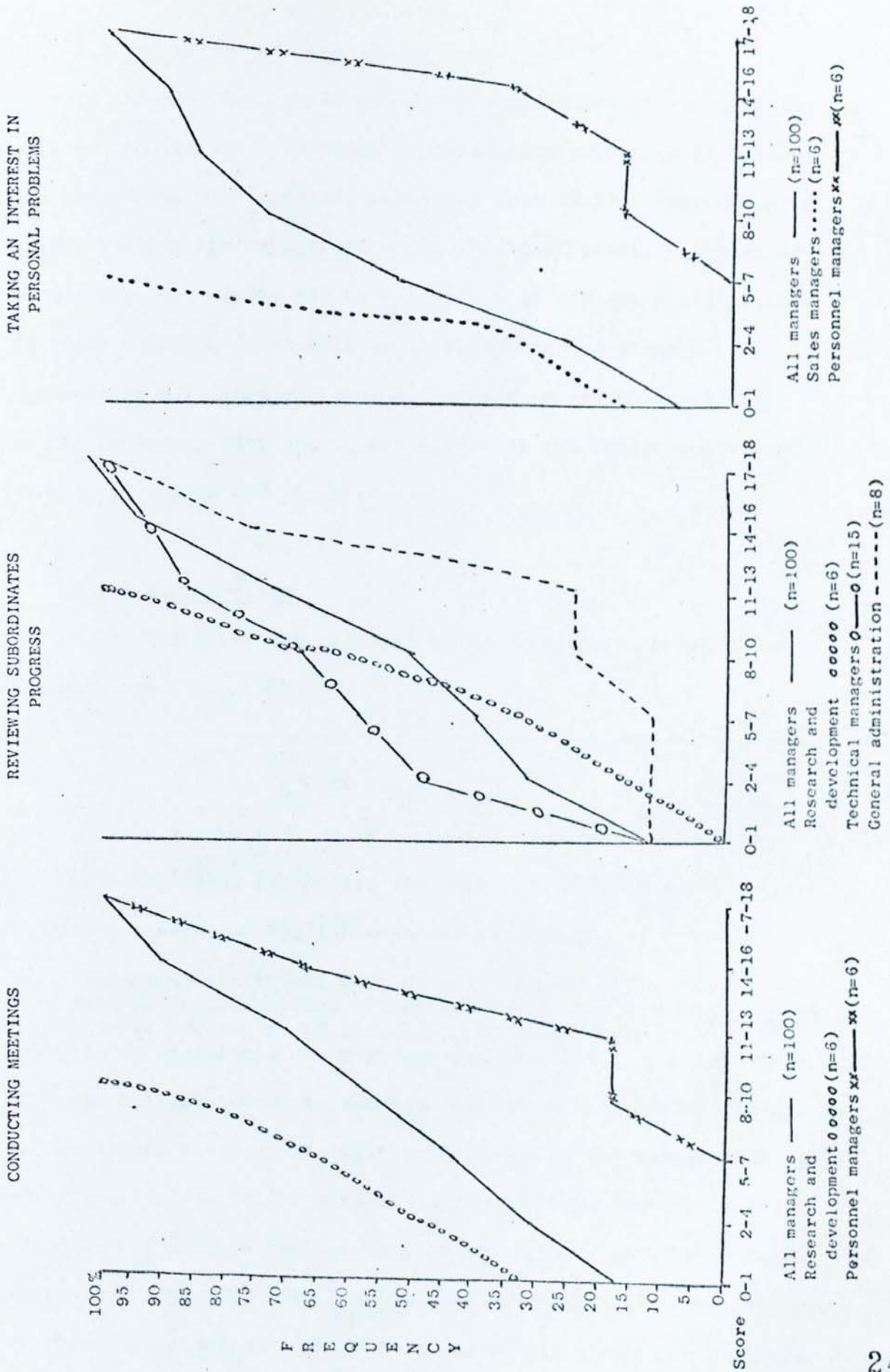
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See Figure X.1

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We have suggested some uses for these kind of data when planning training courses (Pheysey, 1972). Even though there may be fairly large perceptual distortions in such self reports, if managers believe that an activity is important in their work they are likely to regard training which helps them with this activity as more relevant than training which is linked with activities they regard as peripheral.

Figure X.1  
 CUMULATIVE FREQUENCY DISTRIBUTION OF MANAGERS IN DIFFERENT FUNCTIONS  
 FOR THE IMPORTANCE OF THREE ACTIVITIES IN THEIR JOBS



### 3.2 The managers' backgrounds

In Chapter Eight we stressed the atypicality of the organisations we studied. In these organisations structure and climate are associated with reported behaviour (see IX.5). We need also to ask whether the managers themselves are atypical. The methods of working they employ may be a function of certain peculiarities in their backgrounds as well as of structure and climate.

Appendix IX.4 related personal background to group composition. In the following sections we shall look at the managers divorced from their groups and organisations.

#### 3.2.1 Social class

Table X.2 gives the personal background characteristics of the managers.

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See Table X.2

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Grosset (1970) summarises the information about social class from four studies of English managers as follows:

'Approximately 60 per cent of the business elite comes from business families, 15 per cent from the working classes (white and blue collar) and most of the remainder from professional or civil service families.'

It could be that the white and blue collar working classes, class 3 in our table, are more strongly represented in the backgrounds of our managers than in the studies to which Grosset refers, but it is difficult to know whether some of the fathers we have assigned to class 3 might not have been classed as small businessmen in some of the other studies. The 7 per cent in our study whose fathers



Table X.2

## CHARACTERISTICS OF THE MANAGERS FOR WHOM PERSONAL DETAILS ARE AVAILABLE

Social Class of Father

n = 121

Class 1		Class 2		Class 3		Classes 4 and 5	
No.	%	No.	%	No.	%	No.	%
24	20.0	44	36.5	44	36.5	9	7.0

Education

n = 132

Business Course attended during last five years		Ph.D or MBA		First Degree		No full-time further education	
No.	%	No.	%	No.	%	No.	%
110	99	11	9	71	58	26	21

Subjects studied for more than ten hours in further education <sup>\*</sup>

n = 132

Business		Technologies		Maths		Social Science		Languages		Natural Science		Humanities	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
90	70	50	38	48	36	43	33	33	25	26	20	26	20

First Industrial Employment

n = 132

Operator		Apprentice or Clerk		Foreman or Staff		Manager	
No.	%	No.	%	No.	%	No.	%
6	4	97	73	27	20	4	3

Religious attendance

n = 121

Protestant		Roman Catholic		Other		Total		None or not stated	
No.	%	No.	%	No.	%	No.	%	No.	%
49	40	6	5	1	1	56	46	65	54

Number claiming active membership of a political party

n = 121

No.	%
15	12

\* 66% studied more than one subject

were unskilled labourers or semiskilled machinists is a very small proportion of the total. Difficulties arising from non comparability of classifications makes it impossible for us to draw any conclusion about whether our managers are more socially mobile than other groups of managers who have been studied. (There were eleven cases of missing data for some personal information, as we had told respondents it was not a vital part of the study and they were at liberty to leave omissions.)

### 3.2.2 Education

Almost three quarters of our managers commenced their working lives in apprenticeships or in clerical occupations. This is associated with the fact that, after business studies, the subjects next most frequently mentioned are the technologies and maths. Two thirds of the managers have studied more than one subject and a third has studied social science (though it is not known to what depth). The proportion of graduates is high in comparison with other research findings. Clark (1966), for example, divided his age groups to show that there is an inverse relationship between age and proportion of graduates. This is less marked in the present study. The figures, for comparison, are:

Age	Clark % graduates	Present study % graduates	Present study total number in age group
under 40	52	62	40
40-54	31	55	68
55 and over	20	54	13
			<hr/> 121 <hr/>



Stewart and Duncan Jones (1956) estimated that 32 per cent of English top managers had university degrees, and Gould (1966) found that 76 per cent of 1,000 top executives in the 600 largest United States firms had degrees. Musgrove (1966) claims that the proportion of graduate to non-graduate managers in the USA is twice what it is in the UK (at least in the case of lower managerial positions). He found the percentage of graduates in two large British steel companies was 19 per cent and 28 per cent respectively. The overall percentage in our study is 58 per cent.

We believe that this evidence, plus the information given in Appendix VIII.2 suggests that the managers in our study have higher educational qualifications than would be found in the total population of British managers, whatever that population may be. Beard (1972) gives the total figure as two million, of whom 700,000 are in large scale enterprises. He asserts that only 7 per cent of managers are 'trained to professional standards' for the work they do. Against Beard's figure of 143,000 professionally trained managers we must set Jones (1971) estimate that 355,000 management 'students' attended 22,000 courses provided by 650 organisations in Britain during the year ended in September 1970. In our sample only three managers had neither attended a work-related course during the last five years nor had business studies training as part of their further education. Over 90 per cent had done both.

### 3.2.3 Birth order

A study of 2,445 top managers, from the 'Fortune 500' largest American companies in 1966, investigated the relationships among birth order, educational achievement, and managerial attainment



(Dubno and Freedman, 1968). Their chief finding was that 'a significant number of college graduates were first-borns' but 'there was no relationship between birth order and managerial attainment' (as measured by being in the top group rather than the middle group). In our study there are 53 per cent first-born and 47 per cent later born managers, and this proportion is identical for graduates and non-graduates. Dubno and Freedman were hoping to show that top managers are a very 'conformist' group, because they were hypothesised to contain a high proportion of first borns, and (according to Dubno and Freedman) first borns are conformist. As Sutton Smith and Rosenberg (1970) point out, however, the evidence on the relationship between birth order and conformity is very slender. Dubno and Freedman's major premise was questionable to say the least.

#### 3.2.4 Salary and status

We started collecting data in 1970, and had to revise our personal information salary bands at the pilot stage as we had set the ceiling too low. We do not consider fringe benefits, nor do we take into account the extent by which management salaries rose during the data collection period. According to a report in the Weekly Guardian for the 25th November 1972 (page 26), this rise amounted to 11 per cent between July 1971 and July 1972. The same newspaper report gave average salaries for managing directors as £9,800, for general managers as £6,600, and company secretaries as £5,200. Our Pitt and Eton managers were earning salaries at or near these general managers and secretaries. The mean salary for the whole of our sample is however £3,500 to £4,000. In view of

the fact that more than two thirds of the managers are over forty years old, and that they are in most cases heads of large functional departments, general managers, or senior professional men, we feel safe in suggesting that they come at least into the upper strata of middle management, and, in the case of Pitt, some can be classed as top management.

### 3.2.5 One woman manager

There is only one woman in the sample, and she has no subordinates. She is a member of the systems analysis group at Octo. As managers are less immobile than formerly, according to Birch and Macmillan (1972), the argument that it is not worth training women because they have a short working life becomes less tenable. (The men in our sample have, on average, had no more than three years in their present positions, although periods of service with the company average sixteen years.) Many women could give sixteen years between raising a family and retirement.<sup>2</sup>

### 3.2.6 Leisure

If men are allowed more sabbaticals, the day may come when both sexes may have similar opportunities to enjoy both work and home life. Fiftyone leisure courses, in non-work related subjects such as painting, ceramics, vehicle maintenance, and so on were mentioned as courses these men have voluntarily attended over the last five years. Forty-six per cent of the sample say they attended religious worship at least four times a year. (This is a high proportion if compared with the general population of the UK.)



### 3.2.7 Comparisons with the British Institute of Management Survey

The data collected by Birch and Macmillan (1972) show many points of similarity with our data. Their sample was 2,000 individual members of the British Institute of Management, from whom they received 964 usable replies. These replies indicated that the managers concerned had had, on average, 2.7 changes of employment. Our managers cited, on average, 2.7 previous employers. Birch and Macmillan found no relationship between present salary and number of job moves in the past. Our product moment correlation between present salary and number of employers is -0.01. Managers with a higher social class background in the BIM study tended to have had greater opportunity for further education. In our sample there is also some evidence of this. (From the data on the initial 55 managers the correlation between father's social class and duration of son's further education was 0.27.<sup>3</sup>) Birch and Macmillan found that managers aged between 40 and 44 had already changed jobs more often than older managers. We found that managers aged 40 to 44 have already changed their jobs as often as managers aged over 45 (2.9 times in each case). Finally, Birch and Macmillan have a figure of 2.9 as the average number of in-company changes. We have 3.4 as the average number of functional areas worked in, but this includes work with previous employers (and will not show promotions within the same function).

### 3.2.8 Conclusions about the sample

Figure X.2 presents a correlation matrix of the relationships among the background variables. Even though younger managers are under-represented, age correlates negatively with years spent in



further education. Younger managers study longer. Those who study longer study more widely; and number of subjects studied during further education correlates with number of functional areas in which one has worked, and with the number of leisure courses one attends. Somewhat surprisingly the number of work-related courses taken in the last five years does not correlate with number of functions one has worked in. Indeed, course attendance shows a conspicuous lack of relationship with any of the other variables!

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See Figure X.2

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Our conclusion from this review of the backgrounds of the men in our sample is that they compare in many respects with the 964 BIM members, but they are better educated and better paid than the average British manager. They come from the middle to upper ranks of management, and therefore there is a high proportion of older men among them (twice as many over forty as under forty). If the boom in management education continues, then the typical manager by the late nineteen eighties may be like the managers in our sample today. If the trend to bigger and bigger companies also goes on, then more managers in the last quarter of the twentieth century may be working for firms like Octo, Eton and Pitt. It is for this reason that we feel that the data on the business organisation climate and on managers' activities and methods of working supplied by these managers are of interest.

Figure X.2

CORRELATION MATRIX FOR TWELVE PERSONAL BACKGROUND VARIABLES FOR 131 SUBJECTS (Correlations above 0.22 are significant  $p < 0.01$   
 Decimal points have been omitted)

	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	-											
2. Salary	03	-										
3. Years in job	42	28	-									
4. Years in company	58	27	49	-								
5. Number of employers	17	-01	-08	-38	-							
6. Number of functions	11	-12	02	-08	23	-						
7. Work courses	-16	07	-14	-10	09	-03	-					
8. Leisure courses	-01	-07	-04	-12	22	-01	06	-				
9. School leaving age	-21	07	-12	-15	-29	-18	-02	-10	-			
10. Years of further education	-22	-09	-23	-36	12	15	04	10	11	-		
11. Number of subjects studied	-11	-14	-24	-15	07	33	-01	32	03	38	-	
12. Level of qualifications	-06	01	-15	-20	00	-03	04	20	46	40	27	-

### 3.3 The Business Organisation Climate Index

#### 3.3.1 The ideal version: scales and factors

Appendix X.1 shows the loadings of the twenty ideal version BOCI scales on five factors. The table should be compared with the table in Appendix IX.2. The analysis was performed before we had the responses from all thirty trainers, but the extra numbers are made up by a pilot class of management students whose ideals were not statistically different from those of the trainers. There were eleven students and 24 trainers, making a total of 35 respondents.

The public spirit, inhibition, and regulation factors are similar in the 'ideal' and 'actual' versions, with one exception. Inhibition and regulation are both seen as antithetical to readiness to innovate in the 'ideal' version, but as unrelated to readiness to innovate in the 'actual' version.

Most of the scale loadings on the stimulation factor are much reduced, except for 'scientific and technical orientation' which moves up from 0.70 to 0.80. 'Management concern for employee involvement', which previously had a low positive loading on stimulation now has a high positive loading of 0.67.

Three of the four scales retain their high loadings on the support factor with non-aggression moving even higher.<sup>4</sup> Egalitarianism moves right out of the picture, however, and rules orientation moves up with a negative loading of -0.64.

An interesting change has occurred with the scale of 'industriousness'. Its high loading on stimulation has dropped considerably, and it now has a negative loading (-0.37) on factor III, Public Spirit. The items in industriousness are largely concerned with sheer 'busyness'





External regulation satisfies needs for:

conformity, conjunctivity, and order.

Inhibition's negative pole satisfies needs for:

exhibitionism, impulsion, counteraction.

When 26 trainers (and eleven managers) completed the ideal BOCI they gave high scores to stimulation, support, and public spirit, and moderate ones to external regulation and inhibition (see Appendix IX.3).

The use of need satisfaction terminology gives no clue to whether achievement, scientism, etc., are valued in themselves, or for the sake of the personality, or for the sake of the organisation. Does the 'ideal' organisation promote the welfare of the individual because his welfare is intrinsically desirable, or because a satisfied employee will give the organisation better service? If by welfare we include the idea of personal growth, then which potentialities are to be encouraged, and does not there have to be a discrepancy between needs and satisfactions for growth to take place? These are some of the awkward questions that need satisfaction terminology raises.

If, on the other hand, 'business efficiency' is the prime constituent of the concept, 'the ideal organisation', then we can reinterpret the climate factors as follows:

The BOCII may be tapping beliefs that high stimulation, high support, and high public spirit are conducive to business efficiency, whereas extremes of order or disorder, inhibition or exhibitionism are not conducive to efficiency. Writers like Korman, whose views were discussed in VII.5.2 may prefer to speak of the 'healthy' organisation rather than the efficient organisation, and may claim that healthy organisations foster the psychological well-being of their members. Such writers may still endorse the three high developmental climate scores and the two moderate control climate scores, and their views are nonetheless evaluative.



### 3.3.3 The ideal version: indicator of an ideology?

One cannot extract from a factor analysis anything that was not included in any of the items used. As already mentioned, the items selected by Stern were originally linked to H A Murray's list of needs. There are, however, some interesting parallels with the human values factors extracted by Osgood et al. (1961) from Morris's (1956) 'Ways to Live' index. Their three factors are:

#### Dynamism v passivity

Group action towards common goals	(support ?)
Dynamic physical interaction with the environment	(stimulation ?)
Progress through realistic solution of problems	(stimulation ?)

#### Control v abandonment

Integration of diversity	(external regulation ?)
Dignified self control	(inhibition ?)

#### Sociability v egocentrism

Preserve the best in society	(public spirit ?)
Altruistic affection and concern for others	(public spirit and/or support ?)

Other values in Morris's index are:

Abandonment to sensuous enjoyment  
 Self-sufficiency, reflection, meditation  
 Wholesome enjoyment of simple comforts  
 Quiet receptivity to experience  
 Contemplation of the rich inner life  
 Humble obedience to cosmic purposes.

Some of these are included in the negative poles of the factors above. All thirteen were originally suggested by three 'life styles':



Promethean - manipulate and remake the world

Dionysian - indulge one's desires

Buddhistic - regulate the self.

It looks as though the BOCI has accidentally incorporated a number of Promethean values, and that trainers and managers approve the Promethean alternative.<sup>6</sup>

England et al. (1971) found a high value was placed by 1,051 US managers on: achievement, ambition, success, change, property, and risk; (values which the Promethean ideology subsumes). Union leaders valued: honour, trust, loyalty, dignity, security, equality, and religion.

### 3.3.4 The climate of actual organisations: is this what we measure?

In IV.2.4 we said that organisational climate 'comprises the norms and values which have developed over time'. Does the BOCI really measure these, even for the restricted range of concerns which it incorporates in its items?

The index rests on the following assumptions:

- (1) organisational norms and values exist
- (2) people know what they are
- (3) people can report this knowledge in response to a true/false forced choice stimulus.

With regard to the first assumption it is impossible to say a priori whether there are certain norms and values that are coextensive with the entire organisation. We think this is unlikely, but it is, in principle, susceptible to empirical determination, provided assumption (2) is correct. Some norms are discovered only when they are violated, and some persons may not have been placed in situations which evoke a given norm. (Minority group members may be less aware of norms

accepted by the majority, for example.) The second principle may therefore be true, but only in a fairly restricted sense. As far as the third point is concerned, people often feel uncertain about which side 'to come down on'. The instructions given are that, as the instrument is very crude, first thoughts are probably just as satisfactory as second thoughts. Even so, one manager told me that he spent two hours thinking about the 160 items. As with all questionnaires, part of the response is a function of the presentation, patterning, and wording of the stimuli, and of the mechanics of scoring. We conclude that the three assumptions are only tenable if we allow the reservations just stated.

### 3.3.5 Conclusions about the BOCI

We commented in IX.2.1 on the effect that position in the hierarchy may have on perceptions of climate, and in examining the clusters in Figure IX.3 we indicated other special circumstances which may have affected a group's responses. We believe that the index does, however, tap certain expectancies which are commonly held in given subunits at given levels. Stimulation has items which relate to 'the perceived probability of goal accomplishment', and Support has items which relate to 'the perceived probability of receiving rewards for goal accomplishment'. These are important types of expectancy in Campbell et al.'s (1970) 'hybrid expectancy model of work motivation'. Perceived stimulation and support could very well be factors affecting the performance of managers and hence the efficiency of the organisation, as was suggested above (section X.3.3.1). We also agree with Friedlander and Marguiles (1969) that job satisfaction is likely to affect an individual's climate perception. We do not, however, take the

extreme view of Johannesson (1971) who argues that the overlap between the numerous indices of climate and of job satisfaction is so great that the two kinds of instrument are really measuring the same thing. In our experience, managers can supply a rationale for their answers to the BOCI without referring to job satisfaction. The individual may, indeed, project some of his own prejudices into his perceptions of the climate, but these prejudices themselves, if they are shared by others, begin to form a relevant climate for the people concerned. Thus we are prepared to accord the BOCI some validity as a measure of perceived norms within a narrowly circumscribed population, provided that a reasonable proportion of the population is questioned, and that degree of consensus is taken into account. The ideal version exposed very strong consistencies which might deserve the epithet 'ideological'. It is likely therefore that perceptions of what actually goes on in an organisation will be coloured by implicit reference to such an ideology. We do not, however, expect, or find, the consistency in reports of actual climates that we find in reported ideals. The kind of face validity that was illustrated in Appendix V.4, Table 4, is, we feel, still being maintained.

#### 4. THE CONCEPTUAL FRAMEWORK REVISITED

In X.2.3 above we passed a verdict of failure on the research as an evaluation study. We are not able to say how well the focal training programmes achieved their objectives. Have we learnt anything with respect to 'the conditions under which managers are likely to think critically, to empathise, and to work together as a team'? And have we learnt anything about the conditions under



which persons in groups in organisations will substitute a new way of doing things for their existing way?

First, contrary to the viewpoint put forward by Korman (see VII.5.2), the developmental climates were reported in the big bureaucracies (see Figure IX.3). In our own previous work with Aston and Brum (Pheysey et al., 1971) we found the same kind of phenomenon. So also did Kohn (1971), and Viano and Wildeman (1972). The latter is a particularly interesting study in that the subjects were probation administrators. Viano and Wildeman found pretraining differences were strongly associated with organisation size, and the higher levels scored higher on all six of their criteria. These criteria were attitudes about: (1) involving staff; (2) involving peers; (3) awareness of group task and group maintenance needs; (4) readiness to make changes; (5) willingness to be open and confronting in conflict situations; and (6) favouring bottom-up communications. Kohn makes some big assumptions in his interpretations of his survey data. His respondents are drawn from a variety of occupations and the fact that some of them work in bureaucracies is inferred rather than established. He argues that 'men who are protected from some of the dangers that change might bring are less fearful of the new and different, and able to accept personal responsibility and even make fuller use of their intellectual talents'. He found security was associated with a positive stance towards change, and self-direction was positively correlated with high income. Finally, Stagner (1969) found that greater formality and more depersonalised management was associated with higher profitability and greater cohesiveness.

There are, however, writers who assert that large organisations have an adverse effect on employee satisfaction especially in manufacturing firms (Talacchi, 1960), and that bureaucratic features lead to alienation (Aiken and Hage, 1966).

This argument cannot be settled by more and more empirical data. It is at the level of theory that explanation of contradictory findings must be sought. We believe that part of the trouble is that organisation theorists have been too limited in their focus. We need to incorporate the insights of practising administrators, of psychologists, political scientists, economists, sociologists, cyberneticians, and of the common man. No single discipline will be able to account for the manifold phenomena of management teamwork.

#### 4.1 The organisations studied related to the conceptual scheme

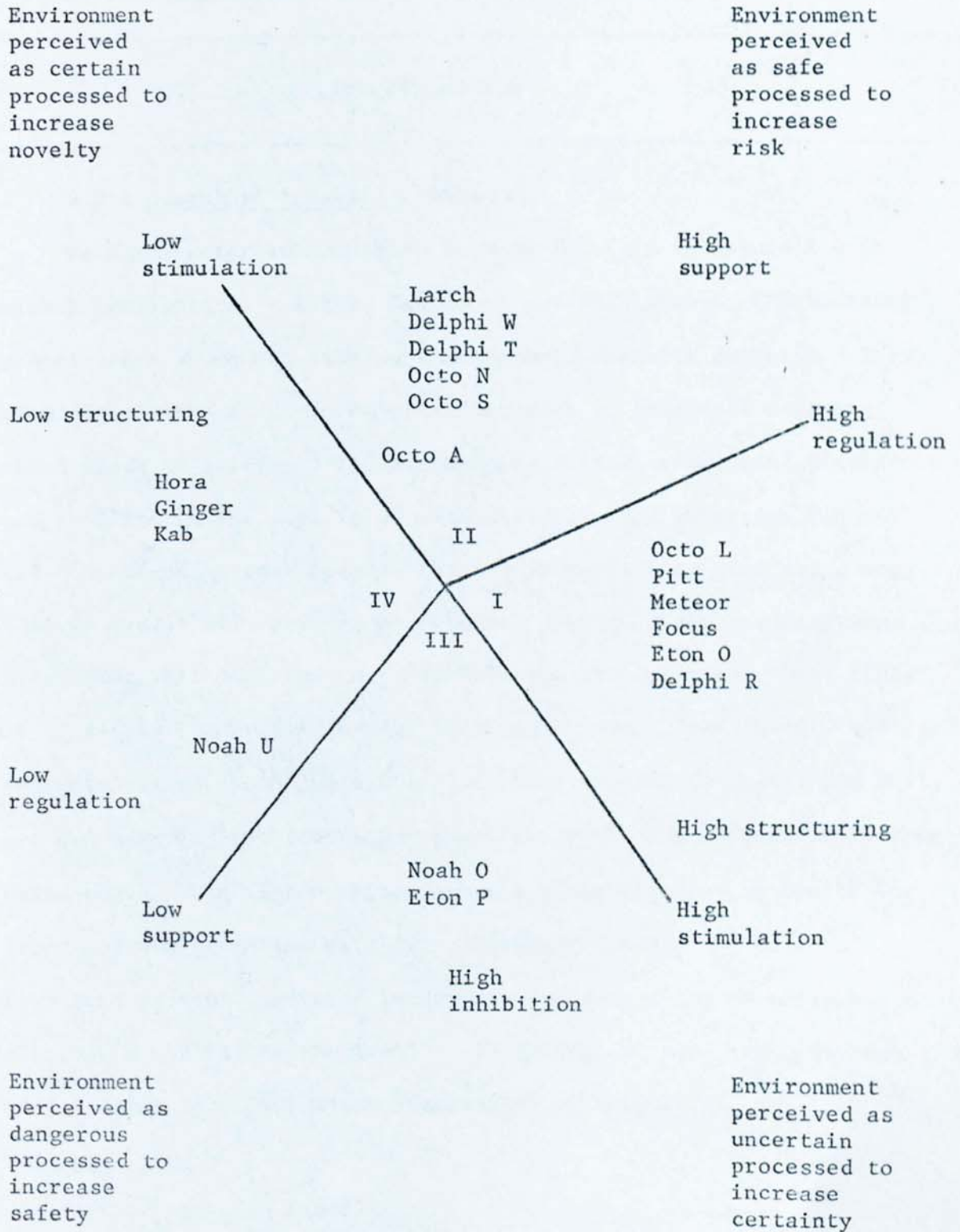
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 See Figure X.3  
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Figure X.3 uses the scores of 13 groups on the resource and structural variables, and of all 18 groups on the developmental and control climates, to locate them in the most appropriate area of Figure VII.2. The four numbers in the centre of Figure X.3 refer to the four clusters of groups which appeared in Figure IX.3. The whole of Chapter Eight is devoted to qualitative descriptions of the organisations and groups and, together with the information given in section IX.2, it should be regarded as fleshing out the bare skeleton provided in Figure X.3.

In Chapters Five and Seven we traced some stages in the development of our thinking from the rudiments laid down in Chapter Four. Before suggesting ways in which we believe our current conceptualising might shed light on the questions posed, we wish to relate

Figure X.3

THE EMPIRICAL LOCATION OF THE GROUPS IN RELATION TO KEY DIMENSIONS





our ideas to some views of other writers. Figure X.4 attempts to do this.

#### 4.2 The scheme related to the ideas of others

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See Figure X.4

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##### 4.2.1 Cangelosi and Dill (1965)

We shall refer to the three sets of initials in Figure X.4 in alphabetical order. First, Cangelosi and Dill analyse the learning process of a seven-man team in a management decision exercise. They view organisational learning as the product of interactions among three kinds of stress: (1) disjunctive stress, because of divergence and conflict in the ways in which individuals and subgroups behave; (2) discomfort stress, because the task demands more time and energy than is available; and (3) performance stress, because aspirations are higher than performance. We have substituted these three kinds of stress in Figure X.4 for our terminology<sup>which</sup> was: 'excitement, crisis and culmination' (see Figure VII.2). Thus we, and Cangelosi and Dill, are using an implied adaptation level theory. Progression to another phase occurs when tension rises above a given stimulus intensity (or drops below a given intensity). They comment on how the board of directors in their exercise learned the selective use of performance stress (in motivating the team). 'Learning' in their terms is somewhat similar to 'information processing' in ours.

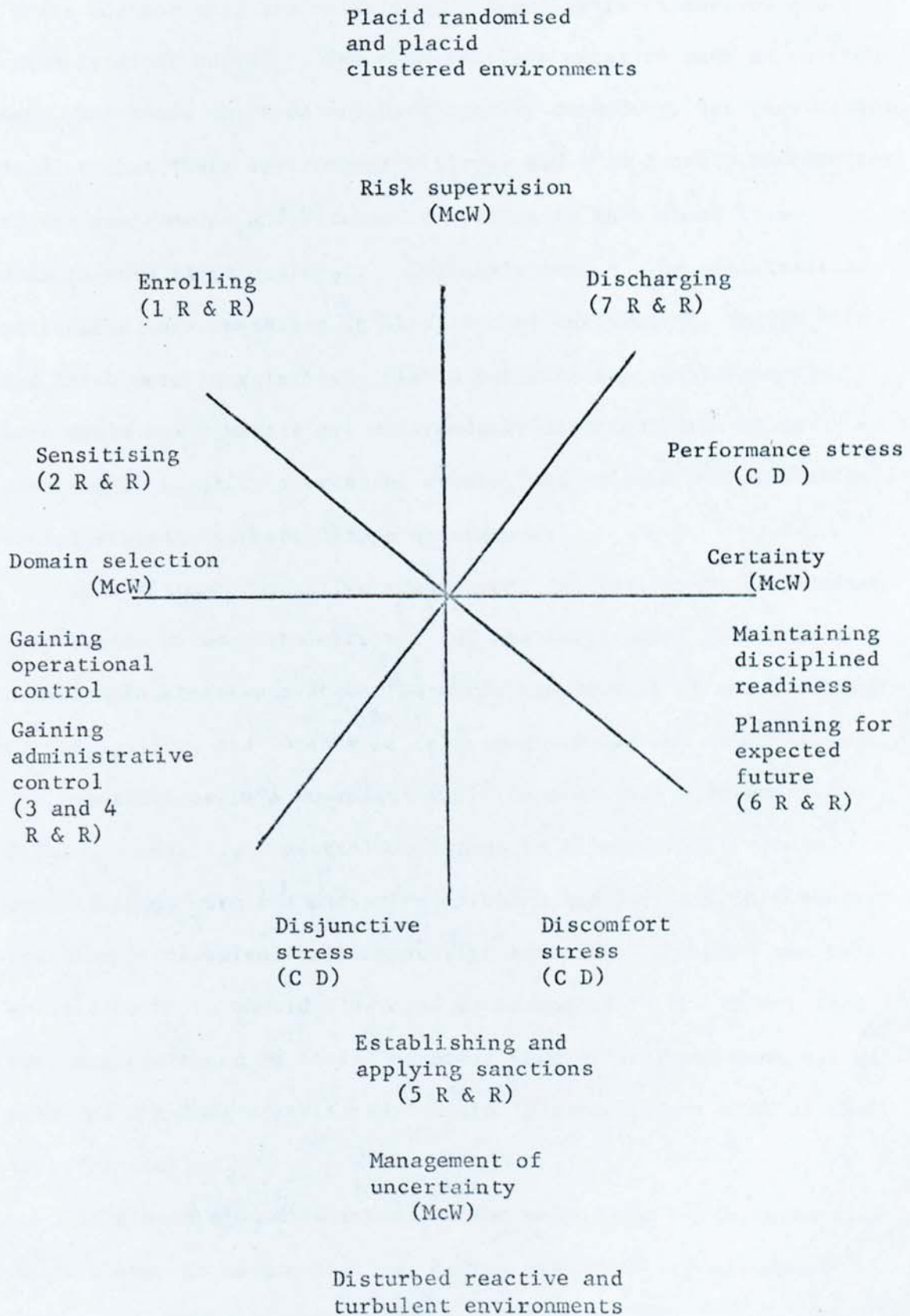
##### 4.2.2 McWhinney (1968)

McWhinney draws on the work of Emery and Trist (1963) for his description of four types of environment. These are shown at the

Figure X.4

A COMPOSITE OF SEVERAL CONCEPTUAL FRAMEWORKS

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Key: C D = Cangelosi and Dill; McW = McWhinney;  
R & R = Rome and Rome (numbers 1-7 = 'macro-developments')

top and bottom of Figure X.4. In a placid randomised environment 'goals and noxiants are relatively unchanging in themselves and randomly distributed'. Few organisations exist in such an environment, but those which do are both totally dependent, for they cannot predict what their environment will do, and also totally independent of the environment, 'for there is nothing to know about it so concern with it is useless'. Certainly none of the organisations we studied were operating in this type of environment, though Octo and Larch were in relatively placid but clustered environments. Here goals and noxiants are not randomly distributed. It is possible to identify sources of events, and to make probabilistically useful statements about future occurrences.

In a disturbed reactive environment 'an interactional relationship exists between the observer and his environment such that one cannot make statements about the world independent of the knowledge of the position and intents of other individuals and organisations'. The interactions in a turbulent field 'are of such a nature and magnitude that ..... natural buffering is eliminated'. Our organisations with the exception of Larch and Octo are in disturbed reactive or turbulent environments. Even Larch and Octo can only be said to be in placid clustered environments to the extent that they are protected by their 'parents' (the large government establishment and the long-established 'combine') which absorb much of their uncertainties.

In placid random environments the only thing to do, according to McWhinney is to use tactics, but as soon as the environment becomes clustered strategy is needed.<sup>7</sup> In placid environments one can establish 'certainty' by fiat. In clustered environments one



also needs what McWhinney calls 'risk supervision' which resembles Parsons' (1960) technical management. 'Risk-taking, making decisions based on data samples and subjective expectations, is the province of the expert who studies the distribution and formulates appropriate paradigms ..... Response to risk can be as fully formalised and recorded in writing as can response via certainty fiat.' This decision mode is shown at the top of Figure X.4.

Where 'predictions are dependent on the knowledge of current and future acts of other organisations which operate in the relevant domains ..... the organisation must treat the world as uncertain (not just risky). The responses of the decision-maker in such an environment are competition and co-ordination - precisely those which Parsons has assigned to the managerial function'. It is this combination of gaming and co-operation, that McWhinney calls 'Management of Uncertainty', that we have put at the foot of Figure X.4.<sup>8</sup>

McWhinney's 'Certainty', shown on the right of Figure X.4 'is re-introduced into almost every aspect of organisational life .... as an administrative convenience ..... Certainty has a role in the turbulent environment as a device for providing stability in the criteria by which the organisation operates'. We have contended that management training is currently being used mainly for certainty (X.1.1 above).

In domain selection, shown on the left of Figure X.4, 'each of the problem elements is incompletely formulated at the start. The perception of reality and the criterion function emerge out of the process of selection. The developing search locates new dimensions or elements of reality and assigns values to them'.

This is one of the functions of Parsons' institutional leadership. McWhinney suggests that domain selection is specially necessary at director level, management of uncertainty and certainty at managerial levels, and risk supervision at technical levels.

#### 4.2.3 Rome and Rome (1971)

Figure X.4, derived from VII.2, incorporates the idea of time variation as well as variation by level in the organisation or by sub-unit function. Rome and Rome (1971) also emphasise a temporal sequence. Their work, like that of Cangelosi and Dill, is based on observations of behaviour during a computer based management exercise. Their exercise differs from typical simulations, however, for the ground rules were changed as the exercise progressed, and the experiments adopted a humanistic psychology approach, deliberately intervening (via an intermediary) in order to encourage organisational development. They believe that the seven 'macro-developments' that took place are generalisable to other non-experimental settings. In Figure X.4 we have taken descriptions from each of their seven developments and placed them to correspond with the stages we have postulated. They are describing a new organisation, passing from birth to maturity, whereas we have conceptualised a recurrent periodicity which is likely to be experienced even by long-established organisations at different times or in different areas.

It is possible, therefore, within our framework to synthesise a number of views.<sup>9</sup> Does it, however, make sense to superimpose Figure X.4 on Figure X.3. We believe that, in a very crude way, it does. Hora, Ginger, and Kab were facing the transition from a placid clustered to a disturbed reactive environment. They had a

serious domain selection problem and were struggling to gain operational and administrative control. The low support and high inhibition experienced by Noah O was associated, we believe, with problems of redundancy in a plant of the parent company not far away. Domain selection, or what Vickers (1965) calls appreciative acts, and problems of legitimacy and sanctions are all pressing when hard times are experienced. Eton P's location at this point was due to much more proximate concerns, described in VIII.2.2 and IX.2.3.1.

The descriptions on the right hand side of Figure X.4 also apply very well to the groups on the right hand side of Figure X.3. It must be remembered, however, that these descriptions are being applied to the data a posteriori.

#### 4.3 The conditions under which managers are likely to think critically, to empathise, and to work together as a team

Thinking critically came to be redefined in very narrow terms as a result of the analysis of the training brochures described in VI.1.1, VI.1.2, and VI.1.3. It was redefined as 'action which creates or follows systematic procedures'. Similarly, empathising came to be redefined as 'action which exhibits and encourages open expression of feelings'. Working together as a team was never really defined at all! What Figure VII.2 does is to postulate that the conditions for analytical critical behaviour will be found when the environment is perceived as uncertain and information is being processed to increase certainty. It postulates that the conditions for empathic social behaviour will be found when the environment is perceived as safe, and when new information is being sought to add



to the existing dispensable store. Teamwork would occur where there are multiple information processing reciprocities. Conflict and teamwork can coexist.

Empirically the information perceptions and aims have only been inferred from the combinations of structures and climates shown in Figure X.3. Thus the results reported in IX.5 can only be interpreted as support for these postulated conditions if the inferences are allowed.

4.4 The conditions under which persons in groups in organisations will substitute a new way of doing things for their existing way

Our first assumption, in Chapter Four, was that training is a resource to be used for bringing about change. The question to be answered was, under which of three conditions will a package programme used for team training, bring about change? Three alternative suggestions were made:

- (1) when there is a direct association between supportiveness and change (IV.1.2.1)
- (2) when there is a conditional association between supportiveness and change (IV.1.2.2)
- (3) when there is an inverse association between supportiveness and change (IV.1.2.3)

Supportiveness could be defined in two ways:

- (1) where there is a climate of social support - operationalised as perceived high developmental climate(s)
- (2) where there is compatibility between the aims of the programme and the values of the organisation - operationalised as 'having the same information-processing aims' in terms of Figure VII.3.

We did not find the literature of much help in determining which of the hypotheses was the most likely. Chapters Five and Seven therefore describe our attempts to construct a conceptual framework within which change hypotheses can be embedded. The result was Figures VII.2 and VII.3

The redefinition of supportiveness as compatibility with the information processing characteristics implies that if perceptions of the environment change, or information processing aims change, training which is congruent with the new perceptions or processing aims would be supported.

For example, part of an organisation which is moving into the right hand centre area of Figure VII.2 or Figure X.4 would be hypothesised to offer the most favourable conditions for analytical skills training, and one which is moving into the top right hand area of these two figures would be hypothesised to offer the most favourable conditions for social skills training (as defined in IX.1).

From this perspective it can be seen that the original three hypotheses, of direct association, conditional association, or inverse association, need not necessarily be regarded as alternatives. The direct association will apply for the situation that one is moving towards; the inverse association will apply for the situation that is being left behind, and the conditional association will refer to the extent of the gap between the situation that is being entered and the situation that is being left behind.

#### 4.5 The place of the training programmes in the conceptual framework

Initially we thought of the package programmes as a resource to help whole teams of managers to make changes in their strategic

activity (as we defined this in V.1.1.1). Our conclusions in X.1 are that training of the package type is employed piecemeal to conserve conditions rather than to change them. People are sent from all over the place to all sorts of courses largely because they or their boss think the course will fit in with the objectives they already have. My impression was that 'improvement' meant doing what we do now, but doing it better. There was no sense of a change to new ways being anticipated. The kinds of behaviour defined in V.1.1.1 are those which are most compatible with the bureaucratic ethos. None of the package programmes really dealt effectively with the types of information processing shown on the left hand side of Figures VII.2 and X.4. The creative and diplomatic behaviours shown in Figure V.3 have not been studied at all in this research. They too tend to be taught at the level of techniques. We would hazard a guess that domain selection and coping with protest are critical managerial areas for which longer periods of university education ought to be preparing people, not at the techniques level but at the level of understanding, and this brings us back, full circle, to phenomena for which there is no adequate theory.

## 5. CONCLUSIONS FOR THE PRACTITIONER

### 5.1 Uses of the conceptual framework

The conceptual framework in Figure VII.2 is a descriptive not a predictive framework. Nevertheless, we feel that, when management skills are being considered, it might be helpful for a trainer to ascertain:



- (1) is the client asking for ways in which he can apply known techniques for reducing error?
- (2) is he asking for ways in which he can generate novel perspectives which call accepted practices and policies in question?
- (3) is he asking for ways of developing trust and openness in readiness for attitude change? or
- (4) is he asking for ways of outmanoeuvring opponents so as to safeguard values he holds dear?

Secondly he can ask whether, from what he knows of the administrative structure, resources, and climate of the part of the organisation concerned, the client is anticipating developments. In this case the training may initially derive inverse support, subsequently conditional support, and ultimately direct support (see X.4.4 above).

The trainer who is really concerned to be a change agent, rather than a pillar of the establishment, can of course go farther. He need not wait for clients but may plant ideas strategically so that the requests he desires begin to flow in. If he seeks the change-agent role he is seeking some redistribution of power, and he has to be clear about his motives. One trainer we know has used training to soften up senior management in order to obtain concessions for middle management. We have not come across instances of supervisory training being used to win concessions for the shop floor though there have been experiments in giving more responsibility to workers.<sup>10</sup>

This conception of organisation is essentially pluralistic. Training is just one of many intersecting suborganisations or systems. The environment referred to may be internal or external.

For Hora, Ginger and Kab, shown on the left in Figure X.3, it was the environment reported by junior to middle management. For them there was low structuring of activities, low external regulation, and low stimulation, and they had very limited environmental perspectives. The perceived certainty they were moving away from was the certainty that they were losing ground to an overseas competitor and that their prices could not be reduced to compete because overheads were too high. In effect, they were struggling to generate new options, and these options themselves appeared to be fraught with dangers. In Rome and Rome's (1971) terms they were also struggling to regain operational and administrative control. The climate was interpersonally aggressive, but the trainer's ideal was harmony, and he was seeking to promote it through attitude change. The direction of movement shown in Figure VII.2 would suggest that, for his particular clients, a conflict strategy<sup>11</sup> would have been more appropriate. Also the directorate were deficient in domain selection, whereas at least two general managers appeared competent to undertake this function, had they been empowered to do so. The trainer had access to clients at lower and middle levels only. What then should his strategy have been? Should he have allied himself with the two general managers by dropping much of his 'human relations' orientation and concentrating on budgetary control, production programming, and the like? (Such intensive, certainty-producing techniques were, the general managers believed, required at lower levels, although the senior management requirement was for greater extensiveness.) The trainer, personally, was at the crisis point in Figure VII.2, but, in the event, the choice was made for him.

Trainers in the other firms were much more favourably placed. Lewis (1972) found that managers who had started their careers as operators, who had had little contact with training, and who were in smaller firms showed less readiness to accept responsibility for training than did managers who had not risen from the shop floor, who had experience of training, and who came from big firms. The managers in the big bureaucracies were all in the latter category. The package programmes were certainty-oriented, and, in terms of Figure VII.2 this would fit very well with the information processing aims of these groups. The reason why the differences between trained and untrained groups were small was partly due, we believe, to all the other influences acting upon the 'untrained' groups to push them in the same direction as the trained ones. (All the points made in X.2 above are also relevant, of course.)

### 5.2 'Managing better' in the light of the conceptual framework

Figure VII.2 gives one instance each of: open social behaviour, creative behaviour, diplomatic social behaviour and analytical behaviour. The research produced a slightly longer list.

According to trainers, a good manager:

- (1) uses a fact-finding sequence when trouble shooting;
- (2) keeps to the point in meetings;
- (3) measures performance;
- (4) discloses full information at briefing sessions;
- (5) encourages frankness in performance reviews; and
- (6) makes time for subordinates to have their say regarding personal problems.



Since all these behaviours would occur on the right hand side of Figure VII.2, we should also, as a corrective, give examples from the left hand side. We take these from Wrapp (1968) who says, 'Good managers don't make policy decisions'. He explains by saying that the good manager :

- (7) keeps open many lines of information;
- (8) devotes attention to few issues;
- (9) knows political areas where he can move quickly and where he must tread warily;
- (10) shies away from precise objectives because they may not be relevant for any reasonable period into the future (the public and stockholders must perceive the organisation as having a clear sense of direction but the top man has to allow scope for manoeuvre);
- (11) communicates via consistency in operating decisions not by overdefined policy statements; and
- (12) discerns opportunities and relationships in the stream of operating decisions that flow past.

If the managers in the firm described in Chapter One had received training in how to do all these things, in addition to technical and functional training, they would surely have 'managed better'. This would have been especially likely if all of them had been so trained, because the manager's work is highly interactive. Rackham et al. (1971) asked over 100 middle and junior managers, 'How much of your job effectiveness is determined exclusively by your own actions and how much is determined by your interactions with other people?' The consensus was that between 85 and 90 per cent of their effectiveness depended on their interaction with others. Hence the title of this thesis - 'Teamwork

in Management'. It can be seen from the lower portion of Figure VII.2 however that teamwork does not imply harmony or unity, but interdependence.

Would the shop floor have benefited if the managers in the carpet firm had learnt all these skills? This would have depended on the managers' 'domain selection' in McWhinney's terms. C Day Lewis's Committee illustrates this process. We shall give him the last word.<sup>12</sup>

'So the committee met again,  
Nailed themselves to the never much altered agenda,  
Making their points as to the manner born,  
Hammering them home with the skill of long practice.

These men and women are certainly representative  
Of every interest concerned. For example, A wears  
Integrity like a sheriff's badge, while B  
Can grind an axe on any side of a question:  
C happens to have the facts, D a vocation  
For interpreting facts to the greater glory of Dogma:  
E is pompously charming, diffidently earnest,  
F is the acid-drop, the self-patented catalyst.

The chairman's a prince of procedure, in temporizing  
Power a Proteus, and adept in seeming to follow  
Where actually he leads - as indeed he must be,  
Or the pack would have torn him to pieces a long time ago.

Yet all, in a curious way, are public spirited,  
Groping with their ad hoc decisions to find  
The missing, presumed omnipotent, directive .....  
And I regret another afternoon wasted,  
And wearily think there is something to be said  
For the methods of the dictatorships - I who shall waste  
Even the last drops of twilight in self-pity  
That I should have to be the chairman, secretary  
And all the committee, all the one-man committee.'

F I N I S



FOOTNOTES

1. Johnson (1972) has 100 pages devoted entirely to the question of the relationship between stimuli and judgment, and the relationship between the process of judging and the way in which judgments are expressed.
2. For an account of discrimination against women see Hanna (1973). I do not, however, see much hope for 'women's lib' unless the disadvantages of men are also considered. The facilities of large, coeducational, comprehensive schools should make it easier for girls to learn metal work and boys to learn domestic science if they wish to. Then more women might find openings in engineering, and more men might enter some traditionally feminine preserves such as nursery nursing. As to women in the upper ranks of management, we may have to wait another generation before they arrive in substantial numbers. Industry, as at present organised, requires a long term career dedication that few women can give. Sixteen years before forty is different from sixteen years to retirement. When such dedication is no longer expected of men, either, then women will be able to co-operate with men on more equal terms.
3. Father's social class is excluded from the matrix in Figure X.2. The ranking was often arbitrary, owing to lack of full information, as explained in V.3.2.4. We did not feel justified in exempting it from the general principle that, at the final stage, for a product moment correlation, we should use only continuous variables. We did, however, use social class in an earlier trial run with a statistical 'survey package' programme on our first 55 respondents, and it is from this that the correlation reported was obtained. We do not have sufficient data about the occupations held by our managers' mothers prior to the date when the managers were born to include mother's occupation in the analysis, but there were several teachers, nurses, shop assistants, factory workers and housemaids among them. It would have been interesting had we been able to support the mother's role in promoting the son's upward mobility where upward mobility has occurred.
4. The 'support' factor also has a loading from 'altruism'. Interpersonal non-aggression means that people do not:
  - try to manipulate others for their own advantage;
  - always try to win arguments;
  - brood and act moodily;
  - walk around with a chip on their shoulder;
  - get blamed even when not involved when things go wrong;
  - indulge in lots of little quarrels;
  - get into heated arguments and not be friendly next day;
  - have personal rivalries.

In Appendix IX.3 the mean score for non-aggression as an ideal was shown as 7.5 with a standard deviation of 0.9. This means that the ideal aggression score was almost zero (0.5).



Sperlich (1971) argues that 'tension-reduction and conflict-resolution perspectives are prominent and influential in many areas of traditional psychology ..... Cross pressure theory and consistency theory, functionalism and systems analysis, in very basic ways are expressions of the same fundamental conceptual construct. The two most distinguishing features of this master construct are its commitment to an equilibrium dynamic and its negative valuation of conflict'. In our own conceptual framework crisis and conflict are regarded as integral and positive parts of information processing.

5. Copyright is untraceable, but the words have been published by Lee Abbey, Lynton, Devon, under the title '23rd Psalm for Busy People'.
6. Prometheus, in Greek legend, taught man the use of fire and instructed him in many areas of knowledge. The word itself means forethought.
7. McWhinney is using the word strategy in the sense of action thought out well in advance on the basis of expert risk calculations, as opposed to tactics which involve much more contemporaneous manoeuvring to cope with changes as they arise.
8. Accounts of this type of management are given in a working paper on 'The Absorption of Protest' by Ruth Leeds in Cooper et al. (1964). There are also two interesting chapters in Thomas and Bennis (eds) (1972). Chapter 4 is about the inter-organisational management of uncertainty and is by Shirley Terreberry, and Chapter 18 by R Walton deals with the need to be able to use both conflict and co-operation as part of the same strategy, which is McWhinney's point here. It is therefore worth listing the dilemmas:
  - (1) overstatement of objectives versus de-emphasising differences;
  - (2) emphasis on power to coerce versus trust;
  - (3) information ambiguity versus openness;
  - (4) threat versus conciliation;
  - (5) hostility management through impact versus through catharsis;
  - (6) coalition versus inclusion.

Walton holds that one can switch in sequence from conflict to co-operation and back again, or have some units employing one strategy and others the opposite at the same time. This would fit our conceptual scheme.



9. Theories of dynamic adaptation levels and of optimum stimulation would be consistent with our approach, for example the work of McClelland et al. (1953). A number of these theories are reviewed in Sperlich (1971). We have already shown parallels between the information processing variables we selected (time-span, intensity/ extensiveness and indispensibility) and the work of Ramstrom (1967). See VII.2. We have also mentioned in Footnote 3 of Chapter Seven an affinity with Galbraith's (1969) views, and Cohen (1969) uses similar categories in his experiment with the task-tuned organisation of groups. Cohen says (p.39) 'By decentralisation, the sensing function, and thus recruitment of information, is strengthened at the cost of the control function ..... and by centralisation the reverse applies.' This is illustrated in our Figure VII.2. Yet another area of work is that from cognitive psychology. A recent article by Zimring(1971) asserts that cognitive simplicity is not to be equated with a failure to recognise differences. One can, of course, simplify by ignoring distinctions, by stereotyping, and so on. One can also simplify by synthesising, integrating, or combining. Zimring presents evidence that complex thinking and simple thinking are disparate processes. What McWhinney calls the management of certainty is by no means simple. At some point, our developing knowledge of mental processes must be linked with work on what Wilensky (1967) calls organisational intelligence. We have tried to take one small step in this direction.
10. Certain forms of technology have made it easier to introduce 'autonomous work groups' and similar innovations. See for example, Taylor (1971), and Herbst (1959).
11. C Brooklyn Derr (1972) says, managers 'should receive special training to prepare them for the conflicts they will probably face. They need to receive training in how to cope with each of the problematic areas of organisational conflict: the intra-personal, the inter-personal, the organisational, the inter-organisational, and the revolutionary'. He then gives examples of training for each of these five areas.
12. This poem is called 'The Committee', C Day Lewis, Collected Poems 1929-1933, published in 1935.

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## QUOTATIONS

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